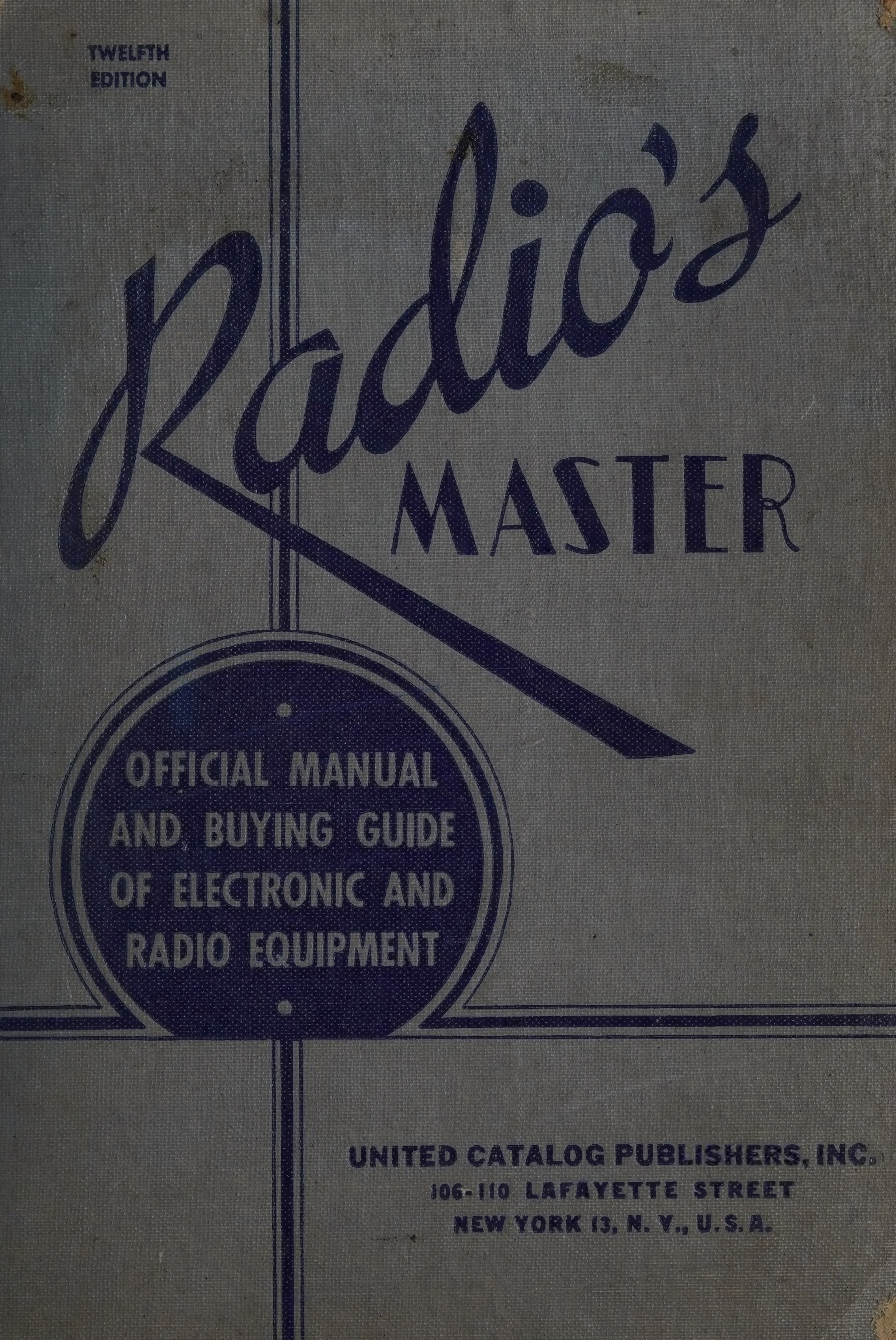

TWELFTH
EDITION

Radio's MASTER

OFFICIAL MANUAL AND BUYING GUIDE OF ELECTRONIC AND RADIO EQUIPMENT

UNITED CATALOG PUBLISHERS, INC.
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RADIO'S MASTER

TWELFTH EDITION

OFFICIAL

PARTS and EQUIPMENT MANUAL

of the

RADIO AND ELECTRONIC INDUSTRY

What to Buy and Where to Buy It

- **ILLUSTRATIONS**
- **DESCRIPTIONS**
- **SPECIFICATIONS**
- **PRICES**

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FOREWORD

RADIO'S MASTER is compiled with the approval of and in cooperation with the ASSOCIATION of ELECTRONIC PARTS & EQUIPMENT MANUFACTURERS and the SALES MANAGERS CLUB, EASTERN DIVISION. It is the official buying guide and reference book of radio parts and electronic equipment for the industry. The distribution of this buying guide is not a representation by the person or firm distributing the same that all of the lines and all of the products contained herein are necessarily carried by such person or firm.

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RADIO'S MASTER

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ABBOTT INSTRUMENT, INC.
8 West 18th Street
New York 11, N. Y.
Tel. CHelsea 2-2092

ACRO ELECTRIC COMPANY
1305 Superior Avenue
Cleveland 14, Ohio
Tel. Superior 1525

ACTON COMPANY, INC., H. W.
370 Seventh Ave.
New York 1, N. Y.
Tel. LOngacre 5-4884

ADVANCE ELECTRIC & RELAY CO.
1260 West Second Street
Los Angeles 26, Calif.

AERO NEEDLE COMPANY
619 North Michigan Ave.
Chicago 11, Ill.
Tel. Delaware 8300

AEROVOX CORPORATION
New Bedford, Mass.

NEW YORK OFFICE
347 Fifth Avenue
Tel. MUrray Hill 5-7090

CANADIAN PLANT
AEROVOX CANADA, LTD.
1551 Barton Street, East
Hamilton, Ontario

AIREON MFG. CORP.
(See Cinaudagraph)

ALLIANCE MANUFACTURING CO., THE
Alliance, Ohio

ALPHA METALS, INC.
363 Hudson Avenue
Brooklyn 1, N. Y.
Tel. TRiangle 5-4763

ALPHA WIRE CORPORATION
50 Howard Street
New York 13, N. Y.
Tel. CAnal 6-7666

ALTEC LANSING CORPORATION
1161 N. Vine Street
Hollywood 28, Calif.

NEW YORK OFFICE
250 W. 57th Street
New York 19, N. Y.

AMERICAN CONDENSER CO. ("AMCON")
4410 Ravenswood Ave.
Chicago 40, Ill.
Tel. Longbeach 1386

AMERICAN ELECTRICAL HEATER CO.
("American Beauty")
6110 Cass Avenue
Detroit 2, Mich.

AMERICAN MICROPHONE COMPANY
1915 South Western Ave.
Los Angeles 7, Calif.
Tel. Parkway 1161

AMERICAN PHENOLIC CORPORATION
("Amphenol")
1830 South 54th Avenue
Chicago 50, Ill.
Tel. Rockwell 4010

AMERICAN RADIO CO.
611 E. Garfield Ave.
Glendale 5, Calif.

AMERICAN RADIO HARDWARE CO., INC.
(See RADIO ESSENTIALS, INC.)

AMERICAN RADIO RELAY LEAGUE, INC.
("ARRL")
38 La Salle Road
West Hartford 7, Conn.

AMERICAN TELEVISION & RADIO CO.
("ATR")
300 E. 4th Street
St. Paul 1, Minn.

AMPEREX ELECTRONIC CORPORATION
25 Washington Street
Brooklyn 1, N. Y.
Tel. MAin 5-2050

AMPERITE COMPANY
561 Broadway
New York 12, N. Y.
Tel. CAnal 6-1446

AMPLIFIER COMPANY OF AMERICA
396 Broadway
New York 13, N. Y.
Tel. CAnal 6-7612

ANDREW COMPANY
363 East 75th St.
Chicago 19, Ill.
Tel. Triangle 4400

ARCO ELECTRONICS, INC.
("El-Menco" Products)
135 Liberty Street
New York 6, N. Y.
Tel. COrtlandt 7-1074

ARCTURUS
(See Standard Arcturus)

ASTATIC CORPORATION, THE
Conneaut, Ohio

ATLAS RESISTOR COMPANY
423 Broome Street
New York 13, N. Y.
Tel. CAnal 6-1054

ATLAS SOUND CORPORATION
1443 39th Street
Brooklyn 18, N. Y.
Tel. WIndsor 8-5500

AUDIO DEVICES, INC.
("Audiodiscs", "Audiopoints")
444 Madison Avenue
New York 22, N. Y.
Tel. PLaza 3-0973

AURORA EQUIPMENT CO.
(See Equipto)

— B —

BANK'S MANUFACTURING CO.
1105 W. Lawrence Ave.
Chicago 40, Ill.

BARBER LABORATORIES, ALFRED W.
34-10 Francis Lewis Blvd.
Flushing, L. I., N. Y.

BARKER & WILLIAMSON
("B & W")
235 Fairfield Ave.
Upper Darby, Pa.
Tel. Boulevard 1821

BELDEN MANUFACTURING COMPANY
4647 West Van Buren Street
Chicago 44, Ill.
Tel. Estebrook 1000

BELL SOUND SYSTEMS, INC.
1183 Essex Avenue
Columbus 3, Ohio
Tel. Walnut 4674

BENNETT & COMPANY, PAUL
230 East Ohio Street
Chicago 11, Ill.
Tel. Delaware 4858

BIRD ELECTRONIC CORPORATION
1800 East 38th Street
Cleveland 14, Ohio
Tel. Express 3535

BIRNBACH RADIO CO., INC.
145 Hudson Street
New York 13, N. Y.
Tel. WAlker 5-6980

BLILEY ELECTRIC COMPANY
Union Station Bldg.
Erie, Pa.

BOGEN CO., INC., DAVID
663 Broadway
New York 12, N. Y.
Tel. ALgonquin 4-6100

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4245 No. Knox Ave.
Chicago 41, Ill.
Tel. Mulberry 5000

RAYTHEON MANUFACTURING CO.
Radio Receiving Tube Div.
55 Chapel St.
Newton 58, Mass.

RECORDISC CORP., THE
395 Broadway
New York 13, N. Y.
Tel. WOrth 4-8082

REINER ELECTRONICS CO., INC.
152 West 25th St.
New York, N. Y.
Tel. WIsconsin 7-9450

REK-O-KUT COMPANY
("Master-Pro", "Mastermatic")
146 Grand Street
New York 13, N. Y.
Tel. WAlker 5-1787-8

RIDER PUBLISHER, INC., JOHN F.
404 Fourth Ave.
New York 16, N. Y.
Tel. MUrray Hill 3-6990

ROBINETTE COMPANY, W. C.
("Motron")
802 Fair Oaks Ave.
South Pasadena, Calif.
Tel. Pyramid 11108

RUCKELSHAUS & CO., JOHN G.
("MEPCO")
78 Main Street
Madison, N. J.

— S —

ST. LOUIS MICROPHONE CO.
2726-28 Brentwood Blvd.
St. Louis 17, Mo.
Tel. Chestnut 5678

SAMS & CO., INC., HOWARD W.
2924 East Washington St.
Indianapolis 6, Ind.

SANGAMO ELECTRIC CO.
Springfield, Ill.

SCHAUER MACHINE CO., INC.
("Electrox")
2060-68 Reading Road
Cincinnati 2, Ohio
Tel. Cherry 3386

SCHOTT CO., WALTER L.
("Walsco")
9306 Santa Monica Blvd.
Beverly Hills, Calif.
Tel. BRadshaw 2-2761

CHICAGO WAREHOUSE:
537 S. Dearborn St.
Chicago 5, Ill.
Tel. Webster 3500

SELENIUM CORP. OF AMERICA ("SCA")
1719 West Pico Blvd.
Los Angeles 15, Calif.
Tel. Exposition 4171

SHALLCROSS MFG. CO.
Jackson & Pusey Ave.
Collingdale, Pa.
Tel. Sharon Hill 4700

SHUR-ANTENNA-MOUNT, INC.
266 Sea Cliff Ave.
Sea Cliff, N. Y.
Tel. Glen Cove 4587

SHURE BROS., INC.
225 West Huron St.
Chicago 10, Ill.
Tel. Delaware 4550

SHURITE METERS
(See J-B-T)

SIGMA INSTRUMENTS, INC.
70 Ceylon Street
Boston 21, Mass.
Tel. Garrison 8200

SIGNAL ELECTRIC MFG. CO.
Menominee, Mich.

SILVER COMPANY, INC., McMURDO
1249 Main Street
Hartford 3, Conn.

SIMPSON ELECTRIC CO.
5200-18 West Kinzie St.
Chicago 44, Ill.

SIMPSON MFG. CO., INC., MARK
("MASCO")
32-28 Forty-ninth St.
Long Island City 3, N. Y.
Tel. RAvenswood 8-5810

SMITH, INC., HERMAN H.
405 44th St.
Brooklyn 20, N. Y.

SNC MANUFACTURING CO., INC.
Box 156
Glenview, Ill.

SNYDER MFG. CO.
2218 W. Ontario St.
Philadelphia 40, Pa.

SOLA ELECTRIC CO.
2525 Clybourn Ave.
Chicago 14, Ill.
Tel. Lincoln 4000

SOLAR MANUFACTURING CORP.
SOLAR CAPACITOR SALES CORP.
285 Madison Ave.
New York 17, N. Y.
Tel. LExington 2-0626

SOUND APPARATUS COMPANY
233 Broadway
New York 7, N. Y.
Tel. REctor 2-7579

SOUND EQUIPMENT CORP. OF CALIF.
(See KWIKHEAT)

SPECIAL PRODUCTS CO.
("SPECO")
9115 Brookville Rd.
Silver Spring, Md.
Tel. Sligo 2353

SPEEDWAY MFG. CO.
1834 South 52nd Ave.
Cicero 50, Ill.
Tel. Lawndale 4600

SPEED-X
(See LES LOGAN CO.)

SPIRLING PRODUCTS CO., INC.
60 Grand St.
New York 13, N. Y.
Tel. WAlker 5-9717

SPRAGUE PRODUCTS CO.
North Adams, Mass.

STANDARD ARCTURUS CORP.
99-101 Sussex Ave.
Newark 4, N. J.
Tel. HUmboldt 2-2400

Directory of Advertisers, Branch Offices, Addresses, Telephone Numbers (Continued)

STANDARD ELECTRICAL PRODUCTS CO.
("STACO")
400 Linden Ave.
Dayton 3, Ohio
Tel. Madison 7385

STANDARD TRANSFORMER CORP.
("STANCOR")
1500 North Halsted St.
Chicago 22, Ill.
Tel. Mohawk 5300

STANWYCK WINDING COMPANY
102 S. Landers St.
Newburgh, N. Y.
Tel. Newburgh 3360

STEPHENS MFG. CO.
10416 National Blvd.
Los Angeles 34, Calif.
Tel. AShley 4-3775

STERLING MFG. CO., THE
9205 Detroit Ave.
Cleveland 2, Ohio

STEVENS-WALDEN, INC.
Shrewsbury St.
Worcester, Mass.

SUPERIOR ELECTRIC CO. ("SECO")
402 Laurel Street
Bristol, Conn.

SUPERIOR INSTRUMENTS CO.
227 Fulton St.
New York 7, N. Y.
Tel. REctor 2-3247

SUPREME INSTRUMENTS CORP.
Greenwood, Miss.

SUPREME TRANSMITTER CORP.
280 Ninth Ave.
New York 1, N. Y.
Tel. Wisconsin 7-6413

SYLVANIA ELECTRIC PRODUCTS, INC.
Radio Division
Emporium, Pa.

— T —

TALK-A-PHONE CO.
1512 So. Pulaski Road
Chicago 23, Ill.

TAYBERN EQUIPMENT CO.
120 Greenwich St.
New York 6, N. Y.
Tel. COrtlandt 7-3791

TAYLOR TUBES, INC.
2312-18 Wabansia Ave.
Chicago 47, Ill.

TECHNICAL APPLIANCE CORP. ("TACO")
41-06 DeLong St.
Flushing, N. Y.
Tel. FLushing 9-4339

TELEGRAPH APPARATUS CO. ("TAC")
412 So. Green St.
Chicago 7, Ill.
Tel. Seeley 7300

THERMADOR ELECTRICAL MFG. CO.
5119 So. Riverdale Drive
Los Angeles 22, Calif.

THORDARSON ELECTRIC MFG.
(See MAGUIRE INDUSTRIES, INC.)

TRANSMTTTER EQUIPMENT MFG. CO., INC.
("TEMCO")
345 Hudson St.
New York 14, N. Y.
Tel. WOrth 4-7305

TRIMM, INC.
1770 West Berteau Ave.
Chicago 13, Ill.

TRIPLETT ELECTRICAL INSTRUMENT CO.
122 Main Street
Bluffton, Ohio

TUNG-SOL LAMP WORKS, INC.
95 Eighth Ave.
Newark 4, N. J.
Tel. HUmboldt 2-4200

TURNER CO., THE
Cedar Rapids, Iowa
Tel. WAlker 5-6200

— U —

UNGAR ELECTRIC TOOLS, INC.
611-16 Ducommun St.
Los Angeles, Calif.

UNITED ELECTRONICS CO.
42 Spring St.
Newark 2, N. J.
Tel. HUmboldt 2-0576

UNITED PRESSED PRODUCTS CO.
(See CARRON)

UNITED TRANSFORMER CORP. ("UTC")
150 Varick St.
New York 13, N. Y.

UNIVERSAL MICROPHONE CO.
Centinela & Warren Lane
Inglewood, Calif.
Tel. ORchard 7-4216

CANADIAN DIVISION
TORONTO 2, ONT.
560 King St., West

FOREIGN DIVISION
SAN FRANCISCO 11, CALIF.
301 Clay St.

UNIVERSITY LOUDSPEAKERS, INC.
225 Varick Street
New York 14, N. Y.
Tel. WAlker 5-5400

UTAH RADIO PRODUCTS CO.
(Div. INTERNATIONAL DETROLA CORP.)
107 S. Clinton St.
Chicago 6, Ill.

UTICA DROP FORGE & TOOL CORP.
Utica 4, N. Y.

— V —

VACO PRODUCTS CO.
317 East Ontario St.
Chicago 11, Ill.
Tel. Whitehall 2340

VALPEY CRYSTAL CORPORATION
1244 Highland St.
Holliston, Mass.
Tel. Holliston 851

VERTROD CORPORATION
60 East 42nd St.
New York 17, N. Y.
Tel. VAnderbilt 6-4990

FACTORY
BROOKLYN 17, N. Y.
17 Williams Ave.

VIBRALOC MFG. CO.
3597 Mission Street
San Francisco 10, Calif.

VIBROPLEX CO., INC., THE
833 Broadway
New York, N. Y.
Tel. ALgonquin 4-4828

— W —

WALSCO
(See SCHOTT CO., W. L.)

WARD LEONARD ELECTRIC CO.
Mount Vernon, N. Y.

ELECTRONIC DISTRIBUTORS DIV.
53 W. Jackson Blvd.
Chicago 4, Ill.

WARD PRODUCTS CORP., THE
1523 E. 45th St.
Cleveland 3, Ohio

WATERMAN PRODUCTS CO., INC.
2445-63 Emerald St.
Philadelphia 25, Pa.
Tel. GArfield 5-0474

WEBSTER-CHICAGO CORPORATION
5610 Bloomingdale Ave.
Chicago 39, Ill.
Tel. Tuxedo 8500

WEBSTER ELECTRIC CO.
Racine, Wisc.

WELLER MFG. CO.
808 Packer St.
Easton, Pa.
Tel. 6431

WESTINGHOUSE ELECTRIC CORP.
Lamp Division
Bloomfield, N. J.

Manufacturing Plants

BELLEVILLE, N. J.
Belleville Base Plant
Tel. BElleville 2-5050

FAIRMONT, W. VA.
P. O. Box 1312
Tel. Fairmont 3800

TRENTON, N. J.
400 Pennington Ave.
Tel. TRenton 2-4176

Executive Department

BLOOMFIELD, N. J.
Lamp Division
Tel. BLoomfield 2-2200

District Offices

ATLANTA, GA.
Thomas Fuller, Dist. Mgr.
1299 Northside Drive, N.W.

CHICAGO 6, ILL.
F. T. Whiting, Vice Pres.
20 N. Wacker Dr.

NEW YORK 5, N. Y.
H. H. Rogge, Vice Pres.
40 Wall St.

PHILADELPHIA 8, PA.
E. W. Loomis, Dist. Mgr.
3001 Walnut St.

PITTSBURGH 22, PA.
J.K.B. Hare, Vice Pres.
306 4th Ave.

ST. LOUIS 1, MO.
L. W. McLeod, Dist. Mgr.
411 North Seventh St.

SAN FRANCISCO, CALIF.
C. A. Dostal, Vice Pres.
1 Montgomery St.

BOSTON, MASS.
L. E. Lynde, Dist. Mgr.
10 High St.

For Canada

HAMILTON, ONT.
Canadian Westinghouse Co., Ltd.

For Other Parts of the World

NEW YORK 5, N. Y.
WESTINGHOUSE ELEC. INTERNATL. CO.
40 Wall Street
Tel. WHitehall 3-4321

WESTLINE CRYSTAL COMPANY
10860 Santa Monica Blvd.
Los Angeles 25, Calif.
Tel. ARizona 9-2188

WESTON ELEC. INSTRUMENT CORP.
614 Freylinghuysen Ave.
Newark 5, N. J.

WHITE DENTAL MFG. CO., THE S. S.
Industrial Division
10 East 40th St.
New York 16, N. Y.

WIRT COMPANY
5221 Greene St.
Philadelphia 44, Pa.

— X —

XCELITE
(See PARK METALWARE)

— Y —

YARDENY LABORATORIES, INC.
105 Chambers Street
New York 7, N. Y.
Tel. WOrth 2-3534

MANUFACTURERS' REPRESENTATIVES—By Territory

	Acro Electric Co.	Acton Co., Inc., H. W.	Advance Elect. & Relay Co.	Aero Needle Co.	Aerovox Corporation	Alliance Mfg. Co.	Alpha Metals, Inc.	Alpha Wire Corp.	American Condenser Co.	Amer. Electrical Heater Co.	American Microphone Co.	American Phenolic Corp.	Amer. Televn. & Radio Co.	Amperite Company
ALABAMA	110				478	634		456	414		456			634
ARIZONA	615		43		311	311	514	514			615			
ARKANSAS	110		509	104	344	141	633	344	19		141			633
CALIFORNIA		270	43	291	299F	437	514	514	437	189	622	437		714
Southern	691				285								190	
Northern									300			291	131	
COLORADO			72	621	311	311	474	514		479	72	72		
CONNECTICUT	183		126	9	237	116	604	237	113		62			606
DELAWARE	393		62		619				113					695
DIST. COLUMBIA	393		62		619				113			614		695
FLORIDA	199				478	634		456	414		456			634
GEORGIA					478	634	673	456	414		456	299K		634
IDAHO			72, 379	89	28	491	514	491	723		89			714
ILLINOIS				79	47, 89A	623	646	646	330	149	87		629	338, 340
Northern	261		295		186									
Southern	174							47						408
INDIANA	730		295	79	47, 186	207	646, 18	405	330		405	163		601
IOWA	32			344	186	215	344	344	215		408			408
KANSAS	56			344	344	56	344	344	567		567			340
KENTUCKY			498	165	167	531	18	405	653, 414					601
LOUISIANA	560		509	104	737, 478	141	633	141	19		141			633
MAINE	183		126	9	237	116	604	237	113		62			606
MARYLAND	393		62		619	575	673		113				673	695
MASSACHUSETTS	183		126	9	237	116	604	237	113		62	462	14	606
MICHIGAN	388, 99		295	650	650, 422A	716	716	256	490		6	490		211
MINNESOTA	99			298	217	215	217	353	215		408	298	354	408
MISSISSIPPI	110, 560				478	634		456	19		141			634
MISSOURI	174, 56			344	47, 344	56	344	47	567		567, 70	340, 567	370	340
MONTANA			72, 379	89	28	491	514	491	723		89			
NEBRASKA	32			344	186	56	344	344	567		567			408
NEVADA					311	311	514	514			72			
NEW HAMPSHIRE	183		126	9	237	116	604	237	113		62			606
NEW JERSEY	393		62	572	705, 619	581, 575	581		113	66, 542				695
NEW MEXICO	615		72	621	311	311	474	514			615			714
NEW YORK	686		62	572	705, 619	205, 700	741	745	113		62	62, 603		
Metropolitan N. Y. C.	440				11A	581	581	745					387	
NORTH CAROLINA					478	634	673	456	414		456	693		634
NORTH DAKOTA				298	217	215	217	353	215		408			408
OHIO	730		498	165, 650	167	207, 531	18	405,498	653	74	498	165		601
OKLAHOMA	26		509	104	344	141	633	344	19	86	567			633
OREGON			379	89	28	491	514	491	723		89	89		714
PENNSYLVANIA	561				619		673		113	216				695
Eastern	393		62	572		575						575		
Western			498	165	505	531		498				672		601
RHODE ISLAND	183		126	9	237	116	604	237	113		62			606
SOUTH CAROLINA					478	634	673	456	414		456			634
SOUTH DAKOTA				298	217	215	217	353	215		408			408
TENNESSEE	110			264	478	634	673	456	19, 414		456		110	634
TEXAS	26		509	104	737	141	633	141	19		141	104	54	633
UTAH			72	621	311	311	474	514			72			714
VERMONT	183		126	9	237	116	604	237	113		62			
VIRGINIA	393				619, 478	575	673							695
WASHINGTON			379	89	28	491	514	491	723		89		379	714
WEST VIRGINIA			498		505	531	673	498	653					601
WISCONSIN	99		295	79	186	623, 215	646	353, 646	215					338, 408
WYOMING			72	89	311	311	474	514			72			714
CANADA	797		379		780A	762	780B		723, 791		791	785, 796	784	714, 765
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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Astatic Corp.	Atlas Sound Corp.	Audio Devices, Inc.	Baker & Williamson	Belden Mfg. Co.	Bell Sound Systems, Inc.	Bird Electronic Corp.	Bogen Co., Inc., David	Bradley Labs., Inc.	Brand & Co., Wm.	British Industries Corp.	Browning Labs., Inc.
ALABAMA	299K	496	299K	478	611	97		299K	200		456	200
ARIZONA	377		574	311			481	437			377	514
ARKANSAS	299K, 110	596	110	734	228, 252	737, 110		141	26		110	513
CALIFORNIA	377, 532	574			73, 299I, 666		481	437	562		377	514
Southern			574	574		377						
Northern		622	299F	532		299H		437				
COLORADO	311			311	252	474		230			260	
CONNECTICUT	115	116	685	299M	415	116	116	64	299J	503	333	
DELAWARE	575	394				421		64	426			610
DIST. COLUMBIA	575	394		394		421	403		426		333	
FLORIDA	299K	715	299K	478	611, 641	97		299K	200		456	200
GEORGIA	299K	309	299K	478	641	97		299K	200		456	200
IDAHO	723	493	28	322		723	536		493		379	
ILLINOIS	454		186	295	278, 597	454			259			646
Northern	623	146						246			118	
Southern		749						70				
INDIANA	465	405	186	650, 370	278, 292	405		753	191A		535	646, 41
IOWA	636	146, 359, 749	284	370	247, 252	215		636	259		408	646
KANSAS	636	749		370	252	56		636			398	
KENTUCKY	382	179, 405		295	292, 597, 641	405	498	416	395		531	41
LOUISIANA	299K, 110	596	110	734	228, 611	737, 110		141	26		110	513
MAINE	115	116	685	299M		116	116	64	299J		333	
MARYLAND	575			394	34	421	403	64	426		333	610
MASSACHUSETTS	115	116	685	299M	345, 415	116	116	64	299J		531, 333	
MICHIGAN	716	461		650	93, 278	152		381	585, 164	306	607	139
MINNESOTA	215	359	284	359	247	215		284	259		408	
MISSISSIPPI	299K, 110	193	110	478, 734	611	110		141	200		110	513
MISSOURI	636	749		370	252, 597	56		70, 636		279	398	
MONTANA	723	493	28	322		723			493		379	
NEBRASKA	636	749, 284		370	252	56		636			408	
NEVADA	311		299F			377	481	437				514
NEW HAMPSHIRE	115	116	685	299M		116	116	64			333	
NEW JERSEY	575, 519	394, 80		591, 394	34, 415	519	403	64	426, 637			180
NEW MEXICO	311		596	311	252	377, 474	481	230			260	
NEW YORK	184, 519, 581	294		299M	345, 415	116, 519	115	64		241	466	745
Metropolitan N. Y. C.	587A	80		591		519	116		637			180
NORTH CAROLINA	299K	193	299K	478		97		299K			456	200
NORTH DAKOTA	215	359	284	359	247	215		284			408	
OHIO	382, 30	179		650	278, 411, 498	405	498	416	498, 711	122, 109	531	139
OKLAHOMA	596	596	596	734	228	737		141	26		77	
OREGON	723	493	28	322	299I	723	536	491	493		379	322
PENNSYLVANIA				394	34		403	64		426	531, 333	745
Eastern	575	394				421			395, 426			610
Western	672	179		299M		498		672	395			41
RHODE ISLAND	115	116, 685		299M	415	116	116	64	299J		333	
SOUTH CAROLINA	299K	193	299K	478	641	97		299K	200		456	200
SOUTH DAKOTA	215	359	284	359	247	215		284			408	
TENNESSEE	299K, 110	193	110	478	292, 611	97, 110		299K	200		456	200
TEXAS	596	596	596	734	228	737		141	26		77	
UTAH	311			311	252	474	481	230			260	
VERMONT	115	116, 685				116	116	64	299J		333	
VIRGINIA	575	394		394		97	403	64	200		610	610
WASHINGTON	723	493	28	322	299I	723	536	491	493		379	322
WEST VIRGINIA	672	179		394	411	498	403	672	395		531	41
WISCONSIN	454	146, 359	259	295	93, 247	454		284	259			646
WYOMING	311			311	252	474	536	230			260	
CANADA	765	765		322, 784		794A			765			788
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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Brush Development Co.	Bud Radio, Inc.	Burgess Battery Co.	Burlington Instrument Co.	Cambridge Thermionic Corp.	Camburn, Inc.	Cannon Company, C. F.	Cannon Electric Development Co.	Cardwell Mfg. Corp., Allen D.	Carron Mfg. Co.	Carter Motor Co.	Cinaudagraph Speakers, Inc.
ALABAMA	707, 673, 328	110	471		200	715		242	299K	715	456	715
ARIZONA	458				130	566			311	514	514	654
ARKANSAS	596	362		243	355			26	344	110	362	344
CALIFORNIA	458				130	566		393, 277			514	654
Southern		128	719, 574	33			299B		574	514		
Northern		300	488	570			300		488			
COLORADO	684	260	46	621	130	566		218	311		260	474
CONNECTICUT	91	604		420	299M	237		516, 272	606		299J	237
DELAWARE	512, 673, 160	610			421	334		393	599	394	421	
DIST. COLUMBIA	673, 703				421	334		393	599	394		
FLORIDA	673, 707	110		312	200	715		242	299K	715	456	715
GEORGIA	364, 673, 707			25, 200	200	715		242	299K	715	456	715
IDAHO	379	260, 379		429		566		111, 28	493			493
ILLINOIS	50	2	352, 114	251	188	324		349	313	318	629	186
Northern	684	368										
Southern	684			472					340			417
INDIANA	18. 50	639	499, 441	156	188, 730	211		753	313	416	629, 598	639
IOWA	684	636		539	355	370		753, 446	313, 344		60	186
KANSAS	684	636	451	472	355	370		446	344	398	398	344
KENTUCKY	18	639		453	730	179		753	167	416	598	639
LOUISIANA	596	362	756	243	355			640	633	110	362	54
MAINE	91	604		420	299M	237		516, 272	606		299J	237
MARYLAND	703, 673, 75	610	204	347	421	334		393	599	394	421	221
MASSACHUSETTS	91	604	473, 299R	420	299M	237		516, 272	606		299J	237
MICHIGAN	447	381	31	121, 369	369	211		716	650	381	152	650
MINNESOTA	554	353	296	121		324		668	359	298	408	353
MISSISSIPPI	707, 673, 328	110		243	200	715		640	513	110		54
MISSOURI	684	636	173	472	188, 355	370		446	344, 340	318, 398	398, 594	344, 417
MONTANA	379	260, 379		429		566		476, 28	493		493	493, 474
NEBRASKA	684	636	170	539, 621	355	370		446	344		408	186
NEVADA	458				130	566		476		514		654
NEW HAMPSHIRE	91	604		420	299M	237		516, 272	606		299J	237
NEW JERSEY	91, 673, 160	572, 610	92	347, 571	203	334		387, 390	599	394, 244	106, 421	221
NEW MEXICO	596	260		243	130	566		218	311		260	474
NEW YORK	91	745	593, 412, 450	184, 571	299M	709		387, 390	599		466	466
Metropolitan N. Y. C.		572	546, 515		203	334				244	106	581
NORTH CAROLINA	364, 673, 707	110		200	200	715		242	299K	715	456	193
NORTH DAKOTA	554	353		121		324		668	359	298	408	353
OHIO	18, 75		4	369, 452, 453	730	179		30	167	416	711, 498	314, 498, 639
OKLAHOMA	596	362	371	357		737		26	344	141	362	344
OREGON	379	379	161	107, 178		566		111, 28	493	514	493	493
PENNSYLVANIA	512, 91, 673		484, 280	613	421	334, 179		498, 393	599	394	395	221, 498
Eastern	160	610		347							421	
Western	75	672									498	498
RHODE ISLAND	91	604		420	299M	237		516, 272	606		299J	237
SOUTH CAROLINA	364, 673, 707	110		200	200	715		242	299K	715	456	193
SOUTH DAKOTA	554			121		324		668	359	298	408	353, 474
TENNESSEE	707, 673, 328	110	736	200, 472	200	715		242, 753	299K, 513	110	110	193
TEXAS	596	362	747, 642	243		737		26	633	110, 141	362	54
UTAH	684	260		621	130	566		476	311		260	474
VERMONT	91	604		420	299M	237		516, 272	606		299J	237
VIRGINIA	673, 703	610	101		421			242, 393		394	421	193
WASHINGTON	379	379		107, 429		566	28	28	493	514	493	493
WEST VIRGINIA	673, 75	672		613		179		498			498	498
WISCONSIN	50, 554		739	121	188	324		449	313, 359		629	186, 353
WYOMING	684	260		621	130	566		218	311		260	474
CANADA	379			770	782	566, 780B		826	493, 791		493, 791	768
U.S. EXPORT AGENCY			983	859	130	956		859	803		975	493, 954

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	Clarostat Mfg. Co., Inc.	Conant Electrical Laboratories	Condenser Products Co.	Continental Carbon, Inc.	Cornell-Dubilier Elect. Corp.	Cornish Wire Co., Inc.	Crescent Radio Components	Crystal Research Labs., Inc.	Cyclohm Motor Corp.	DeJur-Amsco Corp.	Dial Light Co. of America	Drake Electric Works, Inc.	Drake Mfg. Co.	Dumont Electric Corp.
ALABAMA	456	264		264					673			299K	615	
ARIZONA		714		315					467		377	562		
ARKANSAS	110	734		362		509	633		438		54	734		
CALIFORNIA	514	714	654	315	367, 299J			377			377		538	
Southern						460	172					562		
Northern						291	392					392		
COLORADO	474	260		474	474				52			260		
CONNECTICUT	384, 604	624	338	299J			604, 448				8	604		
DELAWARE		624		695			265		673			403, 616		
DIST. COLUMBIA	232, 378	624		695					673			403, 616		
FLORIDA	456			264					673			299K		
GEORGIA	456	264		264	456				673			299K		
IDAHO	474	714		723			723		492		491	260		
ILLINOIS	147, 749	45			100,557			555	356	295	249, 238	580, 671		629
Northern				45										
Southern				398										
INDIANA	495	416, 45	753		404				452		639	601	706	
IOWA		45		398		284						198	457	
KANSAS	749	567		398					443, 137			198		
KENTUCKY		416		498			653		78		639	601		
LOUISIANA	110	734		362		509	633		510		54	734		
MAINE	384, 604	624		299J			604, 448				8	604		
MARYLAND	232, 378	624		498, 695			265		673			403, 616		
MASSACHUSETTS	384, 604	624		299J	516		604, 448				8	604	667	
MICHIGAN	211	284, 45	407	607	381				452		211	388	607	
MINNESOTA	353	284		554	284	284					249	353		
MISSISSIPPI	110	734		110					673			299K, 734		
MISSOURI	749	567	445	398	520				443	56	249	198	502	
MONTANA		260		723			723		492		491	379, 260		
NEBRASKA	474	567		398, 474								198	645	
NEVADA	514	714		315							377	260		
NEW HAMPSHIRE	384,604	624		299J			604, 448				8	604		
NEW JERSEY	232, 378	624		214, 695			265					616, 138, 403		
NEW MEXICO	474	260		474					467			260		
NEW YORK	232, 184	624	62	299J	466			219				745, 671, 616	686	
Metropolitan N. Y. C.	7, 58			214	64				5			138	632	
NORTH CAROLINA	456	264		264			301		673			299K		
NORTH DAKOTA		284		554		284						353		
OHIO		416		498	165		653		78		639	601		
OKLAHOMA	596	567		362		509	633		438		54	734		
OREGON	514	714		723			723		492		491	379		
PENNSYLVANIA		624	610		403		265		5	426				
Eastern	378			695								403, 616		
Western	498			498	672				673		639	601	575	
RHODE ISLAND	384, 604	624					604, 448				8	604		
SOUTH CAROLINA	456	264		264					673			299K		
SOUTH DAKOTA		284		554		284						353, 299K, 198		
TENNESSEE	456, 110	264		110					673				110	
TEXAS	596	734		362	104	509	633		467, 319		54	734	754	
UTAH	474	714		474							377	260	230	
VERMONT	384, 604	624		299J			604, 448				8	604		
VIRGINIA		264		695			301		673			403, 616		
WASHINGTON	514	714		723	493		723		492		491	379	28	
WEST VIRGINIA	498	416		498					673		639	601, 403		
WISCONSIN		45		45,554		284					249	580		
WYOMING	474	260		474								260		
CANADA	514,798	781,714			787,795A		723		772,761,778	765	763,491	797, 379	765	
U.S. EXPORT AGENCY	963	956		963			952						954	

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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Dumont Laboratories, A. B.	Duotone Co., Inc.	Eastern Amplifier Corp.	Eastern Mike-Stand Co.	Editors & Engineers, Ltd.	Eitel-McCullough, Inc.	Electrical Reactance Corp.	Electronic Indicator Corp.	Electronic Laboratories, Inc.	Electronic Mfg. Co.	Electronic Measurements Corp.	Electro Products Labs.	Electro-Voice, Inc.	Equipto (Aurora Equipt. Co.)
ALABAMA	478, 513	193	456		456	456		200	477, 456	110	200	478	634	
ARIZONA	299B	714	654		43	43		194	615	433	714		175	
ARKANSAS	12,513	141	649			509			344	380	649	509	509	
CALIFORNIA	299B	714	654		43	43			566	433	714			402, 389
Southern				202			299E	194				691	175, 299F	
Northern				488				194	464			392		
COLORADO	230	474	136		260	72			72	621	714	260	260	
CONNECTICUT	721	42	237		126	126	81	351	126, 565	113	338	113	113	
DELAWARE	232	231			610	599	689	724	403	394	722	113		
DIST. COLUMBIA	232	231			610	599	689	724	403		722		599	
FLORIDA	478, 513	193	456		456	456		200	199	110	200	478	634	
GEORGIA	478	193	456		456	456		200	456	110	200	478	634	
IDAHO	28	379	493		260, 379	379, 72	287	379	566, 72	493	714	379	491	
ILLINOIS		431	749	299K	295	295	299G		702	580	51	45		
Northern	145								409					
Southern	12													
INDIANA	145	431	600		295	295	108			580	51	45	639	
IOWA	12,145	398			198			408	636	370		398		
KANSAS	12	398	749		198			417	636	370	649	398		
KENTUCKY	753	431	600		295, 41	295				498	498	531	531, 639	
LOUISIANA	513	141	477			509			596, 477	380		509	509	
MAINE	721	42	237		126	126	81	351	126	113	338	113	113	
MARYLAND	232	231			610	599	689	724	403	394	722	113	599	
MASSACHUSETTS	721	42	237		126	126	81	351	126	113	338	113	113	
MICHIGAN	145, 647	152, 281	716		295	295	108		388	712	607	259, 647	152	
MINNESOTA	259	281	353	554				408	284		51	259		
MISSISSIPPI	513	193	477		456	456		200	477	110	200	478	634	
MISSOURI	12	398	749		198			417	636, 702	370		398		
MONTANA	28	281	493		260, 379	379, 72	287	379	566, 72	493	714	260, 379	491	
NEBRASKA	12	398	136, 353		198	72		408	636, 72	370		398	260	
NEVADA	299B	714	654		43	43		194	566	433	714			
NEW HAMPSHIRE	721	42	237		126	126	81	351	126	113	338	113	113	
NEW JERSEY	682, 232	231	80		610, 745	599	689	724	403	394, 113	722	113	599	
NEW MEXICO	230	474	136		260	72			615	621	714	260	260	
NEW YORK	500	42	80, 184		745	599	81, 234, 236		603	113	722	113	113	579
Metropolitan N. Y. C.	232, 682	42	80	530	745		612	724	565, 954				599	579
NORTH CAROLINA	478	193	456	638	456	456		200	456	110	200	478	639	
NORTH DAKOTA	259	281	353					408	284					
OHIO	145, 647	431	600	498	41	295	733		165	498	498	531	531	522
OKLAHOMA	12, 737	141	649			509			344	380	649	509	509	
OREGON	28	379	493		379	379	287	379	566, 325	493	714	379		
PENNSYLVANIA		231, 431			610	599	234, 235		603, 403		722		599	710
Eastern	150				610		689	724		394		531, 113	113	
Western	232				41					498			531	
RHODE ISLAND	721	42	237		126	126	81	351	126	113	338	113		
SOUTH CAROLINA	478	193	456		456	456		200	456	110	200	478	634	
SOUTH DAKOTA	259	281	353					408	284			259		
TENNESSEE	478, 513	193	456		456	456		200	477, 456	110	200	478	634	
TEXAS	737	141	136, 649	362	260	509			615, 596	380	649	509	509	134
UTAH	230	714	136			72			72	621	714	260	260	
VERMONT	721	42	237		126	126	81	351	126	113	338	113	113	
VIRGINIA	232	193			610	599		200	403	394	200	113	113	
WASHINGTON	28	379	493		379	379	287	379	566	493	714	379	491	55
WEST VIRGINIA	150	431			41	599	733		165	498	498	531	531	
WISCONSIN	145	281	353		295	295	188		284, 409	580	51	259		
WYOMING	230	474	136		260	72	287		72	621	714	260	260	
CANADA	775		493	791	379			379	801	493	769	765	784	
U.S. EXPORT AGENCY	849		976				973			952	979A		954	

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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Freed Transformer Co., Inc.	Garrard Sales Corp.	General Cement Mfg. Co.	General Dry Batteries, Inc.	General Electronics, Inc.	General Transformer Corp.	Gothard Mfg. Co.	Greenlee Tool Co.	Guardian Electric Mfg. Co.	Halldorson Co.	Hallicrafters Co.	Hammarlund Mfg. Co., Inc.	Heintz & Kaufman, Ltd.	Hexacon Electric Co.	Hickok Electrical Instrument
ALABAMA		456			478	521	456		424	673	97	478	299K	413	
ARIZONA		377	377	621	162	245	311		549	433	437	615			
ARKANSAS		110	54	110, 40		54	362		633	444	344	104	734	191	
CALIFORNIA		377		273		299F				433				144	
Southern			377	569	458		574		549		437	691	367		323
Northern			300		488		488		392		532	299H	392		35
COLORADO		260	474	621	162	376			230	433	72	230	311		474
CONNECTICUT	604	333	604		339	62	435			553	126	335	667	482	
DELAWARE			673	738		62							403		
DIST. COLUMBIA		333	673			62	394			673	206		299Q		
FLORIDA		456	673	110	199	97	456		424	673	97	478	299K	413	
GEORGIA		456	673	110	478	97	456		424	673	97	478	299K	413	299K
IDAHO		379		723, 534	723		311, 508		230	433	72, 28	89	432	366	
ILLINOIS			186	528		376, 587	299A			445	129	147	251	13	409
Northern		118													
Southern			417		749							495			
INDIANA		753	639	528	452	404	163				416	495	416	13	163, 417
IOWA		408	284	358	457	60	636		224	445	129	215	353	13	
KANSAS		398	417	358	749	376	636		224	445	344	198	567	191	
KENTUCKY	165	531	639	528	78	404, 521	498			23	416	495	416	13	
LOUISIANA		110	54	110, 40	737	54, 521	362		640	444	477	104	734	413	
MAINE	604	333	604		339	62	435		271	553	126	335	667	482	
MARYLAND		531, 333	673	738		62	394			673	206	672	403	418, 49	
MASSACHUSETTS	604	333	604			62	435		271	553	126	335	667	482	126
MICHIGAN		607	447		452	209, 284	388		329	23	650	716	388, 353	13	650
MINNESOTA		408	284		457	284	298		2	445	298	215	353	13	187
MISSISSIPPI		110	673	110, 40	478	521			640	673	477	478	734	413	
MISSOURI		398	417	358	749	376	636		224	445	129, 344	198	567	13	331, 684
MONTANA		379		723, 534	723	284	311		230	433	72, 28	89	311, 432	366	
NEBRASKA		408	284, 474	358	457	376			224		129	198	251, 567, 353	13	
NEVADA			377		162, 488	299F	311		230	433	532	230	392		
NEW HAMPSHIRE	604	333	604		339	62	435		271	553	126	335	667	482	
NEW JERSEY		225	673	738	339	62	591		255	553	572		62, 403	171	
NEW MEXICO		260	474	621	162	245			230	433	72	615	311		
NEW YORK		466	745	254	452, 339	602, 62	602		255, 625	553	64	184	602	482	303, 466, 954
Metropolitan N. Y. C.			225				591				572		62	171	
NORTH CAROLINA		456	673	193		97	456		424	673	97	478	299K	413	
NORTH DAKOTA		408	284		457	284				445	298	215	353		
OHIO	165	531	179	528	78	209	498		289	23	416, 650	29	416	13	373
OKLAHOMA		77	54	596	737	376	362		633	444	344	104	734	191	
OREGON		379	379	723, 534	723	27	508		432	433	28	89	432	366	751
PENNSYLVANIA			673			62, 507				673			667, 403		253
Eastern		333		738	339		394				572			171	
Western	165	531		254	452		498		90		64	672		418	
RHODE ISLAND	604	333	604		339	62	435		271	553	126	335	667	482	
SOUTH CAROLINA		456	673	193	478	97	456		424	673	97	478	299K	413	
SOUTH DAKOTA		408	284		457	284				445	298	215	353		
TENNESSEE		456	673	110, 40	478	521			424	673	97	478	299K	413	
TEXAS		77	54	596	737	54, 245	362		633	444		104	734	191	633
UTAH		260	474	621	162		311		230	433	72	230	311		
VERMONT	604	333	604		339	62	435		271	553	126	335	667	482	
VIRGINIA		610	673	193		97				673	97	301	403	413	
WASHINGTON		379	379	723, 534	723	27	508		432	433	28	89	432	366	
WEST VIRGINIA	165	531	673	528	452	507	498		432	673	64	672	403	418	
WISCONSIN			284		457	284, 587	299A		2	445	129	147, 215	251, 353	13	2, 317
WYOMING		260	474	621	162	284			230	433	72	230	311		
CANADA		791	379, 791				784		797			954	794	366, 760	800
U.S. EXPORT AGENCY		861		862		860	963	992	871		1003		963	885	704

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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Hytron Radio & Electronics Corp.	Illinois Condenser Co.	Industrial Condenser Corp.	Industrial Instruments, Inc.	Insuline Corp. of America	International Resistance Co.	Islip Radio Mfg. Corp.	J-B-T Instruments, Inc.	Jensen Industries, Inc.	JFD Manufacturing Co.	Johnson Co., E. F.	Jones Co., Howard B.	Kainer & Company	Kato Engineering Co.	Kenyon Transformer Co., Inc.
ALABAMA	715		715		299K			456	715	638	456		286		513, 715
ARIZONA	311	36	691		514			627	202	202	714				562
ARKANSAS	54	734	633		734			509		513		26	734	362	104
CALIFORNIA		36	691		514			627			714		458		562
Southern	367					437	708		202	202		630		305	
Northern	299D		488			291	291			488		532			
COLORADO	311		260		514	72		308		136					
CONNECTICUT		612	240		299J			606	606	113	667	516			462
DELAWARE	127	612	394					310		113	403	403	421		599
DIST. COLUMBIA	127	612					442	442			403	403	421		599
FLORIDA	715		715		299K			456	715	638	456	199	286		513, 715
GEORGIA	715		715		299K	299K		456	715	638	456		286		715
IDAHO	317A				514			308		161	714		723		
ILLINOIS		702		145	398, 45		146	313	210	740	186		87		259
Northern	257												39		
Southern	417							47							
INDIANA	125, 211	702	639		163	404		313, 47, 167	210	600	416		87		259
IOWA	284		592		398, 45			284	198	198	186		96		636
KANSAS	417		592		398			567	198	198	567	417			636
KENTUCKY	397		416		498			167	531	600	416		498		648
LOUISIANA	54	734	633		734			509		513	477	26	734	362	513
MAINE	524		240		299J			606	606	113	667	516			462
MARYLAND	127, 397	612	394					442, 310		113	403	403	498		599
MASSACHUSETTS	524	612	240	721	299J		685	606	606	113	667	516			462
MICHIGAN	125, 211	702	388		607	369		407	461	258		211	6		648
MINNESOTA	284		353		554			284	210	96	298		96		259
MISSISSIPPI	54		715		734			456		638	477		734		513
MISSOURI	417		592, 279		398	547		47, 567	198	198	567	417		417	636
MONTANA	317A		260		514			308		161			723		
NEBRASKA	284		592		398			567	198	198	567		96		636
NEVADA	299D, 367		488		514			627		488	714				
NEW HAMPSHIRE	524		240		299J			606	606	113	667	516			462
NEW JERSEY	127	612		232				692, 310, 529		113	403	387	421, 106		599
NEW MEXICO	311		260		514			308		136					
NEW YORK	127	612	686	500				529, 603, 692		113	602	387		632	599
Metropolitan N. Y. C.			214				399			113	632		106		
NORTH CAROLINA	193		193		299K		193	456	715	638	456		286		715
NORTH DAKOTA	284				554			284	210	96	298		96		
OHIO	125, 211	702	416		498		139	167	531	341, 258, 600	416	601	498		648
OKLAHOMA	54	734	633		734			567		141	567	26	734	362	104
OREGON	317A	36			514		161	28		161	714		458, 723	493	
PENNSYLVANIA	397					672					403, 416	403			599
Eastern	127	612	394					310	531	113			421		
Western					498			603		341			498		
RHODE ISLAND	524	612	240		299J			606	606	113	667	516			462
SOUTH CAROLINA	193		193		299K			456	715	638	456		286		715
SOUTH DAKOTA	284				554			284	210	96	298		96		
TENNESSEE	193		193		299K			456	715	638	456		286		715, 513
TEXAS	54	734	633		734	19	596	509		141	737	26	734	362	104
UTAH	311		260		514			308		136	714				
VERMONT	524		240		299J			606	606	113	667	516			462
VIRGINIA	193		394, 193					442		113	403	403	421		648
WASHINGTON	317A	36			514	379				161	714		723, 458	493	
WEST VIRGINIA	397				498			442	531	341	403	403	498		648
WISCONSIN	257, 284	702			45, 554			313, 284	210	96	186, 298		87, 96		259
WYOMING	311		260		514			308		136	714				
CANADA					514, 10, 784			784, 795		981	797, 714	773	213, 723	796	
U.S. EXPORT AGENCY		893			889		934			916	963	975	953	962	

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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Kings Electronics Co.	Knights Co., James	Koppercore and Kwikheat (Sound Equipt.)	Les Logan Co.	Littelfuse, Inc.	Machlett Laboratories, Inc.	Maguire Industries, Inc.	Mallory & Co., Inc.	Marion Electrical Instrument	MB Mfg. Co., Inc.	Merit Coil & Transformer	Middletown Mfg. Co.	Millen Mfg. Co., Inc.	Mueller Electric Co.	Murray Hill Books, Inc.
ALABAMA	634		634	456			410		673	200	715	715, 496	638	485	
ARIZONA	230, 433			562			263		514	483			367	436	
ARKANSAS	444		596	734			758			26	509		734	83	
CALIFORNIA	433	95			746	481, 574	263	290, 299H	514	360, 239				436	
Southern				562									367		
Northern											488		299D		
COLORADO	230		136	422				308	230	483				533	
CONNECTICUT	288	299J	275, 180	62			248, 260		335	299J			237	333	
DELAWARE	645			62			430		673	575				333	
DIST. COLUMBIA	551		610				430			575, 742			394	333	
FLORIDA	634		634	456			410		673	200	715	715	199	485	
GEORGIA	634	559	634	456			410		673	200	715	715, 309	638	485	
IDAHO	432	95	136	379			379		491	508	723			533	
ILLINOIS	445				65	146	172		79				580		
Northern	681		117	186											
Southern			103									681			
INDIANA	84, 120			186			321		79	497	88	681	404		
IOWA	445		511	186			361		445	224	198		592, 580	636	
KANSAS	445		511	636			172		445	224	198		592	636	
KENTUCKY	84, 120	498.711, 395	103	498, 395			321		18	395, 498, 711	88	78	404		
LOUISIANA	444		596	640, 477			758			26	509		734	83	
MAINE	288	299J	275	62			248		335	299J			237	333	
MARYLAND	551, 30		610	62			430		673	575			394	333	
MASSACHUSETTS	288	299J	275	62		299J	248		535	299J			237	333	
MICHIGAN	84		744	381		650	321		79	497		407	712		
MINNESOTA	284		635	298			361	298					217	375	
MISSISSIPPI	634		634				410		673	200	715	715, 496	734	485	
MISSOURI	445		103, 511	636			172		445	224	198		592	636	
MONTANA	230, 432		136	379					491	508	723			533	
NEBRASKA	284		136, 511	186			361		445	483, 224	198		592	636	
NEVADA	230						263		514					436	
NEW HAMPSHIRE	288	299J	275	62			248		335	299J			237	333	
NEW JERSEY	588	421	610, 180	62		232	687		335	575	102		138, 394	333	
NEW MEXICO	230	582	136						230	483				533	
NEW YORK	588	299J		62	326		248		335	299J	102		712	333	
Metropolitan N. Y. C.			180				687			3			138		
NORTH CAROLINA	634	559	634	456			410		673	200	715	715, 428	638	151	
NORTH DAKOTA	284		136, 635	298			361			483			217	375	
OHIO	30	498, 395, 711	498	498, 395		601	321		18	395, 498, 711	18	78	712, 404		
OKLAHOMA	444		596	734			758			26	509		734	83	
OREGON	432	95		379			379	89	491	508	723		322	436	
PENNSYLVANIA	588			62					673						
Eastern	652	421	610				430			575			394	333	
Western	30	711, 498, 395	672	498, 395			321			395, 498, 711	18		712		
RHODE ISLAND	288	299J		62			248		335	299J			237	333	
SOUTH CAROLINA	634	559	634	456			410		673	200	715	715, 428	638	151	
SOUTH DAKOTA	284		136, 635	298						483			217	375	
TENNESSEE	634		634, 103	456			410		673	200	88	715	638	151	
TEXAS	444, 433	582	596	734		633	758		737	26	509		734	83, 533	
UTAH	230		136	422					230	483				533	
VERMONT	288	299J	275	62			248		335	299J			237	333	
VIRGINIA	551, 634		610				430		673	575			394	151	
WASHINGTON	432	95		62, 379			379		491	508	723		322	436	
WEST VIRGINIA	30	498, 395, 711	672	498, 395			321		673	395, 498, 711	18				
WISCONSIN	284		635	186, 298			361		79			681	580, 217	375	
WYOMING	230		136	422					230	483				533	
CANADA	765	786, 777		379, 791				797	491, 764	771, 508	723		322, 764	774	790
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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	National Co., Inc.	National Hollywood	National Union Radio Corp.	Newcomb Audio Products Co.	Oak Ridge Antenna Co.	Ohmite Mfg. Co.	Panoramic Radio Corp.	Par-Metal Products Corp.	Petersen Radio Co., Inc.	Pierson Electronic Corp.	Potter & Brumfield Sales	Precision Apparatus Co.	Premax Products	Presto Recording Corp.	Pyramid Electric Co.
ALABAMA	634	264	707, 328	638					200		673	707, 328, 673	193		
ARIZONA	43		433	311	654	615			153		175, 628	654	615		
ARKANSAS	509	54	444	362					362				734		
CALIFORNIA	43				654	501, 43		562	153			654	377	481	654
Southern			433				562				175				
Northern		654	433, 168	85			434				628				
COLORADO			422	311	483	260	130		260		684		474	311	621
CONNECTICUT		338	288	21					462		667	423, 335	667		
DELAWARE		605	160, 512	652					599		673	160, 512	403		
DIST. COLUMBIA			703		530				599		673	673	403		
FLORIDA		264	707	638		715			200		673	673, 707	193	680	
GEORGIA	634	264	707, 364	638				456	200		673	707, 364, 673	193		299S
IDAHO	161		422, 432	89	493				432		89	491	474		
ILLINOIS	117	146	445	445			79	631	556			445	295	45	295
Northern												79			
Southern															
INDIANA	117	598	120	445		706			556				295		
IOWA		376	445	445		60			636		684	445	636		
KANSAS		376	445	445					636		684	445	636		
KENTUCKY	531	598	120	397								179	78		
LOUISIANA	509	54	444	362					362			737	734		
MAINE		338	288	21					462		667	423, 335	667		
MARYLAND		605	703, 75	652			673		599		673	75, 673, 703	403	673	
MASSACHUSETTS		338	288	21		667	299J		462		667	423, 335	667	374	604
MICHIGAN	447		84, 445	256		388		152				211	152	6	461
MINNESOTA		146	445	445		298						445			
MISSISSIPPI		54	328, 707	638					200		673	707, 328, 673	734		
MISSOURI		376	445	445		567, 318	445	344, 417	636		684	445	636	445, 683	
MONTANA			422, 432	89	493				260			491	474		
NEBRASKA		376	445	445	483				636		684	445	636		
NEVADA	43		433		654								377		
NEW HAMPSHIRE		338	288	21					462		667	423, 335	667		
NEW JERSEY	400	372, 605	160, 512, 588	652					599		673, 244	512, 160, 673	403, 244		
NEW MEXICO			422	311	483		130		260				615		
NEW YORK	619	372	299T	244, 397		602	184	709	599		589	745	205	11	
Metropolitan N. Y. C.	400		588	244	530	62, 440					244	335	244		
NORTH CAROLINA	634	264	707, 364	638					200		673	707, 364, 673	193		
NORTH DAKOTA			445	445								445			
OHIO	531	41, 598		139		416	78				601	75, 673, 179	78	601	41
OKLAHOMA	509	376	444	362					362		573		734		
OREGON	161		432	89	493				432		89	491	379		
PENNSYLVANIA			160, 512			403			599		673	673	78, 403	512	196
Eastern		605		652	530							512, 160			
Western		41	75	397							601	75			
RHODE ISLAND		338	288	21					462		667	423, 335	667		
SOUTH CAROLINA	634	264	707, 364	638					200		673	707, 364, 673	193		
SOUTH DAKOTA			445	445	483							445			
TENNESSEE	634	264	707, 328	638		110			200		673	707, 328, 673	193		
TEXAS	509	54	444, 433	362	483	633	444	26	362		573	737	734, 615	633	77
UTAH			422	311	483		130		260				474		
VERMONT		338	288	21					462		667	423, 335	667		
VIRGINIA		605	703, 328	638					200		673	673, 703	403		
WASHINGTON	161		432	89	493	432	432		432		89	491	379	432	379
WEST VIRGINIA	531	605	75	397							673	75, 673	403		
WISCONSIN	117	146	445	445					556			445	295		
WYOMING			422	311	483		130		260		684		474		
CANADA						797, 795		798	799,782		768, 89	765, 491	797	776	
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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Quam-Nichols Co.	Racon Electric Co.	Rad-El-Co Mfg. Co.	Radio City Products Co.	Radio Corp. of America	Radio Essentials, Inc.	Radio Frequency Labs., Inc.	Radio Mfg. Enginners, Inc.	Radio Music Corp.	Radio Receptor Co., Inc.	Radio Specialty Mfg. Co.	Rauland Corp.	Raytheon Mfg. Co.	Recordisc Corp.
ALABAMA	478	299S, 513	456	193	609		523, 350	673	193	158		634		634
ARIZONA		714	483	514	53		544	714		725		615		367
ARKANSAS	734	513	54		316		197	362		158		509		104
CALIFORNIA		714	385			128		714	708	725		267	514	
Southern	159			128	53		617				433	299B		367
Northern	488			488	620		285				434	488		299D
COLORADO	311	260	483	136	98	474	517	260				72	621	260
CONNECTICUT	268	21	604	237	439		552	299J		276		685	606	62
DELAWARE		610	695	610	735			673		442		695		695
DIST. COLUMBIA	695	610		610	735				442	266		695		695
FLORIDA	478	299S, 513	456	193	609		718, 350	673	193	264		634		634
GEORGIA	478	299S	456	193	609		688, 718	673	193	264		634	97	634
IDAHO	491	714	432	514	53, 620		517, 181	714	161			322		
ILLINOIS	146	631	186	249	681			445	70					580
Northern	146				229		552	295	146	2		406		
Southern					608		197			749, 38		307		
INDIANA	405	631	405	249	608, 229		44	295		497		639		639
IOWA	284	215	344	71, 146	98		197	445				406		408
KANSAS	198	344	344		98		197	445		749		592		567
KENTUCKY	405	452	405	18	608		523	295		497		639		639
LOUISIANA	478, 734	513	54		316		573, 350	362		158		543		104
MAINE	268	21	604	237	439		143	299J		276		685		62
MARYLAND	695	610	695	610	735	637	123	673		442		695		695
MASSACHUSETTS	268	21	604	237	346, 439	237	143	299J	685	276		685		62
MICHIGAN	447	249	152	461	227	152	112	6		2, 497		211		650
MINNESOTA	284	215	215	71	229	284	233	445	359	2		408	298	408
MISSISSIPPI	478	513	54		316		350	673	193	158		543		634
MISSOURI	198	344	344		98	344	197	445	70	749		592, 307	398	567
MONTANA	491	260, 714	432		620		517	260, 714				322		
NEBRASKA	284	344	483, 344	376, 136	98		197	445, 260				592, 72		408
NEVADA		714	385		53, 620		285	714		725		488		299D
NEW HAMPSHIRE		21	604	237	346, 439		143	299J				685		62
NEW JERSEY	695	724, 610	138, 695	180, 610	166, 15		552	599, 673		701		180, 695		62
NEW MEXICO		260	483	136	427		544	260				615		260
NEW YORK	82, 184	724	138, 466	184	166, 15, 346		589	599		701		745	709	745
Metropolitan N. Y. C.				180			552		59, 400	644		180		62
NORTH CAROLINA	478	299S	456	193	223		541	673	193	442		634		634
NORTH DAKOTA	284	215	215	71	229		233	445				408		408
OHIO	29	249	41	18, 341	227, 608	179	44, 16	295,6,673	139	497		639		314, 639
OKLAHOMA	734	737, 344	54		427		573	362		537		509	344	104
OREGON	491	714	432	514	620		181	714	161	725		322	89	
PENNSYLVANIA							16	673		701			394	695,672
Eastern	695	610	695	610	735							639		
Western	341	452	397	341	227		123			497		695		314
RHODE ISLAND	268	21	604	237	439		143	299J		276		685		62
SOUTH CAROLINA	478	299S	456	193	223		541	673	193	442		634		634
SOUTH DAKOTA	284	215	483, 215	71, 136	98		233	445				408		408
TENNESSEE	478	299S	456	193	316, 609		523	673	193	497		634		634
TEXAS	734	737	54		427	737	573, 544	362	596			509	104	104
UTAH		260	483	136	53		517	260				72		260
VERMONT	268	21	604	237	346, 439		143	299J		276		685		62
VIRGINIA	695	610	695	193	223, 735		541	673		442, 497				695
WASHINGTON	491	714	432	514	620		181	714	161	725	493	322		
WEST VIRGINIA	341	452	41, 397	341	608		123	673		497		639		672
WISCONSIN	146	631	186	71, 146	229		233	445		2		406		408
WYOMING		260	483	136	53, 98, 620		517	260				72		260
CANADA	690, 780	714, 798	786, 796, 432	514		765	789	714	782	798				785
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MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Reiner Electronics Co.	Rek-O-Kut Company	Rider Publisher, Inc.	Robinette Co., W. C.	Ruckelshaus & Co., J. G.	St. Louis Microphone Co.	Sams & Co., Inc., H. W.	Sangamo Electric Co.	Schauer Machine Co.	Schott Co., W. L.	Shallcross Mfg. Co.	Shur-Antenna-Mount	Shure Bros., Inc.	Sigma Instruments, Inc.
ALABAMA	193	264				200			456	478	264	478		312
ARIZONA	514	302				222					119	481		
ARKANSAS		596			737	649		362	344	362	141			
CALIFORNIA		302	433			222					119	481	367, 299D	562
Southern	128				697		290	494	36	697				
Northern	488				385		299H	743	385	475				
COLORADO	136	474			469	222			386	260	230			
CONNECTICUT	237	335			299J	338		591, 299J	692	21	240	138, 116		276
DELAWARE	610	459				724			421	575	135	394		480
DIST. COLUMBIA	610	459		133		724			201	575	135	394	403	
FLORIDA	193	264				200		718	456	478	264	478		312
GEORGIA	193	264				200			456	478	264	478	97	312
IDAHO	514	493				222		508	161	491	230, 28			287
ILLINOIS	146	681		148	146				313	383		702	50, 186, 631	
Northern						259		45	726		295			377
Southern											753			269
INDIANA	249	681, 712			639	452		639		405	295, 753			377, 497
IOWA	146, 71	370			469	592		539	344		376	592		
KANSAS	376	370			469	592		759	344		376	592		269
KENTUCKY	18	712			639	452		639		405	753	394		497
LOUISIANA		596			737			362	633	362, 478	141	478		545
MAINE	237				299J	338		299J	506	21	240	116		276
MARYLAND	610	459	673	133		724		591, 421		575	135	394		480
MASSACHUSETTS	237	335			299J	338		299J	506	21	240	116	268	276
MICHIGAN	461	712				452		369		383	650	702, 712	381	
MINNESOTA	71, 146	353				259	298	539		359	353	217	298	
MISSISSIPPI		264				200				478	264	478		545
MISSOURI	376	370		694	469	592, 307		759	344		376	592, 307	749	269
MONTANA	514	474, 493				222		508	386	491	28	723		287
NEBRASKA	376, 136	370			469	592		759	344		376	592		
NEVADA						222			386		119	481		
NEW HAMPSHIRE	237	335			299J	338		299J	506	21	240	116		276
NEW JERSEY	610, 180	335, 459				724		591	692, 421	575	91, 135	138		440, 480
NEW MEXICO	136	474				222			386	260		481		
NEW YORK	184	729		133	299J	724		591, 589	142	192	686	138	591, 619	327
Metropolitan N. Y. C.	180	335			637	724			692	192	91			440
NORTH CAROLINA	193	264				22			456	478	264	478		
NORTH DAKOTA	71	353								359	353	217		
OHIO	18, 341	712	498, 167	486, 576	639	341, 452		639	167	382, 405	650	712	416	497
OKLAHOMA	376	596			737	649		362	344	362	141	596		754
OREGON	514	493				222		508	161	491	28	723		287
PENNSYLVANIA		459									686	712, 394		327
Eastern	610				393	724		591	421	382, 575	135			480
Western	341				639	341		283	672				403	497
RHODE ISLAND	237	335			299J	338		299J	506	21	240			276
SOUTH CAROLINA	193	264				22			456	478	264	478		
SOUTH DAKOTA	71, 136	353								359	353	217		
TENNESSEE	193	264				200			456	478	264	478		
TEXAS		596	104		737	649	509		633	260, 362	141	596	104	754
UTAH	136	474				222			386	260	230	481	230	
VERMONT	237	335			299J	338		299J	506	21	240	116		276
VIRGINIA	193	459				22			421	575	135	394		
WASHINGTON	514	493	432			222	379	508	161	491	28	723	493	287
WEST VIRGINIA	341	459			639	341			672	382				497
WISCONSIN	71, 146	681	2			259		45		383, 359	295, 353	217, 702, 712		377
WYOMING	136	474				222			386	260	230			
CANADA	514	493, 798			767	782	797	785	788	491	28, 783	786	797, 795	
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	Signal Electric Mfg. Co.	Silver Co., Inc., McMurdo	Simpson Electric Co.	Simpson Mfg. Co., Mark (Masco)	SNC Manufacturing Co.	Sola Elect. Co.	Solar Mfg. Corp.	Sound Apparatus Co.	Special Products Co.	Sprague Products Co.	Standard Arcturus Corp.	Standard Elect. Products Co.	Standard Transformer Corp.	Stanwyck Winding Co.	Stephens Mfg. Co.
ALABAMA	299S	715, 309	478	193	478		97			634	634			193	
ARIZONA	20	714		514	514		615				282	714		95	
ARKANSAS	19	444	110	633	737		596			509	110	54		633	
CALIFORNIA		714			514	617					282	714		95	
Southern	20		401	514			377		708	159			367		
Northern	487		532	392			291		300	532			299D		
COLORADO	757	714	72		340, 514		72			336	282	714	72	95	
CONNECTICUT	731	21	667	604, 448	667	276	37, 9			698	113	338		604	
DELAWARE		652	403	619			421, 320				113	421		619	
DIST. COLUMBIA		652	403	619	403		421, 320			695	113			619	
FLORIDA	299S	715, 309	478	193	478		97		707	634	634			193	
GEORGIA	299S	715, 309	478	193	478		97		364	634	634		299K	193	97
IDAHO	348	714	89	379	514		72, 161			491	282	714		432	
ILLINOIS				681		129			79	336				556	45
Northern	618	259			313		146, 195				629	629			
Southern	749	749			340		749								
INDIANA	618	259	405	598	313		195, 146, 163			336	452	629		556	
IOWA	618	259	215	398	313, 340		636			398	370	353		408	
KANSAS	749	749		398	340		636			398	370				
KENTUCKY	419	382	405	598			163			531	452	498		78	
LOUISIANA	19	444	110	633	640		596			509	110			633	
MAINE	731	21	667	604, 448	667		9			550	113			604	
MARYLAND	299F	652	403	619	403		421, 498, 320		673	695	113	421		619	
MASSACHUSETTS	731	21	667	604, 448	667	69	9		299J	550	113		268	604	
MICHIGAN	155	647	447			177	447, 2			211	152	607	607	490	
MINNESOTA	284	259	215	217			2			554	2	353	408	408	
MISSISSIPPI	299S, 19	715, 309, 496	110	193	640		97			634	110	54		193	
MISSOURI	749	749		398	340		749, 636		445	336, 398	370		70, 398		344
MONTANA	757, 348	714	89	379	514		72, 161				282			432	
NEBRASKA	749		215	398	340, 514		636			398	370	353		408	
NEVADA	487		72	392	514		291				282	714			
NEW HAMPSHIRE	731	21	667	604, 448	667		9			550	113	338		604	
NEW JERSEY	169, 299P	588, 652	214, 403	619	619,403		421, 320, 226		160	695	113	421		619	113
NEW MEXICO	757	714	72		514		615			159	282	714		95	
NEW YORK	262	588	142	619	619	468	602		603		113	387	106, 466		527
Metropolitan N. Y. C.	169		214			466	37		752	578					
NORTH CAROLINA	299S	715, 309	478	193	478		97			634	634			193	
NORTH DAKOTA	284		215	217			2			554	2	353		408	
OHIO	419, 262	382	29	18			16,163		18	531	452	498	416, 498	78	
OKLAHOMA	19	444	596	633	737		596			509	596	54		633	
OREGON	348	714	89	379	514		161			491	723	714	89	432	
PENNSYLVANIA			403		403	90	421, 320		75	745			421	619	652
Eastern	299P	652		18			16, 498		512	695	113	421			
Western	123	382	142	619						531	452	498			
RHODE ISLAND	731	21	667	604, 448	667		9			550	113	338		604	
SOUTH CAROLINA	299S	715, 309, 428	478	193	478		97			634	634			193	
SOUTH DAKOTA	284		215	217			2			554	2	353		408	
TENNESSEE	299S	715, 309	110	193	478		97		328	634	110		110	193	
TEXAS	19	444	596	633	737		596, 615		444	509	596	54	633	633	
UTAH	757	714	72		514		72		230		282	714		95	
VERMONT	731	21	667	604, 448			9			550	113	338		604	
VIRGINIA	595		403	193	403		97		703	695	113	421		193	
WASHINGTON	348	714	89	379	514				491	491	723	714		432	432
WEST VIRGINIA	123	382	403	18	403		498			531	452	498		619	
WISCONSIN	284, 618	259	215	681	313		2			336, 554	2	629	2		
WYOMING	757	714	72		514		72				282	714			
CANADA	784, 795		89, 766	379	514			792	780			769			
U.S. EXPORT AGENCY	850	815	886	953		975	966		919			916		841	869

For explanation of code numbers, see pages XXV to XL following.

MANUFACTURERS' REPRESENTATIVES—By Territory (con.)

	Sterling Mfg. Co.	Stevens-Walden, Inc.	Superior Elect. Co.	Supreme Instruments Corp.	Supreme Transmitter Corp.	Technical Appliance Corp.	Telegraph Apparatus Co.	Thermador Elec. Mfg. Co.	Transmitter Equipt. Mfg.	Trimm, Inc.	Triplett Electrical Instrument Co.	Turner Company	Ungar Electric Tools, Inc.	United Transformer Corp.	Universal Microphone Co.
ALABAMA		363	158	97	456	715	97		264	456		193	673		715
ARIZONA		105	708	311	714	367	437					437	362, 437	654	386
ARKANSAS			717	104	77	513	509		633			734		596	362
CALIFORNIA		713			714		437	392	360	714	299D,586	437	437	654	128
Southern	33		708	437		367									
Northern	488		285	291		299D									
COLORADO		176	483	311	714	311	230			260	308	474	376, 260	230	386
CONNECTICUT				604	462	268	64		299J	755	606	604	396	237	237
DELAWARE		365		91	442	421	64		394			299C	673	394	378
DIST. COLUMBIA				91	442	421	64		394		442		673	394	378
FLORIDA		363	699	97	456	715	97		264	456		193	312	456	715
GEORGIA		363	699	97	456	715	97	61	264	456	456	193	673	456	715
IDAHO		212	483	379	714	28	89			260			287	230	386
ILLINOIS		132		557	702		249	580		146	313	295, 2	646	750, 186	147
Northern	94			299		17									
Southern						636									198
INDIANA	601	132		557	600	17	249			639		295	646	186	461
IOWA		176		636	353	284	249			146, 198		398	376	186	198
KANSAS		176		636		636	249			198		398	376	592, 307	198
KENTUCKY	601	643		165	600	498	531		633	639		165	179		179
LOUISIANA		105	158	104	77	513	509			737		734	362	596	362
MAINE				604	462	268	64		299J	755		604	396	237	237
MARYLAND		365		91, 165	442	421	64		394			299C	673	394	378
MASSACHUSETTS				604	462	268	64	486A	299J	755		604	396	237	237
MICHIGAN		643	297	381	716	447	249	152		256	407	650	646	716	461
MINNESOTA		67			353	284	249			146	284	2	646		96
MISSISSIPPI		363	158	97		513	97		264	456		193	673	456	715
MISSOURI		176		636	702	636	249	759,124		198	47, 567	398	376	592, 309	198
MONTANA		212	483	311	714	28	89			260		322	287		386
NEBRASKA		176		636	353	284	249			198, 260		474, 398	376	186	198
NEVADA				311	714	299D, 367				714		437	437	230	386
NEW HAMPSHIRE				604	462	268	64		299J	755		604	396	237	237
NEW JERSEY		24		91	7		64		394	632		299C, 244	396	394	378
NEW MEXICO		176	483	311	714	311				260		474	260		386
NEW YORK		24		91	603	184	64	390	299J		603	299C, 244	396	603	
Metropolitan N. Y. C.					7					632					
NORTH CAROLINA		363		97	456	715	97			456		193	673	456	715
NORTH DAKOTA		67			353	284									96
OHIO	601	643	297,63	165	139, 600	498	531			639	167	165	179	30	179
OKLAHOMA		105	717	104	77		509		633	737		734	362	596	362
OREGON		212	379	379	714	28	89			714		322	287	493	28
PENNSYLVANIA							64		394		310, 584		673		
Eastern		365		91	442	421						299C		394	378
Western	601	643		165	672	498				639		165		672	179
RHODE ISLAND				604	462	268	64		299J	755		604	396	237	237
SOUTH CAROLINA		363	699	97	456	715	97			456		193	673	456	715
SOUTH DAKOTA		67			353	284									96
TENNESSEE		363		97	456	715	97		264	456		193	673	456	715
TEXAS		105	717	104	77	311	509	362	633	737, 260	509	734	362	596	362
UTAH		212	483	311	714	311	230			260		474	260	230	386
VERMONT				604	462	268	64		299J	755		604	396	237	237
VIRGINIA		365		97	442	421	64		394			193	673	394	
WASHINGTON		212	379	379	714	28	89	323		714	28	322	287	493	28
WEST VIRGINIA	601	643		165	672	498	64			639			673	672	179
WISCONSIN	94	67		557	353	17, 284	669			146		2	646	186	147, 96
WYOMING		212	483	311	714	311	230			260		474	260	230	386
CANADA	797	212	379	379, 791, 796			89			791, 714	784, 795.	798	764	768, 493	
U.S. EXPORT AGENCY		939		808			867	859					803	954	

For explanation of code numbers, see pages XXV to XL following.

MANUFACTURERS' REPRESENTATIVES—By Territory (concl.)

	University Loudspeakers, Inc.	Vaco Products Co.	Valpey Crystal Corporation	Vertrod Corporation	Vibroplex Co., Inc.	Ward Leonard Electrical Co.	Waterman Products Co., Inc.	Webster-Chicago Corp.	Webster Electric Co.	Weller Mfg. Co.	Westline Crystal Co.	Weston Electrical Instrument	White Dental Mfg. Co., S. S.	Wirt Company	Yardeny Laboratories, Inc.
ALABAMA		715		477, 193			638		478, 140	110				97	
ARIZONA		719		433	714		311	615	481			544			
ARKANSAS		110		633			344		344	110					250
CALIFORNIA	437		562		714		302		481		714	617	651		
Southern		574		202		367		691						525	670
Northern		488		488		628		532				285		489	
COLORADO		474	136	260	714	474	311	72	46			517			
CONNECTICUT				113	21		619			113		313A		335	274
DELAWARE		64		113			619		221	113					
DIST. COLUMBIA		64		113			619		221	113					
FLORIDA		715		193			638		478	110		718		97	
GEORGIA	299K	715		193		478	638	478	478	110		688		97	
IDAHO		491		260			493		46						
ILLINOIS	79			583		146	47		269			727		681	293
Northern		518					186	583	455						720
Southern															
INDIANA	753		598	88		639	186	583, 639	455, 269					681	293
IOWA		198		344			186		157					370	250
KANSAS		198		344			344		344					370	250
KENTUCKY		397		88	18		47, 650		269						
LOUISIANA		110		477			54		140	110		350		97	250
MAINE				113	21		619		506	113				335	274
MARYLAND				113			619		221	113					
MASSACHUSETTS	604			113	21	14	619	126	506	113		143		335	274
MICHIGAN	381	139		139		447	650	211, 583	568, 563			112		681	
MINNESOTA	284	342		359			353	298	563			233			185
MISSISSIPPI		110		477			638		140	110				97	
MISSOURI	636, 70	64, 198		344		344	47, 344	445, 592	344, 269			197		681, 370	250
MONTANA		491		260	714		493		46						
NEBRASKA		198		344			186, 311		157					370	250
NEVADA		488		433, 488	714		311		481						
NEW HAMPSHIRE				113	21		619		506	113				335	274
NEW JERSEY		64, 113		113, 180			619		463, 221	113		286A		335	57
NEW MEXICO		474, 719		260			311		46						250
NEW YORK	64	64, 113	701	113		142	619	745	463	113	624	589		335	327
Metropolitan N. Y. C.				180		106		180				728			
NORTH CAROLINA		110		193			638		478	110		541		97	
NORTH DAKOTA		342		359			353		563						
OHIO	165	139		139	18		650		452		139	44, 16			470
OKLAHOMA		141	649	633			344		344						
OREGON		491			714		493		28						696
PENNSYLVANIA	672						619	403				332			48
Eastern		64		113					221	113					
Western		397		452					613			123			
RHODE ISLAND				113	21		619		506	113				335	274
SOUTH CAROLINA		110		193			638		478	110				97	
SOUTH DAKOTA		342		359			353		563						
TENNESSEE		110	110	193, 477			638		478, 269	110		523			
TEXAS	141	141		633, 260		108	54, 311	737	596			573			250
UTAH	230	474		260	714		311		481						
VERMONT				113	21		619		506					335	274
VIRGINIA		110		113			619		221	113					
WASHINGTON	491	491		432	714	493	493	322	28			181			696, 655
WEST VIRGINIA		397		452	18		619		613						
WISCONSIN		342		359	714		353, 186	583	563					681	185
WYOMING		474		260			311		46						
CANADA	930		785	765	714, 953				798, 28	765		789		791	
U.S. EXPORT AGENCY	930		953	911	953			924	999	963				956	

For explanation of code numbers, see pages XXV to XL following.

DIRECTORY OF FACTORY REPRESENTATIVES AND EXPORT AGENCIES

NOTE: This listing is arranged both alphabetically and numerically. Code number opposite each name refers to geographical chart immediately preceding this index (see pp. XI to XXIV).

— A —

1. A. & S. Equipment Co.
4 West Roy St.
Seattle 99, Washington
Tel. Garfield 8386

2. Aaron & Associates, Inc., Irvin I.
4028 No. 16th St.
Milwaukee 9, Wisconsin
Tel. Concord 7799

Branch: Room 214 Masonic Temple Bldg.
Minneapolis, Minn.
Tel. Atlantic 7605

Branch: 3617 N. Green Bay Ave.
Milwaukee 9, Wisc.
Tel. Concord 2861-2

3. Aaron, Paul
71 Murray St.
New York 7, N. Y.
Tel. APplegate 7-3417

4. Abbott, R. L.
55 E. 216th St.
Euclid, Ohio

5. Adams III, Austin
317 State Tower Bldg.
Syracuse, N. Y.

6. Adams Co., R. A.
13000 MacKenzie Ave.
Detroit 27, Mich.
Tel. Hogarth 6131

7. Adelman, Leon L.
25 Chittenden Ave.
New York 33, N. Y.
Tel. WAdsworth 7-8589

8. Adrem Company
143 Newbury St.
Boston 49, Mass.
Tel. Kenmore 9755

9. Akeroyd, Arthur E.
129 Washington St.
Newton 58, Mass.
Tel. LaSalle 1483

10. Album, R. R.
331 Second Ave. N.
Minneapolis 1, Minn.

11. Aldrich, Thomas B.
242 W. 55th Street
New York 19, N. Y.
Tel. Circle 5-7760

11A. Alexander, Louis
347 Fifth Avenue
New York 16, N. Y.
Tel. LE 2-2184

12. Alfco Product Company
718-21 Louderman Bldg.
317 No. 11th St.
St. Louis 1, Mo.

13. Allen Co., Geo. A.
9 S. Clinton St.
Chicago 6, Ill.

14. Allen, Nicholas I.
Statler Office Bldg.
Boston 15, Mass.
Tel. Hubbard 4638

15. Allen, W. H.
Radio Corporation of America
RCA Victor Division
36 W. 49th St.
New York 20, N. Y.

16. Ambos-Jones Company
401 Euclid Ave.
Cleveland 14, Ohio
Tel. Main 4017-4018

17. American Manufacturers Agency
208 N. Wells St.
Chicago 6, Ill.

18. Anderson Co., C. E.
Rockefeller Bldg.
Cleveland 13, Ohio
Tel. Main 1557

19. Anderson, George E.
1903 Griffin Street
Dallas 2, Texas
Tel. Riverside 1272

20. Anderson Co., Kenneth
334 E. 4th St.
Los Angeles 13, Calif.
Tel. Michigan 6593

21. Anderson Sales Co.
148 State St.
Boston 9, Mass.
Tel. Capitol 4831

22. Andrews, Jr., Alexander B.
Insurance Bldg.
Raleigh, No. Carolina
Tel. 5520

23. Angel, Les
353 E 152nd St.
Cleveland 10, Ohio

24. Appell, L. W.
11 Warren St.
New York 7, N. Y.

25. Atlantic Engineering Co.
185-17 St., N. E.
Atlanta, Ga.
Tel. Hemlock 6461

26. Aymond Co., Edward F.
4310 Maple Ave.
Dallas 9, Tex.
Tel. Lakeside 1022

— B —

27. Bach Electric, Pete
1233 N.W. 12th St.
Portland, Oregon
Tel. Broadway 2173

28. Backer, James J., Co.
2321 Second Ave.
Seattle 1, Wash.
Tel. Main 8811

29. Baehr, Albert M.
1400 W. 25th St.
Cleveland 13, Ohio
Tel. Main 3790

30. Baier, Arthur H.
20849 Shaker Blvd.
Shaker Heights 22, Ohio
Tel. Erieview 1112

31. Baldrica, M. R.
Hotel Detroiter
Detroit, Mich.

32. Bangh, Conrad R.
503 Sunderland Bldg.
Omaha, Nebraska
Tel. AT 9909

33. Barbera & Co., A. A.
311 No. Martel Ave.
Los Angeles 36, Calif.
Tel. WEbster 3-3811

34. Barr, D. B.
401 N. Broad St.
Philadelphia 8, Pa.
Tel. Lombard 1169

35. Barricks, Arthur
615 Belvedere St.
San Francisco 17, Calif.
Tel. Montrose 7857

36. Barstow & Doran
1406 S. Grand Ave.
Los Angeles 15, Calif.
Tel. Prospect 0438—Richmond 6191

37. Baum, Sidney H.
285 Madison Ave.
New York 17, N. Y.
Tel. LExington 2-0626

38. Bauman & Bluzat
2753 W. North Ave.
Chicago 47, Ill.
Tel. Humbolt 6809

39. Baumann, Leonard
208 N. Wells St.
Chicago 6, Ill.

40. Bean, Everett P.
1276 Peabody Ave.
Memphis 4, Tenn.
Tel. 2-0612

41. Bear Corporation, Neal
1623 N. B. C. Bldg.
Cleveland, Ohio
Tel. Superior 2121

Branch: RFD No. 1
Peninsula, Ohio
Tel. West Richfield 0-5413

42. Beck, A. J.
233 Lincoln Rd.
Brooklyn 25, N. Y.

43. Becker, Herb
1406 So. Grand Ave.
Los Angeles 15, Calif.
Tel. Prospect 8086

44. Beedle Equipment Co.
406 Elm St.
Cincinnati 2, Ohio
Tel. Cherry 5743

45. Beier, Leroy W.
600 S. Michigan Ave.
Chicago 5, Ill.
Tel. Harrison 4240

46. Belt, C. D.
1530 16th St.
Denver 2, Colorado
Tel. Tabor 3511

47. Benecke Co., Jules W.
575 Arcade Bldg.
St. Louis 1, Mo.
Tel. Central 1677

48. Benn Industries, Stephen J.
401 N. Broad St.
Philadelphia 8, Pa.
WAlnut 2-5144

49. Benson Co., L. A.
6-8 E. Lombard St.
Baltimore 2, Md.

50. Berggren, Walter J.
2007 South Michigan
Chicago 16, Ill.
Tel. Calumet 1450

51. Bernst Sales Co.
624 So. Michigan Ave.
Chicago 5, Ill.
Tel. Harrison 5810

52. Bernstein Bros. Pipe & Mach. Co.
164 N. Mechanic St.
Pueblo, Colo.

53. Bersche, H. F.
Radio Corporation of America
RCA Victor Division
621 So. Hope St.
Los Angeles 14, Calif.

Directory of Factory Representatives (Continued)

54. Berthold, A. L.
P. O. Box 1052
Dallas 1, Tex.
Tel. LOgan 6-1685

55. Berwanger-Spangler
1874 24th Ave. No.
Seattle 2, Wash.

56. Bettis & Co., Maury E.
3119 Gillham Rd.
Kansas City 3, Mo.
Tel. Logan 9545

57. Biach, John L.
313 High St.
Cranford, N. J.
Tel. Cranford 6-0747W

58. Bialek, Samuel
205 East 42nd St.
New York 17, N. Y.
Tel. MUrray Hill 4-1655

59. Biggs, J. Alan
136 Liberty Street
New York 6, N. Y.
Tel. WHitehall 4-1165

60. Bigham, N. J.
YMCA Bldg., 4th & Keo Sts.
Des Moines 8, Iowa
Tel. 3-7151

61. Biglin, H. C.
177 Harris St. N.W.
Atlanta 3, Ga.
Tel. Jackson 2306

62. Bittan-Nevins Co., Inc.
53 Park Place
New York 7, N. Y.
Tel. BArclay 7-2789

63. Blackburn, Don
19520 Euclid Ave.
Cleveland 17, Ohio

64. Blair-Steinberg Co.
395 Broadway
New York 13, N. Y.
Tel. CAnal 6-6931-2

65. Blake, Thomas M.
4757 Ravenswood Ave.
Chicago 40, Ill.
Tel. Longbeach 4970

66. Blazer, C. M.
816 Merrick Ave.
Collingswood, N. J.

67. Blessing, Tom J.
5816 DuPont Ave. South
Minneapolis 9, Minn.

68. Blinn Co., The James H.
1530 16th St.
Denver 2, Colo.

69. Brenckman, W. D.
Wesley Block & Co.
P. O. Box 14
Winthrop 52, Mass
Tel. Ocean 2476

70. Borghoff, Wm.
4018 Greer Ave.
St. Louis 7, Mo.
Tel. Franklin 0482

71. Bork, R. J.
2494 University Ave.
St. Paul 13, Minn.

72. Bowen, Ronald G.
1886 So. Humboldt St.
Denver 10, Colo.
Tel. Spruce 9368

73. Bowen, Russell
244 Kearney St.
San Francisco 8, Calif.
Tel. Greystone 8000

74. Bowers, C. J.
1531 Kenova Rd.
Cincinnati 16, Ohio

75. Boyd, P. A.
434 Biddle Ave.
Pittsburgh 21, Pa.
Tel. Pennhurst 1210

77. Branum Company, The
2015 Cedar Springs Ave.
Dallas 1, Tex.
Tel. Riverside 4995

78. Brauer, Walter J.
15631 Lakewood Hgts. Blvd.
Lakewood 7, Ohio
Tel. Lakewood 7268

79. Brengle Sales Co., Ralph T.
549 W. Washington
Chicago 6, Illinois
Tel. Dearborn 3415

80. Bressler, Jules
341 Madison Ave.
New York 17, N. Y.
Tel. MUrray Hill 3-6620

81. Bretz, Karl
57 Alpine St.
Arlington, Mass.

82. Breuer Company, R. E.
250 W. 57th St.
New York 19, N. Y.
Tel. CO 5-0440

83. Brockenbrough & Sanders
313 Service Mutual Bldg.
Waco, Texas

84. Brotherson, Robert M.
325 N. Hibbard
Jackson, Mich.
Tel. JAckson 2-9654

85. Brown, George K.
1506 Jasmine St.
San Mateo, Calif.

86. Brown, Roland H.
608 N.W. 33rd St.
Oklahoma City 3, Okla.

87. Bruning, A. H.
208 N. Wells St.
Chicago 6. Ill.

88. Bullock-Cobb Company
233 E. Market St.
Louisville 2, Ky.

89. Burcham, Don H.
917 S.W. Oak St.
Portland 5, Oregon
Tel. Broadway 3830

89A. Burgoyne, W. E.
9 So. Clinton St.
Chicago 6, Illinois
Tel. Central 1894-95

90. Burke Electrical Equipment Co.
337 Avenue F
Pittsburgh 21, Pa.
Tel. Valley 1891

91. Burlingame Associates, Ltd.
11 Park Place
New York 7, N. Y.
Tel. WOrth 2-2171

92. Burnett, G. G.
504 S. 21st St.
Irvington, N. J.
Tel. ESsex 5-0932

93. Burns, R. K.
3929 N. Keeler Ave.
Chicago 41, Ill.
Tel. Mulberry 0851

94. Burrill, P. J.
800 N. Clark St.
Chicago 10, Ill.

95. Burroughs Sales Co.
1406 So. Grand Ave.
Los Angeles 15, Cal.

96. Bursell-Chermak Sales Co.
2233 University Ave.
St. Paul 4, Minn.
Tel. Elkhurst 0858

97. Burwell, Inc., Henry W.
105 Forrest Ave., N.E.
Atlanta 3, Ga.
Tel. Walnut 8246

98. Byquist, S. H.
Radio Corporation of America
RCA Victor Division
221 W. 18th St.
Kansas City 8, Missouri

— C —

99. C & G Sales & Engrg. Co.
1012 N. Third St.
Milwaukee 3, Wisc.
Tel. Broadway 7932

100. Caine Sales Co.
605 W. Washington St.
Chicago 6, Ill.

101. Caldwell, D. E.
Appomattox, Va.
Tel. 69

102. Camber, Marty
30 Dongan Place
New York 34, N. Y.
Tel. LOrraine 7-1420

103. Camos Co., E. J.
315 N. 7th St.
St. Louis 1, Mo.
Tel. Central 1910

104. Campion Sales Company
211 Republican Nat'l Life Bldg.
Dallas 8, Texas
Tel. Winfield 9902

105. Caphton, Don M.
2504 Commerce St.
Dallas 1, Texas

106. Carduner Sales Corp.
315 Broadway
New York 7, N. Y.
Tel. BA 7-0210

107. Carlson, Fred W.
307 Wall St.
Seattle 1, Wash.
Tel. Elliott 6630

108. Carrier & Gable
155 West Congress St.
Detroit 26, Mich.

109. Carter, A. T.
358 Shiloh Ave.
Cincinnati 20, Ohio

110. Cartwright & Sons, J. M.
1276 Peabody Ave.
Memphis 4, Tenn.
Tel. 2-0612

Branch: 4211 Club Drive, N.E.
Atlanta, Ga.

111. Cavanaugh Agencies, J. M.
821 N.W. Flanders St.
Portland 9, Oregon
Tel. Atwater 9862

112. Cawthorne, T. S.
312 Boulevard Bldg.
Detroit 2, Mich.

113. Cerf & Co., Art
744 Broad St.
Newark 2, N. J.
Tel. Mitchell 2-6735

114. Chabot, H.
2937 Lincoln Ave.
North Riverside, Ill.

115. Chamberlin, H. A.
c/o Fred Hess
18 Cayuga St.
Auburn 6, N. Y.
Tel. Auburn 503-R

Directory of Factory Representatives (Continued)

116. Chamberlin, Harold A.
31 Milk St.
Boston 9, Mass.
Tel. Hubbard 7022

117. Chambers Co., L. A.
565 W. Washington Blvd.
Chicago 6, Ill.
Tel. Franklin 9095

118. Chicago Sales Corp.
1500 No. Halsted St.
Chicago 22, Ill.
Tel. Mohawk 5300

119. Cinema Engineering Co.
1510 W. Verdugo Ave.
Burbank, Calif.
STanley 7-3797

120. Clancy, Joseph J.
c/o J. C. Good
R.F.D. Route No. 8
Fort Wayne, Ind.
Tel. Nine Mile No. 215

121. Clark & Assoc., E. H.
3707 No. Richards St.
Milwaukee 12, Wisc.
Tel. Edgewood 2900

Branch: 2300 University Ave.
St. Paul 4, Minn.

Branch: 109 So. Appleton
Appleton, Wisc.

122. Clark, Joseph H.
R.R. No. 1
Mentor, Ohio

123. Clark Co., Russell F.
1404 Clark Bldg.
Pittsburgh 22, Pa.
Tel. Atlantic 8089-8090

124. Cleary Co., M. J.
1706 Olive St.
St. Louis 3, Mo.
Tel. Central 0153

125. Clements, James H.
Wolverine Hotel
Detroit, Mich.
Tel. Cherry 9000

126. Coakley, Tim
11 Beacon St.
Boston 8, Mass.
Tel. Capitol 0050

127. Cogan, David H.
432 Fourth Ave.
New York 16, N. Y.
Tel. MUrray Hill 4-4178

128. Cohn Sales Co., S. H.
282 W. Santa Barbara Ave.
Los Angeles 37, Calif.
Tel. ADams 1-4334

129. Cole, G. McL.
43 E. Ohio St.
Chicago 10, Ill.
Tel. Delaware 8850

130. Cole Instrument Co.
1320 So. Grand Ave.
Los Angeles 15, Calif.
Tel. Prospect 2251

Branch: 7 Front St.
San Francisco 11, Cal.
Tel. Douglas 7810

131. Coleman Co., George A.
1209 Divisadero St.
San Francisco 15, Calif.

132. Collins, H. Tom
605 W. Washington St.
Chicago 6, Ill.

133. Conlan Design & Engineering Division
117 South St.
Baltimore 2, Md.

Branch: 1507 M St. N.W.
Washington, D.C.

Branch: 1042 Atlantic Ave.
Brooklyn 16, N. Y.

134. Connell, Jim
2816 Commerce St.
Dallas 1, Tex.

135. Connor Co., Dan J.
833 Real Estate Trust Bldg.
Philadelphia 7, Pa.
Tel. PEnnypacker 5-9765

136. Connors Co., W. H.
390 Ash St.
Denver 5, Colo.
Tel. Em-0566

137. Conrad Distributors, Inc.
Gaylord, Kansas

138. Cooper-DiBlasi Co.
259 West 14th St.
New York 11, N. Y.
Tel. WAtkins 9-3920

139. Cornell, Paul M.
4422 Silsby Road
Cleveland 21, Ohio
Tel. Yellowstone 2314

140. Corrigan, C. E., Jr.
812 Union St.
New Orleans 12, La.
Tel. Magnolia 2833

141. Corry, Hal F.
3522 Gillon Avenue
Dallas 5, Texas
Tel. J-8-3949

142. Costello, J. V.
547 Ellicott Square Bldg.
Buffalo 3, N. Y.
Tel. Com 3828

143. Cowperthwait & Broadhead
126 Newbury St.
Boston 16, Mass.
Tel. Commonwealth 1825

144. Cox Co., Omer
Rialto Bldg.
San Francisco, Cal.

145. Crossley, Alfred
549 W. Randolph St.
Chicago 6, Ill.

146. Cumming & Associates, Bruce
228 No. LaSalle St.
Chicago 1, Ill.
Tel. Andover 5837

147. Cushing Co., L. G.
210 E. Ohio St.
Chicago 11, Ill.

— D —

148. D'Almaine, Harry
53 W. Jackson Blvd.
Chicago 4, Ill.

149. Dalton, J. J.
6224 N. Albany Ave.
Chicago 45, Ill.

150. Dansford Co., H. E.
Standard Life Bldg.
Pittsburgh 22, Pa.

151. Darling Bros.
P. O. Box 1532
Atlanta, Ga.

152. Davenport, J. P.
604 Kerr Bldg.
Detroit 26, Mich.
Tel. Cherry 7647

153. Davidson & Associates, Joe
P. O. Box 108
South Gate, Calif.
Tel. Kimball 7244

154. Davis, George Walter
258 Broadway
New York 7, N. Y.

155. Day, Phil M.
1100 S. West Ave.
Jackson, Mich.
Tel. 2-8282

156. Deeds, Paul O.
5226 Cornelius Ave.
Indianapolis 8, Ind.
Tel. Broadway 1922

157. Delavan Engineering Company
414 12th St.
Des Moines 9, Iowa
Tel. 4-5231

158. Delta Electronic Equipment Co.
1023 Howard Ave.
New Orleans 1, La.
Tel. Raymond 5013

159. Dempster, Burgess
2008 W. 7th St.
Los Angeles 57, Calif.
Tel. Drexel 8323

160. Densham, Harry W.
148 Washington Ave.
Collingswood, N. J.
Tel. 5-0145

161. Detsch Co., Arthur S.
234 Sherlock Bldg.
Portland 4, Ore.
Tel. Atwater 5403

162. Detwiler, Harry J.
1315 Curtis St.
Denver 4, Colo.
Tel. Keystone 7112

163. DeVoe Company, Leslie M.
4014 Washington Blvd.
Indianapolis 5, Ind.
Tel. Humboldt 1395

164. Dewey, E. B.
1204 American Nat'l Bank Bldg.
Kalamazoo 4, Mich.
Tel. 7707

165. Dietrich Co., Earl S.
320 Hanna Bldg.
Cleveland 15, Ohio
Tel. Cherry 7770-6998

166. Dittman, G. E.
Radio Corporation of America
RCA Victor Division
36 W. 49th St.
New York 20, N. Y.

167. Dolfuss Jr., Charles H.
2108 Payne Ave.
Cleveland 14, Ohio
Tel. Prospect 0719

168. Dowers, A.
1501 Lincoln Way
Apt. 605
San Francisco 22, Calif.

169. Dreyfuss, P. M.
120 Liberty St.
New York 6, N. Y.
Tel. BArclay 7-0898

170. Duncan, J. R.
6728 N. 31st Ave.
Omaha 11, Neb.
Tel. Kenwood 1129

171. Dunn & Bryan
44 Murray St.
New York 7, N. Y.

172. Dwyer, Charles
936 N. Michigan Ave.
Chicago 11, Ill.

173. Dye, K. R.
2135 68th St.
St. Louis 20, Mo.

Directory of Factory Representatives (Continued)

— E —

174. E Metal Sales, Inc.
817 Arcade Building
St. Louis 1, Mo.
Tel. Garfield 6448

175. Ealy Co., M. D.
1421 South Flower St.
Los Angeles 15, Calif.
Tel. Richmond 9121

176. Ebert Co., Earl H.
336 B M A Bldg.
Kansas City 8, Mo.

177. Ecclestone & Son, S. P.
525 Free Press Bldg.
Detroit 26, Mich.
Tel. Cadillac 8941

178. Edstrom, J. E.
Route 6, Box 1331
Portland 1, Oregon

179. Edward Sales Co.
504 Erie Bldg.
Cleveland 15, Ohio
Tel. Prospect 7265

180. Egert, Samuel S.
11 Park Place
New York 7, N. Y.
Tel. REctor 2-0230

181. Eicher & Bratt
263 Colman Bldg.
Seattle 4, Wash.
Tel. Eliot 2722

182. Eimer & Amend
Greenwich & Morton Sts.
New York 14, N. Y.
Tel. CAnal 6-4600

183. Electrical Apparatus Co.
1200 Soldiers Field Rd.
Boston 34, Mass.
Tel. Stadium 7440

184. Electronic Associates
201 E. Water St.
Syracuse 2, N. Y.
Tel. SYracuse 2-8267-8

Branch: 74 Niagara St.
Buffalo 1, N. Y.
Tel. Cleveland 7532

185. Eliason, Martin A.
759 N. Milwaukee St.
Milwaukee 2, Wisc.
Tel. Broadway 7018

186. Ellinger Sales Co.
9 So. Clinton St.
Chicago 6, Ill.
Tel. Central 1894-95

187. Elliott Equipment Company
708 Sixth Ave. S.
Minneapolis 15, Minn.
Tel. Ma 1551

188. Ellis Co., Arthur J.
20 E. Jackson Blvd.
Chicago 4, Ill.
Tel. Webster 3021-2

189. Ellis, R. G.
1005 N. Crescent Hghts. Blvd.
Los Angeles 46, Calif.

190. Emmet Co., Frank A.
2837 West Pico Blvd.
Los Angeles 6, Calif.

191. Enderson, A. W.
1810 8th Ave.
Ft. Worth 4, Texas

191A. Engineering Products
937 South Meridian
Indianapolis 2, Ind.
Tel. Lincoln 5746

192. Erde, Seymour
6 E. 46th St.
New York 17, N. Y.
MUrray Hill 2-0365

193. Erickson Co., Herb E.
P. O. Box 179, Flanders Ave.
Hendersonville, N. C.
Tel. 1351

194. Erlanger Sales Co.
228 West 4th St.
Los Angeles 13, Cal.
Tel. Mutual 3500

195. Eschner, Leroy
9 So. Clinton St.
Chicago 6, Ill.
Tel. Central 1533

— F —

196. Fairbanks, Howard
401 No. Broad St.
Philadelphia 8, Pa.
Tel. Lombard 9023

197. Fall Company, C. B.
317 N. 11th St.
St. Louis 1, Mo.
Tel. Chestnut 2433

198. Farris Co., Richard W.
406 West 34th St.
Kansas City 2, Mo.
Tel. Logan 7495

199. Fassett, Frank C.
P. O. Box 1335
Tampa 1, Fla.
Tel. H 1976

200. Fausett & Son, Floyd
1316 Allegheny St., S.W.
Atlanta, Ga.
Tel. Raymond 3104

201. Federal Sales & Engineering Co.
Transportation Bldg.
Washington 6, D. C.
Tel. National 6532

202. Feldman, Henry
1935 Bay St.
Los Angeles 21, Cal.
Tel. Trinity 4493

203. Feldman, M. S.
1361 College Ave.
New York 56, N. Y.
Tel. JErome 8-4574

204. Fickling, T. W.
3105 Ferndale Ave.
Baltimore 7, Md.

205. Fillmore and Fillmore
259 Delaware Ave.
Buffalo 2, N. Y.
Tel. Madison 2795

206. Finlay, Robert
11 Warren St.
New York 7, N. Y.

207. Fisch, Bud
419 Sherwood Terrace, West
Fort Wayne 6, Indiana

208. Fisher Scientific Co.
711-723 Forbes St.
Pittsburgh 19, Pa.

209. Fishman, Lester J.
1724 Coventry Rd.
Cleveland Hts 18, Ohio
Tel. Fairmount 6664

210. Fistell, Harry
Chicago Music Sales
1836 S. Halsted St.
Chicago 8, Ill.
Tel. Seeley 3076

211. Fitzner, B. J. & Co.
76 Adams Ave., W.
Detroit 26, Mich.
Tel. Randolph 3297

212. Flanagan Co., R. K.
1100 East Pike St.
Seattle 22, Wash.

213. Fordco Agencies
358 Broadway
Albany 7, N. Y.
Tel. ALbany 3-2100

214. Forshay, John M.
27 Park Place
New York 7, N. Y.
Tel. BArclay 7-4977

215. Foster Company, Mel
409 Lumber Exchange Bldg.
Minneapolis 1, Minn.
Tel. Geneva 5622

216. Fox, A. C.
320 McCully St., Mt. Lebanon
Pittsburgh 16, Penn.

217. Franklin, Merrill K.
712 Sixth Ave. South
Minneapolis 15, Minn.
Tel. Geneva 1805

218. Franklin Sales Co.
Security Life Bldg.
Denver 2, Colo.
Tel. Keystone 0641

219. Freed Co., Leo
420 Lexington Ave.
New York 17, N. Y.
Tel. LExington 2-4771

220. Frey, Chester
407 Liberty St.
Penn Yan, N. Y.
Tel. Penn Yann 543-R

221. Friedman, Martin
Real Estate Trust Bldg.
Broad & Chestnut Sts.
Philadelphia 2, Pa.
Tel. Pennypacker 4778

222. Friedrich & Assoc., Inc., George T.
542 S. Broadway
Los Angeles 13, Cal.
Tel. Tucker 4538

223. Frisbee, R. W.
2600 Sherwood Ave.
Charlotte 4, No. Carolina

224. Fry & Co., Wm. E.
909 Wyandotte
Kansas City 6, Mo.
Tel. Harrison 5152

225. Furman, Nat
395 Broadway
New York 13, N. Y.
Tel. WOrth 4-7321

— G —

226. Gal, Nicholas
285 Madison Ave.
New York 17, N. Y.
Tel. LExington 2-0626

227. Gallagher, F.
Radio Corporation of America
RCA Victor Division
1621 Euclid Ave.
Cleveland 15, Ohio

228. Garrett, K. C.
7807 Lovers Lane
Dallas 9, Texas

229. Garrett, W. L.
Radio Corporation of America
RCA Victor Division
445 North Lake Shore Drive
Chicago 11, Illinois

230. Gates, Franklin Y.
200 So. Main St.
Salt Lake City 1, Utah
Tel. 4-6504

231. Gatty, Sidney H.
1011 Chestnut Street
Philadelphia 7, Pa.

232. Gawler-Knoop, Inc.
1060 Broad St.
Newark 2, N. J.
Tel. Mitchell 2-2198

Directory of Factory Representatives (Continued)

233. Geeseka & Pinkney
552-3 Plymouth Bldg.
Minneapolis 2, Minn.

234. General Electric Supply Corp.
960 Busti Ave. at Niagara
Buffalo 13, N. Y.

235. General Electric Supply Corp.
State St.
Erie, Pa.

236. General Electric Supply Corp.
65-75 Mortimer Street
Rochester 4, N. Y.

237. Gerber Sales Company
739 Boylston St.
Boston 16, Mass.
Tel. Copley 0061-62

238. Gianaris & Gianaris
6643 North Lemay
Lincolnwood, Illinois
Tel. Mohawk 5300

239. Gibson, George
2061 Ivar Ave.
Hollywood 28, Cal.
Tel. Hempstead 4666

240. Gibson, William S.
1018 Commonwealth Ave.
Boston 15, Mass.
Tel. Aspinwall 5074

241. Gislason, Gilbert
617 Case Bldg.
Rochester 4, N. Y.

242. Glenn & Larson
801 Healy Bldg.
Atlanta 3, Ga.
Tel. Walnut 4907

Branch: 700 So. College St.
Charlotte 2, N. C.
Tel. 4-3994

243. Glidden Engineering & Equip. Co.
3802 Winchester St.
Houston 3, Texas
Tel. Charter 46471

Branch: 416 Texas Ave.
El Paso, Texas

Branch: 701 Main St.
Little Rock, Ark.

244. Gold, William
304 E. 23rd St.
New York 10, N. Y.
Tel. GRamercy 3-4322-4323

245. Goldman, Stuart
2537 E. Drachman
Tucson, Arizona

246. Goode Sales Co., J.
412 S. Green St.
Chicago 7, Ill.
Tel. Seeley 7300

247. Goodman, R. A.
4537 Colfax St., S.
Minneapolis 9, Minn.
Tel. Pleasant 8477

248. Goss, Jack
25 Hall Street
W. Somerville, Mass.

249. Granat, Gary
323 S. Franklin St.
Chicago 6, Ill.
Tel. Webster 4595

250. Grant & Company, J.
4903 Delmar Blvd.
St. Louis 8, Mo.
Tel. Forest 0241

251. Gray & Hill
1 N. Crawford Ave.
Chicago 24, Ill.
Tel. Van Buren 0650

252. Greenwood, R. E.
1930 McGee St.
Kansas City, Mo.
Tel. Harrison 5800

253. Groetzinger, H. W.
224 Penn Ave.
Pittsburgh 22, Pa.
Tel. Atlantic 8387

254. Groundwater, John
189 Breckenridge Ave.
Buffalo 13, N. Y.

255. Guardian Elec. Mfg. Co.
424 E. 48th St.
New York 17, N. Y.

— H —

256. Haggerty Sales Company
5757 Cass Avenue
Detroit 2, Mich.
Tel. TRinity 3-5252

257. Haines, Donald G.
4000 West North Ave.
Chicago 39, Ill.
Tel. Capitol 6500

258. Hale, Col. Geo. C.
3004 W. Grand Blvd.
Detroit 2, Mich.
Tel. Madison 2122

259. Halinton, Harry
612 N. Michigan Ave.
Chicago 11, Ill.
Tel. Superior 0796

260. Halliday & McLoud
711 Colorado Bldg.
Denver 2, Colorado
Tel. Keystone 8511

261. Hamilton Associated Industries
309 W. Jackson Blvd.
Chicago 6, Ill.
Tel. Harrison 3910

262. Handel-Davies Co.
The Union Commerce Bldg.
Cleveland 14, Ohio
Tel. Prospect 1862

263. Hardie, Bob
117 S. Lafayette Park Pl.
Los Angeles 4, Calif.

264. Hardy & Associates, A. Sidney
723 Ponce de Leon Ct. N.E.
Atlanta 4, Ga.
Tel. Vernon 7905

265. Harker, Earl T.
P. O. Box 26
Trenton 1, N. J.
Tel. TRenton 3-0944

266. Harlow, F. G.
2926 Porter St., N.W.
Washington 8, D. C.
Tel. Emerson 4732

267. Harmon Co., W. S.
830 Venice Blvd.
Los Angeles 15, Calif.

268. Harris Co., Stanley A.
126 State St.
Boston 9, Mass.
Tel. Lombard 5680

269. Harris-Hanson Co.
427 No. Euclid Ave.
St. Louis 8, Mo.
Tel. Forest 5841

270. Harris Mfg. Co.
2422 West 7th St.
Los Angeles 5, Cal.
Tel. Fitzroy 6026

271. Harrison Reynolds Co.
34 Bay State Rd.
Belmont, Mass.

272. Hart, Frederick H.
258 Park Square Bldg.
Boston 16, Mass.
Tel. Devonshire 7174

273. Haskell, R. B.
200 Davis St.
San Francisco 11, Cal.
Tel. Douglas 8590

274. Hastings Sales Engineering Co.
530 Commonwealth Ave.
Boston 59, Mass.
Tel. Commonwealth 6520

275. Hatch, Emery B.
338 West Emerson St.
Melrose, Mass.
Tel. Melrose 0055

276. Hatton & Co., Arthur T.
410 Asylum St.
Hartford 3, Conn.
Tel. Hartford 5-2159

277. Hauck & Bishop
278 Chronicle Bldg.
San Francisco 3, Calif.
Tel. Exbrook 7058

278. Hawkins, Marvan
1111 Holley Court
Oak Park, Ill.
Tel. Estabrook 1000

279. Hearn, F. R. Co.
3980 Bowen St.
St. Louis 16, Mo.
Tel. Hudson 8135

280. Heberling, T. F.
1545 Westfield St.
Pittsburgh 16, Pa.
Tel. Lehigh 6279

281. Hedquist, J. R.
415 Essex Bldg.
Minneapolis 2, Minn.

282. Heeger, O. L.
1406 So. Grand Ave.
Los Angeles 15, Cal.
Tel. Prospect 0438

283. Heidorn, E. F.
Rose Building
Cleveland 15, Ohio

284. Heimann Company, The
1215 Harmon Pl.
Minneapolis 3, Minn.
Tel. Main 5457

285. Held, Herman E.
420 Market St.
San Francisco 11, Cal.
Tel. Garfield 6130

286. Heller, M. I.
Rm. 304, Healy Bldg.
Atlanta, Ga.

286A. Hemion, J. R.
614 Frelinghuysen Ave.
Newark 5, N. J.
Tel. Bigelow 3-4700

287. Hendrickson, Earnest G.
806 38th Ave.
Spokane 8, Wash.

288. Hendrickson, William A.
First Parish Road
Scituate Center, Mass.
Tel. Scituate 652

289. Henger-Fairfield Co.
1810 Columbus Rd.
Cleveland 13, Ohio

290. Henger-Seltzer Co.
130 S. Hewitt St.
Los Angeles 12, Calif.
Tel. Madison 2631

291. Hermans Co., James P.
1234 Folsom St.
San Francisco 3, Calif.
Tel. Market 4166

292. Hernly, Wayne
Greens Fork, Ind.
Tel. Greens Fork 10-L

Directory of Factory Representatives (Continued)

293. Herron, James C.
537 S. Dearborn St.
Chicago 5, Ill.
Tel. Wabash 5518

294. Hess, Fred
18 Cayuga St.
Auburn, N. Y.

295. Higgins Co., Royal J.
600 S. Michigan Ave.
Chicago 5, Ill.
Tel. Harrison 5948-9

296. Hilger, J. O.
910 East Geranium
St. Paul 6, Minn.
Tel. DeSoto 3001

297. Hill Co., B. R.
16190 Harlow Blvd.
Detroit 27, Mich.

298. Hill Co., Fred B.
256 First Ave. N.
Minneapolis 1, Minn.
Tel. Main 8353

299. Hill, Dormand S.
327 N. Justine St.
Chicago 7, Illinois

299A. Hill & Gray
1 No. Crawford Ave.
Chicago 24, Ill.
Tel. Van Buren 0650

299B. Hill Sales Co., J. T.
800 W. 11th St.
Los Angeles 15, Calif.
Tel. Prospect 7503

299C. Hilliard, D. M.
Box 246
Jenkintown, Pa.
Tel. Ogontz 3249

299D. Hines Co., Russ
234 Ninth St.
San Francisco 3, Calif.
Tel. Hemlock 2625

299E. Hirsch, Mitchell
266 So. LaPeer Drive
Beverly Hills 36, Cal.

299F. Hitt & Co., W. C.
1150 S. Hill St.
Los Angeles 15, Calif.
Tel. Richmond 9178

Branch: 1355 Market St.
San Francisco 3, Calif.
Tel. Underhill 2727

299G. Hobert, L. F.
Morrison Hotel
Chicago, Ill.

299H. Hodges and Glomb
1264 Folsom St.
San Francisco 3, Calif.
Tel. Underhill 2367

299I. Hofman, Harold W.
P. O. Box 2922 Terminal Annex
Los Angeles 54, Calif.
Tel. UNion 1-8769

299J. Holliday-Hathaway Sales Co.
238 Main St.
Cambridge 42, Mass.
Tel. Hancock 9240

299K. Hollingsworth & Still
407 Whitehead Bldg.
Atlanta 3, Ga.
Tel. Main 5878

299L. Holst, W. L.
28 E. Huron St.
Chicago 11, Ill.
Tel. Delaware 4566

299M. Hooker, Samuel Co.
80 Boylston St.
Boston 16, Mass.
Tel. Hancock 8794

299N. Hopkin Brothers
116 North 7th St.
Philadelphia 6, Pa.

299P. Hopkins, H. R.
Delaware Ave. & Brown St.
Philadelphia 23, Pa.
Tel. Market 1660 (Bell)
Park 5456 (Keystone)

299Q. Hopkins, J. D.
426 Transportation Bldg.
Washington 6, D. C.

299R. Hopkins, W. J.
91 Prescott St.
West Medford, Mass.
Tel. Mystic 0144 W

299S. Hopper & McCoy
306-8 Marietta St., N.W.
Atlanta 3, Ga.
Tel. Walnut 3183

299T. Huber, E. G.
57 State St.
Newark 2, N. J.
Tel. HUmboldt 2-5050

300. Huber Sales Agency
1280 Mission St.
San Francisco 3, Calif.
Tel. Underhill 6374

301. Hudson, George W.
401 N. 27th St.
Richmond 23, Va.
Tel. Richmond 3-5598

302. Hughes, Emmett
1709 W. 8th St.
Los Angeles 14, Calif.

303. Hughes, K. E.
303 W. 42nd St.
New York 18, N. Y.
Tel. Circle 5-8831

304. Hughes, Ray King
121 First Ave.
Salt Lake City 3, Utah
Tel. 3-2830

305. Hull, Lynn V.
1857 W. 93rd St.
Los Angeles 44, Calif.

306. Hulton, Ralph
600 Pingree
Detroit 2, Mich.

307. Hurd, Harry G.
308 N. Jefferson Ave.
St. Louis 3, Mo.
Tel. Chestnut 5678

308. Hursch Co., Jack L.
436 Continental Oil Bldg.
Denver 2, Colo.
Tel. Tabor 7325

309. Hutto, V.
255 Matthews Ave., N.E.
Atlanta, Ga.

310. Hyde Electric Co., E. N.
117 W. Ashmead St.
Philadelphia 44, Pa.
Tel. Germantown 6253

311. Hyde, Richard A.
4253 Quitman Street
Denver 12, Colo.
Tel. Grand 1768

— I —

312. Industrial & Communications Equip. Co.
1707 Grand Central Ave.
Tampa 6, Florida
Tel. H-1356

313. Instrument Sales Co.
325 West Huron St.
Chicago 10, Ill.
Tel. Superior 9312-3

313A. Isdale, John S.
144 Curtis St.
Meriden, Conn.
Tel. Meriden 4008

— J —

314. Jackman, L. H.
1696 Belvoir Blvd.
South Euclid 21, Ohio
Tel. Evergreen 3724

315. Jackson, Keene S.
505 Security Bldg.
B'way & Brand
Glendale 3, Cal.

316. Jackson, William M.
1896 Snowden Avenue
Memphis 7, Tenn.

317. Jacobs, M. F.
3321 No. Frederick Ave.
Milwaukee 11, Wisc.

317A. James Jr., R. C.
4130 First Ave., S.
Seattle 4, Wash.

318. Jaques, L. E.
352 N. Forsythe St.
University City, Mo.
Tel. Cabany 5349

319. Jefferson Motor Car Co.
900 Pearl St.
Beaumont, Tex.

320. Jeffries, Samuel A.
1513 Packard Bldg.
Philadelphia 2, Pa.
Tel. Rittenhouse 6408

321. Jenkins, Herb
1116 N. Capitol Ave.
Indianapolis 7, Ind.

322. Jensen Co., Verner O.
2616 Second Ave.
Seattle 1, Wash.
Tel. Elliott 6871

323. Jensen Instrument Co.
335 S. Central Ave.
Los Angeles 13, Calif.
Tel. Michigan 8361

Branch: 420 Market St.
San Francisco 11, Cal.

324. J & H Sales Co.
2635 S. Wabash Ave.
Chicago 16, Ill.

325. Jobbers Service
316 N.W. 12th St.
Portland 9, Oregon

326. Johnson, George R.
70 Pine St.
New York 5, N. Y.
Tel. WHitehall 4-0494

327. Johnson, H. C.
82 St. Paul St.
Rochester 4, N. Y.
Tel. Stone 4723

328. Johnson, Jesse P.
3535 Dell Trail
Chattanooga 4, Tenn.
Tel. 4-4026

329. Johnson Sales Co.
P. O. Box 287
Bay City, Mich.

Branch: 6505 Second Blvd.
Detroit 2, Mich.

330. Johnston, William J.
5550 Kenmore Ave.
Chicago 40, Illinois

331. Jones Sales Agency
1427 N. Hanley Road
St. Louis 14, Mo.
Tel. Parkview 9302

Directory of Factory Representatives (Continued)

332. Joralemon, L. D.
613 Otis Bldg.
Philadelphia 2, Pa.

333. Joseph, Ben
258 Broadway
New York 7, N. Y.
Tel. REctor 2-0594

334. J. T. L. Sales Co.
120 Liberty St.
New York 6, N. Y.
Tel. WHitehall 4-2983

— K —

335. Kaelber & Mack
1270 Broadway
New York 1, N. Y.
Tel. PEnnsylvania 6-2203

336. Kahan, Irving J.
330 No. Michigan Ave.
Chicago 1, Ill.

337. Kahn, Herbert
605 No. Michigan Ave.
Chicago 11, Ill.
Tel. Superior 3938

338. Kahn, Irving I. & Co.
3324 Main St.
Hartford 1, Conn.
Tel. 2-6929

339. Karns Company, Jack
154 Nassau St.
New York 7, N. Y.
REctor 2-1008

340. Kathrinus & Co., Norman W.
1218 Olive St.
St. Louis 3, Mo.
Tel. Central 6300

341. Kaufman Sales Agency, Inc.
631 Penn Ave.
Pittsburgh 22, Pa.
Tel. Emerson 1885

342. Kaufmann, Mel S.
20 Park Lane
Minneapolis 5, Minn.

344. Kay Sales Company
3527 Broadway
Kansas City 2, Missouri
Tel. Logan 7640-41

345. Kayworth, Al
1040 Commonwealth Ave.
Boston 59, Mass.
Tel. Longwood 5820

346. Kearney, J. J.
995 James St., Apt. No. 8
Syracuse 3, N. Y.

347. Keefe Electronic Sales Co.
709 Market St.
Camden, N. J.
Tel. Camden 2215

348. Keeler, White Co.
1041 Sixth Ave., So.
Seattle 4, Wash.
Tel. Elliott 2367

Branch: 322 N.W. 4th Ave.
Portland 9, Oregon
Tel. Beacon 6764

349. Kelburn Engineering Co.
600 W. Jackson Blvd.
Chicago 6, Ill.
Tel. Dearborn 2828

350. Keller, W. J.
304 Natchez Bldg.
New Orleans 12, La.

351. Kelly, William T.
90 Lathrop St.
Beverly, Mass.
Tel. Beverly 65

352. Kennedy, M. D.
103 N. Foley Ave.
Freeport, Ill.
Tel. Ridge 711

353. Kennedy Sales & Engineering
405½ So. Broadway
Rochester, Minn.
Tel. 5012

354. Kennedy Sales Co.
2362 University Ave.
St. Paul 4, Minn.

355. Kerus, Frank
210 W. 8th St.
Kansas City 6, Mo.

356. K-F Motors
2414 S. Michigan Ave.
Chicago 16, Ill.

357. King, Paul
1519 So. Boston Ave.
Tulsa 5, Okla.
Tel. 68700

358. Kirchburg, Robert J.
205 W. Wacker Drive
Chicago 6, Ill.
Tel. Randolph 1868

359. Kirkeby, Marvin H.
237 Sheridan Ave.
Minneapolis 5, Minn.
Tel. Kenwood 1080

360. Kittleson, Harold A.
623 Guaranty Bldg.
Hollywood 28, Cal.
Tel. Hollywood 5111

361. Kleker, Jerome
936 N. Michigan Ave.
Chicago 11, Ill.

362. Klicpera, M. F.
Box 3113
Houston 1, Texas
Tel. JAckson 2-8459

363. Klier, G. W.
1524 William Oliver Bldg.
Atlanta, Ga.

364. Kling-Mueller, E.
Imperial Hotel
Atlanta, Ga.
Tel. Jackson 4700

365. Kneavel, W. S.
600 N. Eutaw St.
Baltimore 1, Md.

366. Knight Co., A. S.
3006 Western Ave.
Seattle 1, Wash.

367. Knight Company, W. Bert
908 Venice Blvd.
Los Angeles 15, Calif.
Tel. Richmond 6363

368. Knodell, Al
2318 W. Touhy Ave.
Chicago 45, Ill.

369. Koehler-Pasmore Co.
8316 Woodward Ave.
Detroit 2, Mich.
Tel. Madison 8086

370. Koenig Sales Co.
19 W. Linwood Blvd.
Kansas City 2, Mo.
Tel. Valentine 7523

371. Kugle, W. H.
540 N.W. 48th St.
Oklahoma City, Okla.

— L —

372. Land-C-Air Sales Inc.
14-16 Pearl Street
New York 4, N. Y.

373. Landfear, J. M.
1223 Sylvania Rd.
Cleveland Heights 21, Ohio

374. Lane, Henry M.
350 Lake St.
Belmont, Mass.
Tel. Belmont 4510

375. Langager, T. O.
2401 Grand Ave. So.
Minneapolis 5, Minn.

376. Larrabee, Fred H.
6033 Main St.
Kansas City 2, Mo.
Tel. Delmar 2804

377. Lasure Co., Harry A.
2216 W. 11th St.
Los Angeles 6, Calif.
Tel. Drexel 1263

378. Leban & Co., A. D.
5716 Nassau Road
Philadelphia 17, Pa.
Tel. Trinity 1638

379. Lee Co., Dave M.
2626 Second Ave.
Seattle 1, Wash.
Tel. Main 5512

380. Lee, Sam E.
805 Wilson Bldg.
Dallas 1, Texas

381. Lee, William S.
2033 Park Ave.
Detroit 26, Mich.
Tel. Randolph 7050

382. Lehner, Jack C.
4301 Daisy Ave.
Cleveland 9, Ohio
Tel. Shadyside 0903

383. Levin, Sol H.
c/o Walter L. Schott Co.
537 S. Dearborn St.
Chicago 5, Illinois
Tel. Webster 3500-01

384. Levitre, Raymond
3182 Fairfield Avenue
Bridgeport 5, Conn.

385. Lewis Associates, Dean
1761 Thousand Oaks Blvd.
Berkely 6, Calif.
Tel. LAndscape 5-0485

386. Lewis Company, Don R.
1528 Princeton Ave.
Salt Lake City 5, Utah
Tel. 4-6798

387. Lewis & Sachs Co.
Empire State Bldg.
New York 1, N. Y.
Tel. PEnn. 6-9710

388. Liddle, Edwin F.
18925 Grand River Ave.
Detroit 23, Mich.
Tel. VErmont 7-5310

389. Linney, H. E.
5801 College Ave.
Oakland 11, Cal.

390. Linter & Son, H. M.
50 Warren St.
New York 1, N. Y.
Tel. BEekman 3-2906

391. Lippincott Co., Inc.
461 Market St.
San Francisco 5, Cal.

Branch: 129 W. 2nd St.
Los Angeles 12, Cal.

Branch: 505 Maritime Bldg.
Seattle 4, Wash.

392. Logan Company, Les
530 Gough St.
San Francisco 2, Cal.
Tel. Hemlock 5127-5128

393. Loukota & Co., Douglas H.
408-10 York Rd.
P. O. Box 6766
Towson 4, Md.
Tel. Towson 2585-6

Branch: 312 E. Ridley Ave.
Ridley Park, Pa.
Tel. Ridley Park 3391-W

Directory of Factory Representatives (Continued)

394. Lowery Company, L. D.
1343 Arch St.
Philadelphia 7, Pa.
Tel. LOcust 5135-6

395. Lowry, W. F.
3239 Faronia St.
Pittsburgh 4, Penn.
Tel. Walnut 2959

396. Lucas, Vincent
1565 Odell St.
New York 62, N. Y.

397. Ludgate, John P.
345 Fourth Ave.
Pittsburgh 22, Penn.
Tel. Atlantic 4480, 4336

398. Lundgren Co., E. B.
Manufacturers Exchange Bldg.
Kansas City 6, Mo.
Tel. Victor 7057

399. Lybig Sales Corp.
136 Liberty St.
New York 6, N. Y.
Tel. WHitehall 4-1165

400. Lynch, Arthur H.
136 Liberty St.
New York 6, N. Y.
Tel. WHitehall 4-1165

401. Lynch, C. R.
210 West 7th St.
Los Angeles 14, Cal.
Tel. Van Dyke 3805

402. Lynn, Ted
3429 Glendale Blvd.
Los Angeles 26, Calif.

— M —

403. MacDonald Company, S. K.
1531 Spruce St.
Philadelphia 2, Pa.
Tel. Kingsley 5-1205

Branch: 3308 14th St., N.W.
Washington 10, D. C.
Tel. Columbia 3938

404. MacNabb, Vernon C.
915 Riviera Drive, P. O. Box 5971
Indianapolis 5, Ind.
Tel. Broadway 6770

405. MacPherson Company, B. L.
601 Fort Wayne Bank Bldg.
Fort Wayne 2, Indiana
Tel. Anthony 9460

406. McBride, J. J.
737 N. Michigan
Chicago 11, Ill.
Tel. Delaware 3575

407. McCaffry, J. A.
6432 Cass Ave.
Detroit 2, Mich.
Tel. Madison 9100

408. McCarthy, J. U.
1725 Hillcrest Ave.
St. Paul 5, Minn.
Tel. Emerson 8619

409. McCarthy, L. C.
9 So. Clinton St.
Chicago 6, Ill.
Tel. Andover 2104

410. McCorvey, Avis
214B Evans Drive
Decatur, Ga.

411. McCoy, D. T.
155 N. Fifth St.
Columbus 15, Ohio
Tel. Main 5501

412. McCullough, M. L.
Fayetteville, N. Y.

413. McDonough, W. Bert
1320 C. & S. Natl. Bank Bldg.
Atlanta 3, Ga.

414. McElroy & Co.
328 Ponce de Leon Avenue, N.E.
Atlanta 4, Georgia

415. McEwen, John
109 W. 64th St.
New York 23, N. Y.
Tel. ENdicott 2-6371

416. McFadden, William E.
83 E. Gay St.
Columbus 15, Ohio
Main 3363

417. McGary, William T.
4030 Chouteau Avenue
St. Louis 10, Mo.
Tel. Jefferson 5252

418. McGinley, Edward D.
128 Roselawn Ave.
Pittsburgh 13, Pa.

419. McKenzie Co. S. M.
Temple Bar Bldg.
Court & Main Sts.
Cincinnati 2, Ohio
Tel. Cherry 2334

420. McKerrow, A. D.
41 Prouty Lane
Worcester 2, Mass.

421. McKinley, J. E.
401 N. Broad St.
Philadelphia 8, Pa.
Tel. Walnut 3575

422. McLoud, Cliff
711 Colorado Bldg.
Denver 2, Colo.

422A. McMillan, Jr., Neil
287 Hillcrest
Grosse Pointe Farms 30, Mich.

423. Mack, P. W.
East Street
Granby, Mass.
Tel. Granby 4, Ring 32

424. Macon & Co., H. L.
P. O. Box 500
Atlanta, Ga.

425. Magnus & Associates, Inc., E. D.
188 W. Randolph St.
Chicago 1, Ill.
Tel. Franklin 8785

426. Maguire, James A.
522 Drexel Bldg.
Philadelphia 6, Pa.
Tel. Market 1670

427. Mallard, A. K.
Radio Corporation of America
RCA Victor Division
1907-11 McKinney Ave.
Dallas 10, Texas

428. Manassa, Al.
2130 E. 5th St.
Charlotte 4, N. C.

429. Manufacturers' Sales Terminal
South 121 Monroe St.
Spokane 8, Wash.
Tel. Riverside 4335

430. March, Elliot
1478 Walton Ave.
Bronx 52, N. Y.

431. Markham, Lyle E.
17 West 11th St.
Erie, Pa.

432. Marsh Agencies
104 Battery St.
Seattle 1, Wash.
Tel. Seneca 2560

433. Marsh Company, J. W.
1515-19 W. Pico Blvd.
Los Angeles 15, Calif.
Tel. Exposition 5454

434. Marsh Company, J. W.
1501 Lincoln Way
San Francisco 22, Calif.

435. Marshall, Frank E.
25 Huntington Ave.
Boston 16, Mass.
Phone: Kenmore 7661

436. Marshall, Harry E.
104 Olive St.
San Francisco 9, Calif.

437. Marshank Sales Company
672 South Lafayette Park Place
Los Angeles 5, Calif.
Tel. Fitzroy 9913, Drexel 6842

Branch: 1047 Flood Bldg.
San Francisco, Calif.
Tel. Garfield 5989

438. Martin Clark Radio
301 N. B'way, Box 1110
Ada, Oklahoma

439. Martin, T.
15 Grove Hill Park
Newtonville, Mass.

440. Masin, O. F.
17 E. 42nd St.
New York 17, N. Y.
Tel. MUrray Hill 2-4580

441. Mason, J. R.
2629 Garfield Ave.
Terre Haute, Indiana
Tel. Harrison 4239

442. Massey Associates, Inc.
1110 13th St. N.W.
Washington 5, D. C.
Tel. National 1957, 1958

443. Material Dist., Inc.
P. O. Box 1691
Wichita, Kansas

444. Maynard, John M.
4507 Shenandoah St.
Dallas 5, Texas
Tel. Lakeside 1537

445. Maynard, Lee W.
139 Central Ave. North
Clayton 5, Mo.
Tel. Delmar 3723

446. Melton & Co., E. L.
2901 E. Meyer Blvd.
Kansas City 5, Mo.
Tel. Jackson 0467, 2514

447. Merchant, Ross C.
4829 Woodward Ave.
Detroit 1, Mich.
Tel. TEmple 1-1677

448. Merrels, T. Price
179 Kenyon St.
Hartford 5, Conn.
Tel. HArtford 3-0700

449. Meyer, Fritz
207 E. Michigan St.
Milwaukee 2, Wisc.
Tel. Marquette 6439

450. Meyer, W. V.
Kingsley Road
Huntington, N. Y.

451. Middaugh, H. G.
3892 Roseberry Drive
Wichita 10, Kansas

452. Midwest Sales Co.
Hanna Bldg.
Cleveland 15, Ohio
Tel. Main 9392

453. Miles Engineering Co.
709 Temple Bar Bldg.
Cincinnati 2, Ohio
Tel. Main 0920

454. Miles, Paul H.
333 N. Michigan Blvd.
Chicago 1, Ill.
Tel. Franklin 7100

Directory of Factory Representatives (Continued)

455. Miles, Pierre L.
35 East Wacker Drive
1178 Pure Oil Bldg.
Chicago 1, Illinois
Tel. Central 8999

456. Millar Associates, James
1000 Peachtree St., N.E.
Atlanta 4, Ga.
Tel. Hemlock 1648

457. Miller, Clair R.
P. O. Box 243
Cedar Rapids, Ia.
Tel. 2-3408

458. Miller Co., Gerald B.
1051 No. Havenhurst Ave.
Hollywood 46, Calif.
Tel. Gladstone 6932

459. Miller & Polite
17th & Sansom Sts.
Philadelphia 3, Pa.

460. Mills, Henry L.
15 N. Euclid Ave.
Pasadena 1, Cal.

461. Milsk, Robert
642 Beaubien St.
Detroit 26, Mich.
Tel. Cherry 7647

462. Mims Co., Morrell P.
43 Leon St.
Boston 15, Mass.
Tel. Garrison 0456

463. Mingins, L. H.
70-10 108th St.
Forest Hills, L. I., N. Y.
Tel. BOulevard 3-1643

464. Mitchell, Myron
537 Turk St.
San Francisco 2, Calif.

465. Mitchell, Richard W.
215 W. Michigan St.
Indianapolis 2, Indiana
Tel. Lincoln 8977

466. Mitscher, R. W.
487 Ellicott Square Bldg.
Buffalo 3, N. Y.
Tel. Washington 2517

467. Momsen Dunnegan Ryan Co.
El Paso, Texas

468. Moncrief and Graf
120 West 18th St.
New York 11, N. Y.
Tel. WAtkins 9-5862

469. Moore, C. E.
3118 Linwood Blvd.
Kansas City 3, Mo.

470. Moran, Donald L.
1925 Riverside Drive
Dayton 5, Ohio
Tel. Randolph 3119

471. Moring, G.
1210 West North St.
Dothan, Ala.

472. Morse Engineering Co.
Fullerton Bldg.
St. Louis 1, Mo.
Tel. Garfield 0076

Branch: 7041 College St.
Kansas City 1, Kansas

473. Mosher, R. D.
239 Wilson Ave.
Quincy, Mass.
Tel. President 6925

474. Moss, Gordon G.
P. O. Box 428
Greeley, Colo.
Tel. Greeley 770

475. Moulthrop, R. W.
University Apparatus Co.
2229 McGee St.
Berkeley 3, Calif.
Tel. Sutter 8854

476. Mountain States Engineering Co.
152-4 E. 7th South St.
Salt Lake City 2, Utah
Tel. 4-1772

477. Muniot, J. E., Jr.
918 Union St.
New Orleans 13, La.
Tel. CAnal 1881-2

478. Murphy & Cota
5 Ivy Street, N.E.
Atlanta 3, Ga.
Tel. Main 1005

— N —

479. Nats, O. F.
943 Emerson St.
Denver 3, Colorado

480. Naudain, L. Parker
1600 Arch St.
Phila. 3, Pa.
Tel. Rittenhouse 6-3172

481. Neely Enterprises, Norman B.
7422 Melrose Ave.
Hollywood 46, Calif.
Tel. Whitney 1147

482. Neff, H. D.
66 Deerfield Ave.
Hartford 5, Conn.

483. Nelson Company, A. J.
Box 2244
Denver, Colorado
Tel. Keystone 6751

484. Neutra, J. E.
6241 Osage Ave.
Philadelphia 43, Pa.
Tel. Sherwood 2940

485. Nevins, W. W.
710 Volunteer Bldg.
Atlanta, Ga.

486. New Products Engineering Co.
631 Wayne Ave.
Dayton 10, Ohio

486A. Nicholas, Allen I.
Statler Office Bldg.
Boston 15, Mass.
Tel. Hubbard 4638

487. Nicholas Co., Fred M.
1123 Harrison St.
San Francisco 3, Calif.
Tel. Underhill 4830

488. Nickerson & Rudat
383 Brannan St.
San Francisco 7, Calif.
Tel. Douglas 8530

489. Noble Co., Thos. D.
210 12th St.
San Francisco 3, Calif.

490. Nordstrom & Co., R. C.
5057 Woodward Ave.
Detroit 2, Mich.
Tel. TEmple 1-1120

491. Norris Company, George D.
2603 Western Ave.
Seattle 1, Wash.
Tel. Elliott 1344

492. Northwest Marine Dist. Inc.
907 West Ave.
Seattle, Wash.

493. Northwestern Agencies
4130 First Ave.
Seattle 4, Wash.
Tel. Eliot 8882

494. Nott, L. A.
1061 Howard St.
San Francisco 3, Calif.

495. Nulsen, Marvin E.
333 Kenyon Avenue
Indianapolis 1, Ind.

— O —

496. Odom, H. J.
106 Howard Drive
College Park, Ga.

497. Oliphant, J. E. & Co.
505 Uhler Bldg.
Marion, Ohio
Tel. Marion 2163

498. Olsen, John O.
1456 Waterbury Rd.
Cleveland 7, Ohio
Tel. Academy 4932

Branch: 3239 Faronia St.
Pittsburgh 4, Pa.
Tel. Walnut 2959

499. Osborne, E. E.
431 W. Fifth St.
Rushville, Indiana
Tel. 3461

500. Ossmann, Edward A.
401 Ravenwood Ave.
Rochester 11, N. Y.

501. Otis & Co., W. I.
600 Camelia St.
Berkeley 2, Calif.
Tel. Ashberry 3456

— P —

502. Pacific Airmotive Corp.
1626 McGee St.
Kansas City 8, Mo.

503. Pack, E. P.
647 Main St.
Hartford 3, Conn.

504. Pan-Mar Corp.
1270 Broadway
New York 1, N. Y.

505. Parke, J. O.
918 Hill Avenue
Pittsburgh 21, Pa.
Tel. Churchill 0838

506. Parker, Blair H.
610 Atlantic Ave.
Boston 10, Mass.
Tel. Liberty 9214

507. Parrott, Archie T.
70 Exchange St.
Rochester 4, N. Y.
Tel. Main 7512

508. Parsons & Co., C. B.
115 Belmont Ave. No.
Seattle 2, Wash.
Tel. Capitol 7307

509. Patterson & Company
1124 Irwin Keasler Bldg.
Dallas 1, Tex.
Tel. Central 5764

510. Patterson Co., C. T.
800 S. Peters St.
New Orleans 7, La.

511. Patterson Sales Co., D. A.
300 City Bank Bldg.
Kansas City 8, Mo.
Tel. Grand 0888

512. Peckham, Malcolm A.
130 So. Fairview Ave.
Upper Darby, Pa.
Tel. Sunset 2383-R

513. Peirce, George H.
715 Camp St.
New Orleans 12, La.

Directory of Factory Representatives (Continued)

514. Perlmuth-Colman & Associates
942 Maple Ave.
Los Angeles 15, Calif.
Tel. Trinity 7353-54-55

515. Pero, J. F.
38 Veranda Place
Brooklyn 2, N. Y.

516. Perron & Co., Ray
131 Clarendon St.
Boston 16, Mass.
Tel. Kenmore 1370

517. Peterson Company
1925 Blake Street
Denver 2, Colo.

518. Pettingell, James T.
317 E. Ontario St.
Chicago 11, Ill.

519. Pickett, J. M.
12 E. 78th St.
New York 21, N. Y.
Tel. MUrray Hill 2-2492

520. Pieksen, G. W.
3020 Olive St.
St. Louis 3, Mo.

521. Pitts, Lou
1935 Felix Ave.
Memphis 4, Tenn.
Tel. 7-7341-J

522. Plageman, L. C., Jr.
118 W. Third St.
Cincinnati 2, Ohio

523. Pollard, A. L.
Box 1452
514 21st St.
Knoxville 9, Tenn.

524. Pope, Herbert J.
76 Lafayette St.
Salem, Mass.
Tel. Salem 2260

525. Pope Jr., Jas. C.
1425 S. Flower St.
Los Angeles 15, Calif.

526. Potter, George Ray
605 N. Michigan Ave.
Chicago 11, Ill.
Tel. Delaware 6054

527. Powell & Co., Inc., Ralph C.
730 Fifth Avenue
New York 19, N. Y.
Tel. Circle 5-7760

528. Pratt, T. J.
2826 Observatory Road
Cincinnati 8, Ohio
Tel. Ea 4225

529. Printz Co., William
358 Fifth Ave.
New York 1, N. Y.
Tel. WIsconsin 7-7764 & 7779

530. Progressive Marketers
1666 Park Place
Brooklyn 33, N. Y.
Tel. DIckens 2-3538

531. Pugh Company, C. L.
1670 Doone Road
Columbus 8, Ohio
Tel. Kingswood 4855

532. Purdy Co., William J.
420 Market St.
San Francisco 11, Calif.
Tel. Douglas 1108

533. Putnam Co., L. B.
509 17th St.
Denver 2, Colo.

534. Pyle, A. J.
212 Third Ave., No.
Minneapolis 1, Minn.
Tel. ATlantic 8191

— Q —

535. Queisser Brothers
110 E. 9th St.
Indianapolis 2, Ind.
Tel. Riley 2518

— R —

536. Radio Engineering Associates
689 S.W. 137 St.
Seattle 66, Wash.

537. Radio, Inc.
1000 S. Main St.
Tulsa, Okla.

538. Radio Products Sales Co.
238 West 15th St.
Los Angeles 15, Cal.
Tel. Prospect 2488

539. Raff, Leonard
1429 Fifth Ave., S.E.
Cedar Rapids, Iowa
Tel. 3-0720

540. Rand New York, Inc., B. R.
40 Wall St.
New York 5, N. Y.
Tel. BO 9-4628

541. Ranson, Russell
116½ E. 4th St.
Charlotte 2, N. C.
Tel. 4-4244

542. Rau, O. C.
P. O. Box 141
Madison, N. J.

543. Redmann Co., S. M.
2322 Valmont Road
New Orleans 15, La.
Tel. Audubon 7825

544. Redmond Supply Co., J. E.
400 W. Madison St.
P. O. Box 869
Phoenix, Arizona
Tel. Phoenix 3-3383, 3-1396

545. Reed, Inc., Lyman
1001 St. Charles Ave.
New Orleans 8, La.
Tel. Raymond 7247

546. Rehak, O. R.
52 Sterling St.
Brooklyn 25, N. Y.

547. Reid & Co., C. W.
1825 McGee St.
Kansas City, Mo.
Tel. Harrison 3323

549. Renz, Roy E.
1406 S. Grand Ave.
Los Angeles 15, Cal.

550. Reynolds Co., Harrison
34 Bay State Road
Belmont, Mass.

551. Reynolds, H. W.
5609 Randolph St.
Hyattsville, Md.

552. RFL Sales Company
185 Madison Ave.
New York 16, N. Y.

553. Rich, William R.
500 Fifth Ave.
Suite 1238
New York 18, N. Y.

554. Richardson, H. M.
2510 Forshay Tower
Minneapolis 2, Minn.

555. Ridley, P. G.
4804 West Chicago Ave.
Chicago 5, Ill.
Tel. Esterbrook 7153

556. Rindfleish, Robert C.
205 W. Wacker Drive
Chicago 6, Ill.
Tel. Randolph 7100

557. Ritter, R. B.
612 N. Michigan Ave.
Chicago 11, Ill.

558. Rivera, J.
20 E. Jackson Blvd.
Chicago 4, Ill.
Tel. Webster 7987

559. Rixon, Arthur & Son
209 W. Washington St.
Greenville, S. Car.

560. Roan, James H.
531 Poydras St.
New Orleans 12, La.

561. Roberts, Alan Burton
312 E. Ridley Avenue
Ridley Park, Pa.
Tel. Ridley Park 3391W

562. Roberts & Associates, E. V.
6516 Selma Ave.
Hollywood 28, Calif.
Tel. Hempstead 5655

563. Robinson, Clem
2711 No. 76th St.
Milwaukee 13, Wisc.
Tel. Bluemound 3884

564. Rocke International Corp.
13 East 40th St.
New York 16, N. Y.
Tel. WAlker 5-0345

565. Rocke, Lee
222 East 38th St.
New York 16, N. Y.
Tel. VAnderbilt 6-3463

566. Rodman & Co.
1827 S. Hope St.
Los Angeles 15, Calif.

567. Roes and Co., H. A.
Room 518—City Bank Bldg.
1805 Grand Ave.
Kansas City 8, Mo.
Tel. Harrison 2036

568. Roseberry, H. A.
322 Stephenson Bldg.
Detroit 2, Mich.
Tel. Madison 1868

569. Rotstein, Pete
1807 East Olympic Blvd.
Los Angeles 21, Cal.
Tel. Van Dyke 8049

570. Routh Co., T. R.
151 San Bruno Ave.
San Francisco 3, Cal.
Tel. KLondike 2-0146

571. Rowland, E. W.
110 Washington St.
New York 6, N. Y.
Tel. WHitehall 4-8395

572. Roye Sales Agency
11 Warren St.
New York 7, N. Y.
Tel. COrtlandt 7-1148

573. Ruhling Co., T. C.
P. O. Box 537
5020 Bradford Drive
Dallas 9, Texas
Tel. Lakeside 7344

574. Rupp Company, V. T.
1150 W. Olympic Blvd.
Los Angeles 15, Calif.
Tel. Prospect 9516

575. Russell, Frank B.
1411-19 Walnut St.
Philadelphia 2, Pa.
Tel. Rittenhouse 8295

576. Rutemiller, Oren G.
515 Rose Hill
Cincinnati 17, Ohio

Directory of Factory Representatives (Continued)

578. Rutt, William
401 Broadway
New York 13, N. Y.

579. Ruvin, Morey H.
401 Broadway
New York 13, N. Y.

580. Ryan Co., Gerald G.
549 Washington Blvd.
Chicago 6, Ill.
Tel. State 7665

— S —

581. Saftler, Perry
53 Park Place
New York 7, N. Y.
Tel. REctor 2-5334

582. Sales Company, The
1624 No. First St.
Albuquerque, N. Mex.

583. Salescrafters, Inc.
55 Erie—Room 217
Chicago 11, Ill.

584. Sanderson Sales Co.
4 Smithfield St.
Pittsburgh 22, Pa.
Tel. Grant 3090

585. Satullo, Anthony
7635 East Jefferson
Detroit 21, Mich.

586. Saul, Howard M.
409 S. Fairfax Ave.
Los Angeles 36, Cal.
Tel. WEbster 8901

587. Schaffner, Mort
c/o General Transformer Corp.
1250 W. Van Buren St.
Chicago 7, Ill.
Tel. Chesapeake 3500

587A. Scharp, W. S.
67 W. 44th St.
New York 18, N. Y.
Tel. MUrray Hill 2-3683

588. Schenck, LeRoy
58 E. Park St.
Newark 5, N. J.

589. Schiefer Electric Co., Inc.
311 Alexander Street
Rochester 7, N. Y.
Tel. Stone 44

Branch: 100 State Street
Albany 7, N. Y.
Tel. ALbany 3-3628

Branch: 527 Ellicott Square
Buffalo 3, N. Y.
Tel. Washington 8218

Branch: 204 State Tower Bldg.
Syracuse 2, N. Y.
Tel. SYracuse 2-3894

590. Schirmer Inc., G.
3 East 43 St.
New York 17, N. Y.
Tel. MUrray Hill 2-8100

591. Schmitt Co., Edwin F.
136 Liberty St.
New York 6, N. Y.
Tel. WOrth 2-6550, 6551

592. Schmitz Co., J. O.
Porter Bldg.—34th & Bway.
Kansas City 2, Mo.
Tel. Westport 5323

593. Schnitter, J. C.
78 N. Tiorunda Dr.
Buffalo 11, N. Y.

594. Scholz, Paul G.
301 S. Vandeventer Ave.
St. Louis 10, Mo.
Tel. Wabash 864 M

595. Schoolar & Co., S. T.
5 Shockoe Slip
Richmond 19, Va.

596. Schoonmaker Co., J. Y.
2320 Griffin St.
Dallas 2, Tex.
Tel. Riverside 6518

597. Schreyack, C.
554 Park Blvd.
Glenn Ellyn, Ill.
Tel. Glenn Ellyn 1641

598. Schulz, Edwin A.
P. O. Box 6087
Indianapolis 5, Ind.
Tel. Broadway 1993

599. Schwartz, Adolph
220 Broadway
New York 7, N. Y.
Tel. CO 7-0011

600. Schweitzer, Paul H.
4622 Kingsley Drive
Indianapolis 5, Ind.
Tel. Broadway 7903

601. Scott, Ernest P.
1836 Euclid Ave.
Cleveland 15, Ohio
Tel. Main 1565

602. Seeman, Wm. F.
248 Delaware Ave.
Buffalo 2, N. Y.
Tel. Cleveland 2836

603. Segar & Taylor
678 Ellicott Sq. Bldg.
Buffalo 3, N. Y.
Tel. Cleveland 0715-2916

604. Segel Co., Henry P.
143 Newbury St.
Boston 16, Mass.
Tel. Kenmore 3012-6333-9755

Branch: 179 Kenyon St.
Hartford 5, Conn.
Tel. HArtford 3-0700

605. Sewell, Inc., Norman M.
401 N. Broad St.
Philadelphia 8, Pa.

606. Seyd, Ernest K.
Andover, Conn.
Tel. Willimantic 1131-J-2

607. Shaffer, Grant L.
6432 Cass Ave.
Detroit 2, Mich.
Tel. Madison 5300

608. Shaffer, Kenneth B.
4882 Winton Road
Cincinnati 32, Ohio

609. Shanafelt, L. O.
Radio Corporation of America
RCA Victor Division
530 Citizens & So. Bank Bldg.
Atlanta, Ga.

610. Shapp & Co., M. J.
121 N. Broad St.
Philadelphia 8, Pa.
Tel. WAlnut 2-3942

611. Shaul, R. D.
P. O. Box 1107
Birmingham, Ala.

612. Shaw, S. A.
101 Park Ave.
New York 17, N. Y.
Tel. MUrray Hill 3-6058

613. Shaw, Sam J.
207 Empire Bldg.
Pittsburgh 22, Pa.
Tel. Atlantic 4872

614. Sheets, William J.
1039 Investment Bldg.
Washington 5, D. C.
Tel. Executive 6223

615. Shefler, Geo. H.
P. O. Box 1587—330 Virginia Ave.
Phoenix, Arizona
Tel. 3-9046, 5-1535

616. Shilt, N. C.
217 Riggs Bank Bldg.
Washington 10, D. C.

617. Sievers, Edward S.
5171 Hollywood Blvd.
Los Angeles 27, Calif.

618. Signal Electric Mfg. Co.
600 W. Jackson Blvd.
Chicago 6, Ill.
Tel. Andover 4363

619. Simberkoff, S. W.
347 Fifth Ave.
New York 16, N. Y.
Tel. MUrray Hill 6-0045

620. Simon, E. L.
Radio Corporation of America
RCA Victor Division
827 Mart Bldg.—1355 Market St.
San Francisco 3, Calif.

621. Simon, Felix
P. O. Box 614
Denver, Colo.
Tel. Keystone 0035

622. Sinai, Arnold A.
1280 Mission St.
San Francisco 3, Calif.

623. Singer & Associates, Edward
1722 West Arcade Place
Chicago 12, Ill.

624. Skidmore, W. K.
20 Vesey St.
New York 7, N. Y.
Tel. BArclay 7-6464

625. Slocum, Lester
617 Case Bldg.
Rochester 4, N. Y.

626. Smead and Small, Inc.
1630 Hanna Building
Cleveland 15, Ohio

627. Smedley, A. B.
470 East Orange Grove Ave.
Pasadena 6, Calif.
Tel. RYan 1-6738

628. Smiley & Associates, R. E.
404 Cunard Bldg.—503 Market St.
San Francisco 5, Cal.

629. Smith & Associates, O. P.
2007 So. Michigan Ave.
Chicago 16, Ill.
Tel. Calumet 6707

630. Smith Co., Lombard
2032 Santa Fe Ave.
Los Angeles 21, Calif.
Tel. Kimball 3297

631. Smith Co., Oren H.
225 W. Huron St.
Chicago 10, Ill.
Tel. Superior 7919

632. Smith, Howard F.
259 West 14th St.
New York 11, N. Y.
Tel. CHelsea 2-7330

633. Smith, Earl J.
P. O. Box 1805
Dallas 7, Tex.
Tel. TEnnison 3-7093

634. Smith, Maitland K.
317 Forrest Ave., N. E.
Atlanta 3, Georgia
Tel. Walnut 6094

635. Snyder Co., Harold J.
612 City Bank Bldg.
Kansas City 8, Mo.
Tel. Harrison 6411

Directory of Factory Representatives (Continued)

636. Somers & Company, F. C.
1805 Grand Avenue
Kansas City 8, Mo.
Tel. Grand 1355

637. Sonkin, David
1775 Broadway
New York 19, N. Y.
Tel. Circle 7-6946

638. Southern Electronics Inc.
P. O. Box 2158
Greensboro, N. C.
Tel. 6838

639. Southern Sales Company
1135 Lincoln Tower
Fort Wayne 2, Ind.
Tel. Anthony 5278

Branch: 418 Frick Bldg.
Pittsburgh 19, Pa.
Tel. ATlantic 5766

640. Southern Sellers
918 Union Street
New Orleans 13, La.
Tel. Canal 1881

641. Spade, R. L.
425 45th Street
West Palm Beach, Fla.
Tel. PAlm Beach 2-2556

642. Spencer, J. D.
916 S. 17th St.
Temple, Tex.

643. Spillman Co.
1029 Fisher Bldg.
Detroit 2, Mich.

644. Sprung, Joseph
254 W. 31st St.
New York 1, N. Y.
Tel. LOngacre 5-1820

645. Standard Equipment Co.
603 Electric Bldg.
Omaha, Nebr.

646. Stemm, R. E. & R. A.
21 E. Van Buren St.
Chicago 5, Ill.
Tel. Webster 4840-41

647. Sterling & Co., S.
1125 East Milwaukee Ave.
Detroit 11, Mich.

648. Stern, Paul J.
Fenway Hall Hotel
Euclid Ave. at University Circle
Cleveland 6, Ohio

649. Stevens Co., T. W.
P. O. Box No. 37
Oklahoma City 1, Okla.
Tel. 9-4849

650. Stevens, Fred J.
15126 E. Warren Ave.
Detroit 24, Mich.
Tel. TUxedo 1-1220

651. Stewart Mfg. Corp., F. W.
431 Venice Blvd.
Los Angeles 15, Calif.

652. Stewart, William G.
5060 City Line Ave.
Philadelphia 31, Pa.
Tel. Greenwood 0799

653. Stoll, Cliff A.
139 Alton Avenue
Dayton 4, Ohio
Tel. Adams 5659

654. Strassner Company, C. R.
2501 Kenilworth Ave.
Los Angeles 26, Cal.
Tel. NOrmandy 1-8343

Branch: 1047 Flood Bldg.
San Francisco, Calif.
Tel. Garfield 5989

655. Stuart Jr., John R.
930 F Street
Washinaton, D. C.
Tel. Executive 5687

666. Stuart, Warren
4634 Lakewood Blvd.
Long Beach 8, Calif.
Tel. TOrrey 7-9473

667. Sturgeon, Paul R.
25 Huntington Ave.
Boston 16, Mass.
Tel. Kenmore 5580

668. Sturman, George T.
712 6th Ave., South
Minneapolis 15, Minn.
Tel. Geneva 1805

669. Strauss, Mae
425 West Surf St.—Apt. 509
Chicago, Ill.

670. Suffel & Stewart
3757 Wilshire Blvd.
Los Angeles 5, Cal.
Tel. Federal 3188

671. Surpless, Dunn & Co.
34 No. Clinton St.
Chicago 6, Ill.

Branch: 74 Murray St.
New York 7, N. Y.

—T—

672. Tanner, Geo O.
508 Grant St.
Pittsburgh 19, Pa.
Tel. Court 0131

673. Taylor Co., Morris F.
8416 Georgia Ave.
Silver Spring, Md.
Tel. Shepherd 4003

674. Taylor Co., Morris F.
c/o P. A. Boyd
434 Biddle Ave.
Pittsburgh 21, Pa.
Tel. Pennhurst 1210

675. Taylor Co., Morris F.
c/o H. W. Densham
148 Washington Ave.
Collingswood, N. J.
Tel. COllingswood 5-0145

676. Taylor Co., Morris F.
c/o J. P. Johnson
3535 Dell Trail
Chattanooga 4, Tenn.
Tel. CHattanooga 4-4026

677. Taylor Co., Morris F.
c/o E. Kling-Mueller
Imperial Hotel
Atlanta, Ga.
Tel. Jackson 4700

678. Taylor Co., Morris F.
c/o M. A. Peckham
130 S. Fairview Ave.
Upper Darby, Pa.
Tel. Sunset 2383 R

679. Taylor Co., Morris F.
c/o R. E. Tydings
4719 S. 29th St.—Apt. C-1
Fairlington, Arlington, Va.
Tel. Temple 0460

680. Taylor Co., Morris F.
c/o R. H. Van Dusen
940 Lake Elbert Dr.
Winterhaven, Fla.
Tel. Winterhaven 22-684

681. Taylor, Robert F.
308 West Washington St.
Chicago 6, Ill.
Tel. Andover 1808

682. Teldisco, Inc.
444 William St.
East Orange, N. J.

683. Terry, C. E.
309 Reliance Bldg.
Kansas City 6, Mo.
Tel. Victor 4631

684. Terwilliger Sales
27 E. 85th St.
Kansas City 5, Mo.
Tel. Highland 4708

685. Thacher Brothers
Rm. 459—Statler Office Bldg.
Boston 16, Mass.
Tel. Liberty 3769

686. Thomas, Dean M.
683 Ellicott Sq. Bldg.
Buffalo 3, N. Y.
Tel. Cleveland 3257

687. Thompson, Roy
Fenimore Dr. & North St.
Harrison, N. Y.

688. Thornwell, E. A.
217 Whitehall St., S. W.
Atlanta 3, Ga.
Tel. WA 3548

689. Tighe, John J.
Bulletin Bldg.
Philadelphia 7, Pa.

690. Tilton, John R.
230 Herbert St.
Waterloo, Ont.
Tel. 2-1053

691. Tivy, George S.
1148 South Grand Ave.
Los Angeles 15, Cal.
Tel. PR 8806 & 1686

692. Tobias & Co., David F.
30 Church St.
New York 7, N. Y.
Tel. COrtlandt 7-4350-1

693. Tonkin & Schiffer, Inc.
209½ West Market St.
Greensboro, N. C.
Tel. Greensboro 3-5578

694. Triangle Equipment Co., Inc.
4903 Delmar Blvd.
St. Louis 8, Mo.

695. Trinkle, Wilmer S.
401 N. Broad St.
Philadelphia 8, Pa.
Tel. Lombard 5680

696. Triple Company, E.
6527 31st Ave., N. E.
Seattle 5, Wash.
Tel. Kenwood 7290

697. Tubergen, John B.
1406 S. Grand Ave.
Los Angeles 15, Calif.
Tel. Richmond 6191

698. Tucker, John
Box 221
Westport, Conn.

699. Tucker, V. P.
121 Drexel Ave.
Decatur, Ga.

700. Turner, Porter
60 East 42nd St.
New York 17, N. Y.
Tel. VA 6-4972

701. Turney & Beale
40-08 Corporal Kennedy St.
Bayside, L. I., N. Y.
Tel. Bayside 9-8958, 9-3100

702. Twyman & Associates, B. G.
6406 North Fairfield Ave.
Chicago 45, Ill.
Tel. Ambassador 1131

703. Tydings, Richard E.
4719 So. 29th Street
Fairlington, Arlington, Va.
Tel. Temple 0464

Directory of Factory Representatives (Continued)

— U —

704. Urquhart, W. L.
11 West 42nd St.
New York 18, N. Y.
Tel. PEnnsylvania 6-2980

705. Uzmann, J. G.
347 Fifth Avenue
New York 16, N. Y.
Tel. LExington 2-2184

— V —

706. Valentine, Forrest C.
912 Old-First Bk. Bldg.
Fort Wayne 2, Ind.
Tel. Anthony 9122

707. Van Dusen, Rolfe
940 Lake Elbert Drive
Winter Haven, Fla.
Tel. 22-684

708. Van Groos, J. C.
1406 So. Grand Ave.
Los Angeles 15, Cal.
Tel. Richmond 6191

709. Vawter, James H.
351 Berryman Drive
Buffalo 21, N. Y.

710. Voigt, C. W. K.
Chester Heights
Delaware County, Pa.

— W —

711. Wahl, Anthony C.
Arrow Road
Cincinnati 11, Ohio
Tel. Humboldt 2210-J

712. Wall Co., Eugene J.
1836 Euclid Avenue
Cleveland 15, Ohio

713. Wall, Edwin W.
Howard Hammond Co.
20 17th St.
Hermosa Beach, Calif.

714. Wallace, Don C.
4214 Country Club Drive
Long Beach 7, Calif.
Tel. 434-59

715. Wallace, Stanley K.
Box 86
Lutz, Fla.
Tel. Tampa 99-144

716. Walton Company, H. E.
1012 Francis Palms Bldg.
2111 Woodward Ave.
Detroit 1, Mich.
Tel. Cherry 6460-1

717. Ward Company, L. R.
2711 Commerce St.
Dallas 1, Tex.

718. Ward Engineering Co.
302 Hildebrandt Bldg.
Jacksonville 2, Fla.

719. Ware, John Allen
301 W. "G" St.
San Diego 1, Calif.

720. Wartman, Frederick E.
5451 Cornell Ave.
Chicago 15, Ill.
Tel. Butterfield 9585

721. Waters, Robert A.
621 Main St.
Waltham 54, Mass.

722. Weber Associates, Jack
210 E. 40th St.
New York 16, N. Y.
Tel. MU 3-4398

723. Weber, Dale G.
7026 S. W. Capitol Highway
Portland 1, Oregon
Tel. Cherry 2650

724. Weiler, Harold D.
132 Nassau St.
New York 7, N. Y.
Tel. Worth 2-1938

725. Western Agencies Co.
406 S. Main St.
Los Angeles 13, Calif.
Tel. Van Dike 8579

726. Western Railroad Supply Co.
2428 South Ashland Ave.
Chicago 8, Ill.
Tel. Canal 0120

727. Weston Electrical Instrument Corp.
205 W. Wacker Drive
Chicago 6, Ill.
Tel. Franklin 4656

728. Weston Electrical Instrument Corp.
50 Church St.
New York 7, N. Y.
Tel. Cortlandt 7-0507-08-09

729. Whetzle, George L.
30 Rugby Rd.
Buffalo 16, N. Y.

730. Whitby, H. W.
1521 Burroughs Drive
Dayton 6, Ohio
Tel. Randolph 5907

731. White Co., Charles D.
589 Atlantic Ave.
Boston 10, Mass.
Tel. Liberty 8828-8829

733. Wick Jr., John H.
1550 Dixie Street
Charleston, West Va.

734. Wilks Company, Ernest L.
1212 Camp St.
Dallas 2, Tex.
Tel. R-4059

735. Williams, V. W.
Hollywood Drive—Country Club Heights
Lancaster, Pa.

736. Williamson, O. M.
Louden, Tenn.

737. Willison Co., G. G.
West Building
Houston 2, Tex.
Tel. Madison 2-4553

738. Willoughby, D. J.
136 So. 16th St.
Philadelphia 2, Pa.
Tel. Rittenhouse 2479

739. Wilson, M. T.
125 Warner St.
Fond du Lac, Wis.
Tel. 738

740. Wineblatt, Edward
Hotel Monterey
808 Junior Terrace
Chicago 13, Ill.

741. Wink, Willis
235 Henricks Blvd.
Buffalo 21, N. Y.
Tel. Amherst 6426

742. Wise, Harry A.
4528 Burlington Place, N. W.
Washington 16, D. C.

743. Wittenburg, H. W.
736 E. Washington Blvd.
Los Angeles 21, Calif.

744. Wixson, H. D.
6432 Cass Avenue
Detroit 2, Mich.
Tel. Madison 6300

745. Wolfe-Marsey Sales Co.
74 Park Avenue
Rochester 7, N. Y.
Tel. Monroe 6228

746. Wood, Ash M.
El Monte, Calif.
Tel. Cumberland 3-1201

747. Wood, C. J.
108 Corsicana St.
Hillsboro, Tex.

748. Wood, John J.
110 Board of Trade Bldg.
New Orleans 12, La.

749. Wood & Anderson Co.
915 Olive St.
St. Louis 1, Mo.
Tel. Garfield 2233

Branch: 210 W. 8th St.
Kansas City, Mo.
Tel. Grand 8784

750. Woods, Allen A.
643 Roscoe St.
Chicago 13, Ill.

751. Wooley Instruments Service
1869 S. W. Broadway
Portland 1, Oregon

752. Woolf, Irving W.
433 Broadway
New York 13, N. Y.
Tel. WAlker 5-8582

753. Wright Engineering
5620 N. Meridian St.
Indianapolis 8, Ind.
Tel. Broadway 6000

754. Wynes, J. A.
P. O. Box 5181
Dallas 2, Tex.
Tel. T. 3-8352

— Y —

755. Young, C. W.
56 Washington St.
Providence 5, R. I.

756. Young, J. L.
5733 Cameron Blvd.
New Orleans 19, La.

757. Young Co., W. E.
2134 Curtis
Denver 2, Colo.
Tel. Tabor 4148-4149

758. Yount, Jack
Pleasant Grove Station
Dallas 10, Tex.

— Z —

759. Zimmerman Co., M. H.
5520 Westover Road
Kansas City 2, Mo.
Tel. Hiland 5375

Directory of Factory Representatives (Continued)

Canadian Representatives

760. Adlam Tool & Supply Co., Ltd.
1015 St. Alexander St.
Montreal, Que.

761. Alliance Electric Works, Ltd.
1079 Beaver Hall Hill
Montreal, Canada

762. Alliance Tool & Motor Ltd.
Grand & Queensway
Toronto 14, Ont., Canada

763. Alpha Distributing Co.
29 Adelaide St.
Toronto, Ontario
Tel. Elgin 3186

764. Astral Electric Co.
35 Ardmour Rd.
Scarboro Bluffs, Ont., Can.
Tel. Zone 7182

765. Atlas Radio Corp.
560 King St., West
Toronto 2, Ont., Canada
Tel. Adelaide 1397-8

766. Bach-Simpson, Ltd.
71 Carling Street
London, Ontario
Tel. Fairmont 2930

767. C-H Engineering Co.
137 Wellington St., W.
Toronto 1, Canada
Branch: 132 James St., W.
Montreal, Canada
Branch: 841 W. Broadway
Vancouver, Canada

768. Cahoon & Co., Ltd., L. D.
2271 Danforth Ave.
Toronto, Canada
Tel. Oxford 1127

769. Canadian Marconi Co.
St. Sacrament St.
Montreal, Canada
Tel. Marquette 7081

770. Canadian Line Materials, Ltd.
Scarboro Junction
Toronto 13, Ont., Canada
Tel. Howard 2111

771. Canadian Research Institute
46 St. George Street
Toronto 5, Canada
Tel. Randolph 7733

772. Compressed Air Equipment, Ltd.
328 Dupont St.
Toronto, Ont., Canada

773. Controlite Engineering & Sales Ltd.
20 Bloor St., W.
Toronto 5, Ont., Canada
Tel. Randolph 5103

774. Cooper, W. H.
1103 Yonge St.
Toronto 5, Canada

775. Cyclograph Services, Ltd.
404 King St., East
Toronto 2, Ont.

776. Downs, Walter P.
Dominion Square Bldg.
Montreal, Que.
Tel. Marquette 6368

777. Electronic Enterprises, Ltd.
1078 St. Urbain St.
Montreal 1, Canada

778. Fearn, Basil
284 Water St.
St. John's Nfld., Canada

779. Ferranti Electric Limited
Mount Dennis
Toronto 9, Ontario
Tel. LYndhurst 8441

780. Fordco Agencies
230 Herbert St.
Waterloo, Ont.
Tel. 2-1053

780A. Furneaux, W. H.
1551 Barton St., E.
Hamilton, Ont., Canada
Tel. 5-1186-7-8

780B. Gray, Hubert R.
35 Ardmour Road
Scarboro Bluffs, Ont.

781. Grogan, James
50 Yarmouth Road
Toronto, Ont.

782 Hefco Agencies
25 Highcroft Rd.
Toronto, Ont., Canada

783. Herring, John
107 Front St., E.
Toronto, Canada

784. Kelly Co., Wm. F.
1207 Bay St.
Toronto 5, Ont., Canada
Tel. Randolph 1661

785. Longstaffe Ltd., J. R.
11 King St., West
Toronto 1, Ont., Canada

786. Manley & Sons, Ltd., F.
82 Adelaide St., East
Toronto 1, Canada
Tel. AD 7924

787. McQueen, A. A.
204 King St.
Toronto, Ont.

788. Measurement Engineering
61 Duke St.
Toronto, Ont., Canada
Tel. El 2881

789. Northern Electric Company, Ltd.
Montreal 3, Que., Canada
Branches: 102 11th Ave.
Calgary, Alta.

86 Hollis St.
Halifax, N. S.

1620 Notre Dame St., W.
Montreal, Que.

302 Sparks St.
Ottawa, Ont.

2300 Dewdney Ave.
Regina, Sask.

43 Dock St.
St. John, N. B.

131 Simcoe St.
Toronto, Ont.

150 Robson St.
Vancouver, B. C.

65 Rorie St.
Winnipeg, Man.

790. Oxford University Press
480 University Ave.
Toronto, Ont.
Tel. Adelaide 3093

791. Pointon, Chas. W.
Manning Chambers
Toronto 2, Ont., Canada
Tel. Elgin 5957

792. Pound, Harris D.
2235 Addington Ave.
Montreal 28, Canada
Tel. Walnut 3402

793. Powerlite Devices, Ltd.
807 Keefer Bldg.
Montreal, Que.
Branch: 171 John St.
Toronto, Ont.

794. Radio Engineering Products Ltd.
6202 Somerled Ave.
Montreal 29, Que., Canada

794A. Reid, Howard N.
Canadian Astatic Ltd.
2271 Danforth Ave.
Toronto, Ont., Canada

795. Robinson Co., C. M.
207 Scott Block
Winnipeg, Man.
Tel. Winnipeg 96789
Branch: Kennedy, H. C.
564 Beatty St.
Vancouver, B.C., Canada
Tel. PAcific 6938

795A. Rutherford, E. D.
306 Ross Ave.
Winnipeg, Man.

796. Selkirk Agencies, Ltd.
744 West Hastings St.
Vancouver, B.C., Canada
Tel. Pacific 3195, Marine 5539

797. Simmonds & Sons, A. C.
301 King Street, E.
Toronto 2, Ont., Canada
Tel. Waverly 8077

798. Sni-Dor Radiolectric, Ltd.
455 Craig St., West
Montreal, Que.
Tel. Belair 3271

799. Sparling Sales Ltd.
270 Fort St.
Winnipeg, Manitoba, Canada
Tel. 97 854—92 009

800. Stark Electronic Instr. Ltd.
37 Hanna Ave.
Toronto 5, Ont., Canada

801. Stromberg Carlson Co., Ltd.
211 Geary Ave.
Toronto 4, Ont., Canada

802. White Radio Ltd.
41 West Ave., No.
Hamilton, Ont., Canada

U. S. Export Representatives

803. Ad. Auriema, Inc.
89 Broad Street
New York 4, N. Y.

804. Aerovox Corporation
Export Department
13 E. 40th Street
New York 16. N. Y.

806. Alpha Metals, Inc.
Export Division
25 Warren Street
New York 7, N. Y.

808. American Steel Co.
347 Madison Avenue
New York 17, N. Y.

814. Associated Exporters Co., Inc.
145 W. 45th Street
New York 19, N. Y.
Tel. BRyant 9-1261

815. Atlas Trading Corporation
17 Battery Place
New York 4, N. Y.

824. Brandes, C. O.
4900 Euclid Ave.
Cleveland 3, Ohio

826. Cannon Electric Co., Ltd.
2451 Danforth Avenue
Toronto 13, Canada

840. Daalder Trading Co., Ltd.
15 Moore Street
New York 4, N. Y.

841. Dage Corporation
80 Warren Street
New York 3, N. Y.

Directory of Factory Representatives (Continued)

U. S. Export Representatives (cont'd)

847. Donat & Co., M.
1163 N. Lyman Ave.
Oak Park, Ill.
Tel. Euclid 6911

849. Dumont Labs., Inc., Allen B.
Export Division
630 Fifth Avenue
New York 20, N. Y.

850. Electrical Mfrs. Export Co.
61 Broadway
New York 6, N. Y.
Tel. DIgby 4-1833

852. Ellinwood Industries
Export Division
912 Transamerica Bldg.
Los Angeles 14, Calif.

859. Frazer & Hansen
301 Clay Street
San Francisco 11, Calif.

860. GTC International Corp.
75 West Street
New York 1, N. Y.
Tel. WHitehall 4-0226

861. Garrard Sales Corp.
Export Division
315 Broadway
New York 7, N. Y.

862. General Dry Batteries, Inc.
Export Division
521 Fifth Avenue
New York 17, N. Y.

867. Genex Corporation
663 Broadway
New York 12, N. Y.

868. Gerdau Co., Otto
82 Wall Street
New York 5, N. Y.

869 Getz Bros. & Co.
231 Sansome Street
San Francisco 4, Calif.

871. Ginsbury, Sylvan
55 W. 42nd St.
New York 18, N. Y.

881. Hancock Export Company, E.
P. O. Box 124
Rensselaer, N. Y.

885. Hexacon Electric Company
Export Department
36 Pearl Street
New York 4, N. Y.

886. Hill, John C.
308 W. Washington St.
Chicago 6, Ill.
Tel. Franklin 4704

889. ICA Export Corp.
154 Nassau Street
New York 7, N. Y.

893. Intex Company
303 West 42nd St.
New York 18, N. Y.
Tel. Circle 6-9795

894. Janik, C. L.
9 Rockefeller Plaza
New York 20, N. Y.

907. Lincoln Export Co.
36 Pearl Street
New York 4, N. Y.

911. Magnus & Associates, Inc., E. D.
188 West Randolph St.
Chicago 1, Ill.
Tel. Franklin 8785

912. Mallegg, O. O.
400 W. Madison St.
Chicago 6, Ill.
Tel. Fra. 4868

916. Minthorne Co., Leonard L.
15 Moore Street
New York 4, N. Y.
Tel. BOwling Green 9-6272

919. Morhan Exporting Corp.
458 Broadway
New York 13, N. Y.

920. Muller and Phipps (Asia) Ltd.
1 Park Avenue
New York 16, N. Y.

922. Nehls, Herbert E.
60 E. 42nd St.
New York 17, N. Y.

924. Neuert, Wilton & Associates, Inc.
32 W. Randolph Street
Chicago 1, Ill.

930. Pan-Mar Corp.
1270 Broadway
New York 1, N. Y.

930A. Pennant Products, Inc.
729 Seventh Avenue
New York 19, N. Y.

934. Pionrad International, Ltd.
107 William Street
New York 7, N. Y.

935. Plasencia, Joseph
401 Broadway
New York 13, N. Y.

939. Prior, Inc., John
44 Whitehall Street
New York 4, N. Y.

941. Radio Corporation of America
RCA International Division
745 Fifth Avenue
New York 22, N. Y.

951. Rand New York, Inc., B. R.
40 Wall Street
New York 5, N. Y.
Tel. BOwling Green 9-4628

952. Rivera, J. A.
20 E. Jackson Blvd.
Chicago 4, Ill.
Tel. Webster 7987

953. Roburn Agencies, Inc.
23 Park Place
New York 7, N. Y.
Tel. WOrth 2-0647

954. Rocke International Corp.
13 East 40th Street
New York 16, N. Y.
Tel. LExington 2-8555

956. Royal National Co.
75 West St.
New York 6, N. Y.
Tel. WHitehall 4-0226-7

958A. Scheel International
4237-39 No. Lincoln Ave.
Chicago 18, Ill.

961. Shallcross Mfg. Company
Export Department
Drexel Building
Philadelphia 2, Pa.
Tel. WAlnut 2-1045

962. Sillcox, H. A.
60 Wall Tower
New York 5, N. Y.

963. Simons & Son Co., Inc., M.
25 Warren Street
New York 7, N. Y.
Tel. BArclay 7-5513

966. Solar Manufacturing Corp.
International Division
285 Madison Avenue
New York 17, N. Y.
Tel. LExington 2-0626

973. State Export
50 Broad Street
New York 4, N. Y.

975. Stone, Carrington
205 W. Wacker Drive
Chicago 6, Ill.

976. Streuber, R.
501 Madison Ave.
New York 22, N. Y.
Tel. PLaza 3-6436

979A. Technical Export Corp.
135 Liberty Street
New York 6, N. Y.

981. Tilton, John R.
230 Herbert St.
Waterloo, Ontario
Tel. 2-1053

983. Torres, A.
1791 Howard St.
Chicago 26, Ill.
Tel. Rogers Park 8350

992. United Export Supplies
20 N. Wacker Drive
Chicago 6, Ill.

999. Webster Electric Company
Export Department
13 East 40th Street
New York 16, N. Y.

1001. Westinghouse Elec. International Co
40 Wall Street
New York 5, N. Y.
Tel. WHitehall 3-4321

1003. Williams Export Associates
37 Wall Street
New York 5, N. Y.

Branch: 643 N. Michigan Ave.
Chicago 11, Ill.

1007. Wright Company, Masten
185 Church Street
New Haven 10, Conn.
Tel. 7-5957

1008. Yaras Co.
215 W. 7th St.
Los Angeles 14, Calif.
Tel. Vandike 9717

Branch: 120 Wall St.
New York 5, N. Y.
Tel. WHitehall 3-4559

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Cunningham ELECTRON TUBES

• STANDARD SINCE 1915 •

RECEIVING TUBES

October 28, 1946

Type	Retail Price
OZ4	$2.20
OZ4G	2.20
1A3	1.80
1A4P	2.20
1A5GT	1.50
1A6	1.80
1A7GT	1.80
*1B3GT/8016	3.90
1B4P	1.80
1B5/255	1.80
1C5GT	1.80
1C6	1.80
1C7G	1.80
1D5GP	1.80
1D7G	2.20
1D8GT	2.65
1E5GP	2.20
1E7G	3.20
1F4	1.80
1F5G	1.80
1F6	2.20
1F7G	2.20
1G4GT	1.80
1G5G	1.80
1G6GT	2.20
1H4G	1.35
1H5GT	1.50
1H6G	1.80
1J5G	2.65
1J6G	1.80
1L4	2.20
1LA4	3.20
1LA6	3.20
1LB4	3.20
1LE3	1.80
1LH4	3.20
1LN5	3.20
1N5GT	1.80
1P5GT	2.20
1Q5GT	2.20
1R5	2.20
1S4	2.20
1S5	2.20
1T4	2.20
1T5GT	2.20
1U4	1.80
1V	1.35
2A3	2.65
2A5	1.35
2A6	1.35
2A7	1.50
2B7	1.80
2E5	1.80
3Q4	2.20
3Q5GT	2.20
3S4	2.20
3V4	2.20
5T4	2.65
5U4G	1.35
5V4G	2.20
5W4	1.50

Type	Retail Price
5X4G	$1.50
5Y3GT	.95
5Y4G	1.05
5Z3	1.50
5Z4	1.80
6A4/LA	2.20
6A6	2.20
6A7	1.35
6A8	1.80
6A8G	1.35
6A8GT	1.35
6AB5/6N5	2.20
6AB7/1853	2.65
6AC5GT	1.50
6AC7/1852	2.65
6AD7G	2.20
6AF6G	2.20
6AG5	3.20
6AG7	3.20
6AK6	2.20
6AL5	1.80
6AQ5	1.80
6AQ6	1.80
6AT6	1.50
6AU6	1.80
6B4G	2.65
6B5	2.65
6B6G	1.50
6B7	1.80
6B8	2.65
6B8G	1.80
6BA6	1.80
6BE6	1.80
6BF6	1.50
*6BG6G	5.45
6C4	1.50
6C5	1.50
6C5GT	1.35
6C6	1.35
6C8G	2.20
6D6	1.35
6D8G	2.20
6E5	1.50
6F5	1.50
6F5GT	1.35
6F6	1.50
6F6G	1.25
6F6GT	1.15
6F7	2.20
6F8G	1.80
6G6G	1.80
6H6	1.50
6H6GT	1.50
6J5	1.25
6J5GT	1.25
6J6	2.65
6J7	1.80
6J7G	1.50
6J7GT	1.50
6K6GT	1.35
6K7	1.50

Type	Retail Price
6K7G	$1.50
6K7GT	1.35
6K8	1.80
6K8G	1.80
6L5G	1.50
6L6	2.65
6L6G	2.65
6L7	2.20
6L7G	2.20
6N7	2.20
6N7GT	2.20
6Q7	1.80
6Q7G	1.25
6Q7GT	1.25
6R7	2.20
6R7GT	1.25
6S7	2.20
6S7G	2.20
6SA7	1.35
6SA7GT	1.50
6SB7-Y	2.65
6SC7	1.80
6SF5	1.35
6SF5GT	1.35
6SF7	1.80
6SG7	1.80
6SH7	1.80
6SJ7	1.50
6SJ7GT	1.50
6SK7	1.35
6SK7GT	1.50
6SL7GT	2.20
6SN7GT	1.80
6SQ7	1.35
6SQ7GT	1.50
6SR7	1.50
6SS7	1.35
6ST7	2.20
6SZ7	2.20
6T7G	1.80
6U5/6G5	1.80
6U7G	1.35
6V6	2.65
6V6G	1.50
6V6GT	1.50
6W7G	2.20
6X4	1.50
6X5	2.20
6X5GT	1.35
6Y6G	2.20
6Z7G	2.65
6ZY5G	1.80
7A4	1.80
7A5	1.80
7A7	1.80
7A8	1.80
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80

Type	Retail Price
7C6	$1.80
7C7	1.80
7E6	1.80
7E7	2.20
7F7	2.20
7G7/1232	2.65
7H7	2.65
7J7	2.65
7Q7	1.80
7Y4	1.80
10	3.90
12A7	2.65
12A8GT	1.35
12AH7GT	2.20
12AT6	1.50
12AU7	1.80
12BA6	1.80
12BE6	1.80
12C8	2.65
12F5GT	1.35
12H6	1.50
12J5GT	1.35
12J7GT	1.50
12K7GT	1.35
12K8	2.20
12Q7GT	1.25
12SA7	1.35
12SA7GT	1.80
12SC7	1.80
12SF5	1.50
12SF7	1.80
12SG7	1.80
12SH7	1.80
12SJ7	1.50
12SJ7GT	1.50
12SK7	1.35
12SK7GT	1.50
12SL7GT	2.20
12SN7GT	1.80
12SQ7	1.35
12SQ7GT	1.50
12SR7	1.80
12SR7GT	1.80
12Z3	1.35
14A7/12B7	2.65
15	2.65
19	1.80
24A	1.25
25A6	2.65
25L6	2.20
25L6GT	1.50
25Z5	1.35
25Z6	1.80
25Z6GT	1.35
26	1.05
27	.95
30	1.35
31	1.35
32	1.80
32L7GT	2.65
33	1.80

	Retail Price
34	$1.80
35	1.35
35A5	1.80
35L6GT	1.35
35W4	1.15
35Z3	1.80
35Z4GT	1.10
35Z5GT	1.15
36	1.35
37	1.15
38	1.50
39/44	1.35
41	1.15
42	1.15
43	1.50
45	1.10
45Z3	1.50
45Z5GT	1.50
46	1.50
47	1.50
49	1.80
50	3.20
50B5	1.80
50L6GT	1.50
50Y6GT	1.50
53	2.20
55	1.50
56	1.10
57	1.25
58	1.25
59	2.20
70L7GT	2.65
71A	1.25
75	1.15
76	1.25
77	1.25
78	1.25
79	2.20
80	.95
81	2.65
82	1.80
83	1.80
83V	2.65
84/6Z4	1.50
85	1.25
89	1.35
117L7GT/ 117M7GT	3.20
117N7GT	3.20
117P7GT	3.20
117Z3	1.80
117Z6GT	2.20

TELEVISION KINESCOPES

5TP4	67.50
7DP4	27.00
7GP4	24.25
9AP4(1)	62.50
10BP4	49.50
12AP4(1)	75.00

Note: (1)·Pre-War Type

Retail prices include Federal Excise Taxes. State and Local Taxes imposed upon the sale of tubes may be added to these prices, provided they are separately stated and collected.

TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

GL-813 Pliotron

GL-592 Pliotron

GL-7D21 Pliotron

GL-502A Midget Thyratron

FG-95 Thyratron

PLIOTRONS—GRID-CONTROLLED HIGH-VACUUM TUBES FOR USE AS MODULATORS, AMPLIFIERS, OSCILLATORS

Type No.	Price	No. of Electrodes	CATHODE		PLATE				MAX. FREQ. MC.	
			Volts	Amp.	Max. Volts	Max. Amp.	Max. Input, Watts	Max. Dissipation, Watts	@ Max. Plate Input	@ 50% Max. Plate Input
GL-2C39	$51.00	3	6.3	1.1	600	0.100	15.8	4.8	500	....
GL-2C43	10.30	3	6.3	0.9	500	0.040	16.7	6.7	3370	....
⊙GL-7D21	240.00	4	6.3	30.0	4000	1.0	3000	1200	110	....
◈GL-9C24	450.00	3	6.3	250	6500	2.0	12000	5000	220	....
GL-592	18.50	3	10	5.0	3500	0.250	600	200	110	....
GL-805	12.50	3	10	3.25	1500	0.210	315	125	30	80
GL-807	2.30	5	6.3*	0.90	600	0.100	60	25	60	125 @ 55%
					750	**0.100**	**75**	**30**		
GL-812	3.50	3	6.3	4.00	1250	0.125	155	40	60	100 @ 60%
					1500	**0.150**	**225**	**55**		
GL-813	14.50	5	10.0	5.00	2000	0.180	360	100	30	60 @ 75%
GL-814	9.00	5	10.0	3.25	1250	0.150	180	50	30	100
					1500	**0.150**	**225**	**65**		
⊙GL-833-A	45.00	3	10.0	10.0	4000	0.500	1800	400	30	75 @ 72%
					4000	**0.500**	**2000**	**450**		
◈GL-862-A**	950.00	3	33	207.0	20000	10.00	20000	100000	1.6	....
◈GL-880	440.00	3	12.6	320.0	10500	6.0	60000	20000	25	100
◈GL-889-A	190.00	3	11	125	8500	2.00	16000	5000	50	150
⊙GL-889-R-A ★	280.00	3	11	125	8500	2.00	16000	5000	25	....
◈GL-893-A★	570.00	3	10§	61.0§	20000	4.00	70000	20000	5	40
⊙GL-893A-R★	1050.00	3	10§	61.0§	20000	4.00	70000	20000	5	25
GL-8000	13.25	3	10	4.5	2250	0.275	620	150	30	100
◈GL-8002	120.00	3	16	38	3500	1.00	3000	1200	150	300
⊙GL-8002-R	137.50	3	16	38	3500	1.00	3000	1200	120	200

Figures in bold type are ICAS ratings.

*Heater-type cathode.

★Lower prices apply when new tube is purchased and radiator in good condition is returned prepaid, to Schenectady.

**Credit for return, prepaid, to Schenectady—carton $5.00; tube $10.00.

§Single-, three-, or six-phase filament. Voltage is per strand, current is per terminal.

⊙Forced-air cooled type.

◈Water-cooled type.

THYRATRONS—
GRID-CONTROLLED GASEOUS-DISCHARGE-RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		ANODE			Starting Grid Voltage
			Volts	Amp	Peak Volts	Peak Amp	Avg Amp	
GL-3C23	$11.00	3	2.5	7.0	1250	6.0	1.5	Neg
FG-17	6.50	3	2.5	5.0	5000	2.0	0.5	Neg
FG-27-A	17.50	3	5.0	4.5	1000	10.0	2.5	Neg
FG-95	19.25	4	5.0	4.5	1000	15.0	2.5	Var
			†5.5	5.0	1000	40.0	0.5	Var
FG-105	40.00	4	5.0	10.0	2500	40.0	6.4	Var
			‡5.5	11.0	750	77.0	2.5	Var
			‡5.5	10.0	10000	16.0	4.0	Var
FG-172	38.50	4	5.0	10.0	2000	40.0	6.4	Var
			‡5.5	11.0	750	77.0	2.5	Var
GL-502-A	1.80	4	6.3	0.6	1300	0.500	0.100	Neg
GL-546	1.70	4	6.3	0.15	500	0.100	0.020	Neg

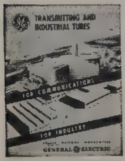
†These ratings apply only when the tube is used for ignitor firing.

‡These ratings apply only when the tube is used in thyratron welding-control service.

Prices and other data subject to change without notice.

There's a G-E Electronic Tube for Every Purpose:

- Pliotrons
- Ignitrons
- Phasitron
- Glow Tubes
- Thyratrons
- Phototubes
- Ballast Tubes
- Vacuum Capacitors
- Phanotrons
- Lighthouse Tubes
- Cathode-Ray Tubes
- Vacuum Switches
- Kenotrons



Ask for—ETX-10
For complete Prices, Descriptions and Ratings.

TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

FG-32 Phanotron

PHANOTRONS— GASEOUS OR MERCURY-VAPOR RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		ANODE		
			Volts	Amp	Peak Volts	Peak Amp	Avg Amp
FG-32	$11.00	2	5.0	4.5	1000	15	2.5
FG-104	30.00	2	5.0	10	3000	40	6.4
FG-280	35.00	2	5.0	10	2000	40	6.4
GL-866-A-/866	1.75	2	2.5	5	10000	1	0.25
GL-869-B	120.00	2	5	18	20000 15000*	15	2.5 5.0*
GL-870-A	825.00	2	5	65	16000	....	75.0
GL-872-A/872	7.50	2	5	7.5	10000	5	1.25

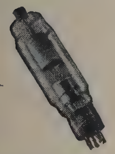
*Quadrature operation.

GL-872A/872 Phanotron

KENOTRONS—HIGH-VACUUM RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		PLATE		
			Volts	Amp	Max. Inv. Volts	Max. Amp.	Average Amp.
GL-411	$155.00	2	10	14.5	100000	0.750	....
GL-836	6.00	2	2.5*	5.0	5000	1.0	0.25
GL-1641	2.75	3	5.0	3.0	2120	0.250	....
GL-8013-A	9.00	2	2.5	5.0	40000	0.150	0.020
GL-8016	2.75	2	1.25	0.2	10000	0.0075	0.002
GL-8020	18.00	2	5.0 5.8△	6.0	40000 12500△	0.750	0.100 ....

*Heater-type cathode.
△Surge-limiting diode operation.



GL-8020 Kenotron

IGNITRONS—HIGH-PEAK CURRENT, POOL-CATHODE TUBES

Type No.	Price	Supply Volts	MAXIMUM RATINGS			
			Kva Demand	Corresponding Average Anode Current, Amps	Maximum Average Anode Current, Amps	Corresponding Kva Demand
FG-235-A*	$95.00	250–600 rms	1200	75.6	140	400
FG-238-B†#	290.00	2400 rms	2400	135	207	1105
FG-258-A*	210.00	250–600 rms	2400	192	355	800
FG-259-B†#	150.00	2400 rms	1200	75	113	600
FG-271*	65.00	250–600 rms	600	30.2	56.0	200
GL-415*	38.00	250–600 rms	300	12.1	22.4	100

*Ratings are for voltages of 600 volts rms and below. Ignitor requirements for all welding-control types are 200 volts and 30 amperes.

†Typical ignitor requirements for power-rectifier ignitrons are 75-125 volts, 15-20 amperes. Maximum requirements are 150 volts, 40 amperes.

#In addition to ratings given above for welder-control service the FG-238-B and FG-259-B may be used as power-rectifiers in the 125 to 900 d-c voltage fields (ratings will be supplied upon request).

FG-235-A Ignitron

FG-271 Ignitron

Prices and other data subject to change without notice.

Electronic
TUBES

RECEIVING TYPES

metal
glass
miniature

A receiving tube for every radio equipment need! General Electric's complete line offers you a wide selection of metal, miniature and glass types. The G-E monogram means tops in quality and performance. A few receiving types are listed below—Ask for complete prices and ratings!

Type	Price	Type	Price	Type	Price
1R5	$2.20	6K6-GT	$1.35	*12BA6*	$1.80
1S5	2.20	6K8-GT	1.80	*12BE6*	1.80
1T4	2.20	6L6-G	2.65	**12SA7**	1.35
1 U4	1.80	**6SA7**	1.35	**12SF7**	1.80
3Q4	2.20	**6SC7**	1.80	**12SG7**	1.80
3S4	2.20	**6SF7**	1.80	**12SK7**	1.35
5U4-G	1.35	**6SG7**	1.80	**12SQ7**	1.35
5Y3-GT	.95	**6SH7**	1.80	25Z5	1.35
6AL5	2.20	**6SJ7**	1.50	25L6-GT	1.50
6AT6	1.80	**6SK7**	1.35	35L6-GT	1.35
6BA6	1.80	6SL7-GT	2.20	*35W4*	1.15
6BE6	1.80	6SN7-GT	1.80	35Z5-GT	1.15
6C4	1.80	**6SQ7**	1.35	45	1.10
6F6	1.50	**6SR7**	1.50	*50B5*	1.80
6H6	1.50	6V6-GT	1.50	50L6-GT	1.50
6J5	1.25	6X5-GT	1.35	80	.95
6J7	1.80	*12AT6*	1.50	117Z6-GT	2.20

Type numbers of metal tubes are shown in bold-face type.
Type numbers of miniature tubes are shown in italics.

Prices and other data subject to change without notice.

FOR BEST PERFORMANCE ALWAYS USE

GENERAL ELECTRIC

SYMBOL
OF QUALITY
SINCE 1921

HYTRON

ORIGINATOR
OF THE FAMOUS
BANTAM GT

OLDEST MANUFACTURER
SPECIALIZING IN RADIO RECEIVING TUBES

HYTRON RECEIVING TUBE PRICE LIST

Type	List Price
0Z4G	$2.20
1A4P	2.20
1A5GT	1.50
1A6	1.80
1A7GT	1.80
1B5/25S	1.80
1C5GT	1.80
1C6	1.80
1C7G	1.80
1D5GP	1.80
1D5GT	1.80
1D7G	2.20
1D8GT	2.65
1F4	1.80
1F5G	1.80
1G4GT	1.80
1G6GT	2.20
1H4G	1.35
1H5GT	1.50
1H6G	1.80
1J6G	1.80
1N5GT	1.80
1P5GT	2.20
1Q5GT	2.20
1R5	2.20
1S4	2.20
1S5	2.20
1T4	2.20
1T5GT	2.20
1V	1.35
2A3	2.65
2A4G	3.20
2A5	1.35
2A6	1.35
2A7	1.50
3A8GT	3.20
3Q5GT	2.20
3S4	2.20
5U4G	1.35
5V4G	2.20
5W4GT	1.25
5X4G	1.50
5Y3GT	.95
5Y4G	1.05
5Z3	1.50
6A3	2.65
6A6	2.20
6A7	$1.35
6A8GT	1.35
6AC5GT	1.50
6AD7G	2.20
6AF6G	2.20
6AT6	1.50
6AU6	2.20
6B4G	2.65
6B5	2.65
6B6G	1.50
6B7	1.80
6B8G	1.80
6BA6	1.80
6BE6	1.80
6C5GT	1.35
6C6	1.35
6C8G	2.20
6D6	1.35
6D8G	2.20
6E5	1.50
6F5GT	1.35
6F6G	1.25
6F7	2.20
6F8G	1.80
6G6G	1.80
6H6GT	1.50
6J5GT	1.25
6J7GT	1.50
6J8G	2.20
6K5GT	1.50
6K6GT	1.35
6K7GT	1.35
6K8GT	1.80
6L5G	1.50
6L6GA	2.65
6L7G	2.20
6N6G	3.20
6N7GT	2.20
6P5GT	1.10
6Q7GT	1.25
6R7GT	$1.25
6S7G	2.20
6SA7GT	1.50
6SD7GT	1.80
6SF5GT	1.35
6SJ7GT	1.50
6SK7GT	1.50
6SL7GT	2.20
6SN7GT	1.80
6SQ7GT	1.50
6T7G	1.80
6U5/6G5	1.80
6U7G	1.35
6V6GT	1.50
6X5GT	1.35
6Y6G	2.20
6ZY5G	1.80
10	3.90
12A7	2.65
12A8GT	1.35
12AT6	1.50
12BA6	1.80
12BE6	1.80
12J5GT	1.35
12J7GT	1.50
12K7GT	1.35
12Q7GT	1.25
12SA7GT	1.80
12SF5GT	1.50
12SJ7GT	1.50
12SK7GT	1.50
12SL7GT	2.20
12SN7GT	1.80
12SQ7GT	1.50
12Z3	1.35
19	1.80
24A	1.25
25L6GT	1.50
25Y5	3.20
25Z5	$1.35
25Z6GT	1.35
26	1.05
27	.95
30	1.35
32	1.80
32L7GT	2.65
33	1.80
34	1.80
35/51	1.35
35L6GT	1.35
35W4	1.15
35Z4GT	1.10
35Z5GT	1.15
36	1.35
37	1.15
38	1.50
39/44	1.35
41	1.15
42	1.15
43	1.50
45	1.10
45Z5GT	1.50
46	1.50
47	1.50
50	3.20
50B5	1.80
50L6GT	1.50
50Y6GT	1.50
53	2.20
56	1.10
57	1.25
58	1.25
70L7GT	2.65
71A	1.25
75	1.15
76	1.25
77	1.25
78	1.25
80	.95
81	2.65
82	1.80
83	1.80
84/6Z4	1.50
85	1.25
117L/M7GT	3.20
117N7GT	3.20
117P7GT	3.20
117Z6GT	2.20

Typical Exact Replacement Hytron Ballast Resistors*

Type	List Price
K42B	$1.00
K42C	1.00
K49A	1.00
K49B	1.00
K49C	1.00
K49D	1.00
K55B	1.00
K55C	1.00
K80B	$1.00
L42B	1.00
L42C	1.00
L42D	1.00
L49B	1.00
L49C	1.00
L49D	1.00
L55B	1.00
L55C	$1.00
PB57	1.00
10-610	1.00
100-37	1.00
100-70	1.00
100-77	1.00
100-79	1.00
5459	1.00

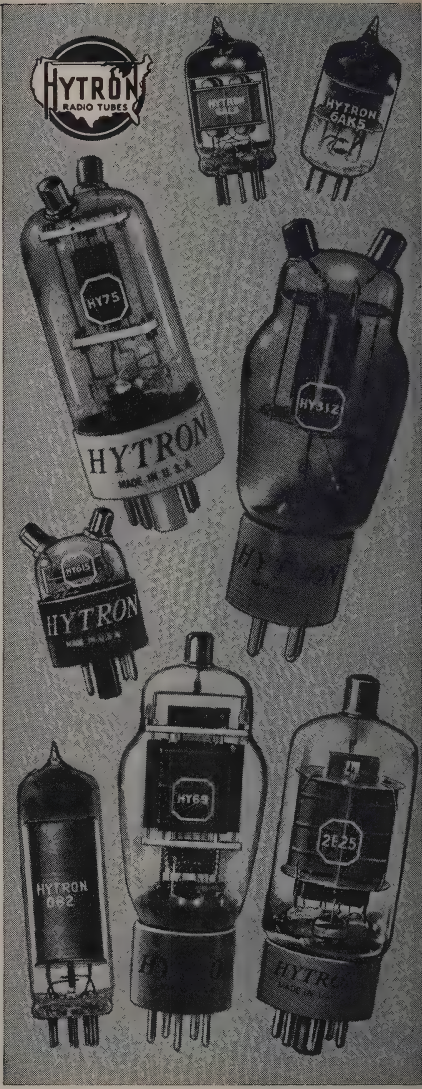
* These are the most popular ballast types. Other standard types are available.

See reverse side for data on Hytron transmitting and special purpose tubes.

HYTRON RADIO & ELECTRONICS CORP., SALEM, MASS.

HYTRON TRANSMITTING AND SPECIAL PURPOSE TUBES

If your new equipment designs include vhf, instant-heating, miniature, or medium-power tubes, these abbreviated characteristics will interest you. More complete data are yours for the asking in the new Hytron catalogue. Write for it today.



Hytron Transmitting and Special Purpose Tubes

Continuous Commercial Service Ratings

Description	Type No.	Filament Ratings Volts	Amps	Type	Max Plate Volts	Max Plate Ma	Max Plate Dis	Net Price
LOW AND MEDIUM MU TRIODES	3A5	1.4 2.8	0.22 0.11	Oxide	150	30*	2*	$1.50
	10Y	7.5	1.25	Thor	450	65	15	1.60
	HY24	2	0.13	Oxide	180	20	2	1.50
	801A/801	7.5	1.25	Thor	600	70	20	3.00
	841	7.5	1.25	Thor	450	60	15	3.80
	864	1.1	0.25	Oxide	135	5	—	1.20
	1626	12.6	0.25	Cath	250	25	5	1.60
HIGH-MU TRIODES	HY31Z	6	2.55	Thor	500	150*	30*	3.95
	HY1231Z	6 12	3.2 1.6	Thor	500	150*	30*	4.50
	5514	7.5	3	Thor	1500	175	65	3.95
VHF TRIODES	2C26A	6.3	1.15	Cath	3500	NOTE	10	7.75
	HY75	6.3	2.6	Thor	450	80	15	3.95
	HY114B	1.4	0.155	Oxide	180	12	1.8	2.25
	HY615	6.3	0.175	Cath	300	20	3.5	2.25
	955	6.3	0.15	Cath	200	8	1.8	3.10
	E1148	6.3	0.175	Cath	300	20	3.5	2.25
	9002	6.3	0.15	Cath	200	8	1.8	2.15
BEAM TETRODES AND PENTODES	2E25#	6	0.8	Thor	450	75	15	3.95
	2E30	6	0.65	Oxide	250	60	10	2.25
	3D21A	6.3	1.7	Cath	3500	NOTE	15	7.50
	HY69	6	1.6	Thor	600	100	30	3.95
	807	6.3	0.9	Cath	600	120	25	2.30
	837	12.6	0.7	Cath	500	80	12	4.15
	HY1269	6 12	3.2 1.6	Thor	750	120	30	4.50
	1625	12.6	0.45	Cath	600	120	25	2.30
ACORNS AND MINIATURES	6AK5	6.3	0.175	Cath	Sharp cutoff pentode			**3.25
	6AL5	6.3	0.3	Cath	Full-wave det., f-m discrim.			**2.20
	954	6.3	0.15	Cath	Sharp cutoff pentode			4.90
	9001	6.3	0.15	Cath	Sharp cutoff pentode			2.70

Description	Type No.	Filament Ratings Volts	Amps	Type Rect	Peak Plate Ma	Max D-C Ma†	Inv Peak Pot.	Net Price
RECTIFIERS	816	2.5	2.0	Mer	500	250	5000	$1.25
	866A/866	2.5	5.0	Mer	1000	500	10000	1.75
	1616	2.5	5.0	Vac	800	260	6000	7.50

Description	Type No.	Average Operating Voltage	Operating Ma Min	Operating Ma Max	Av Volts Reg	Min Starting Voltage	Net Price
GASEOUS VOLTAGE REGULATORS	0A2	150	5	30	2	185	$2.30
	0B2	108	5	30	1	133	2.30
	0C3/VR105	108	5	40	2	133	1.20
	0D3/VR150	150	5	40	3.5	185	1.20

*Both sections of twin triode. NOTE: Not recommended for c-w. Consult Hytron Commercial Engineering Dept. for data. #2E25 supersedes and replaces HY65. †Current for full wave.

**This is a receiving tube list price.

See reverse side for data on Hytron receiving tubes.

HYTRON

RADIO AND ELECTRONICS CORP.

76 LAFAYETTE ST., SALEM, MASSACHUSETTS

KEN-RAD

RADIO TUBES

metal - glass - miniature

ALL TYPES AND RATINGS

Ken-Rad's complete line of tubes is widely known and highly regarded by service men and owners of radio sets. Top quality means outstanding performance and long life. With Ken-Rad tubes your radio plays better! . . . Some of the many popular types in the Ken-Rad line are listed below: Ask for complete prices and ratings!

Type	**Price**	Type	**Price**	Type	**Price**
1R5	$2.20	6K6-GT	$1.35	*12BA6*	$1.80
1S5	2.20	6K8-GT	1.80	*12BE6*	1.80
1T4	2.20	6L6-G	2.65	**12SA7**	1.35
1U4	1.80	**6SA7**	1.35	**12SF7**	1.80
3Q4	2.20	**6SC7**	1.80	**12SG7**	1.80
3S4	2.20	**6SF7**	1.80	**12SK7**	1.35
5U4-G	1.35	**6SG7**	1.80	**12SQ7**	1.35
5Y3-GT	.95	**6SH7**	1.80	25Z5	1.35
6AL5	2.20	**6SJ7**	1.50	25L6-GT	1.50
6AT6	1.80	**6SK7**	1.35	35L6-GT	1.35
6BA6	1.80	6SL7-GT	2.20	*35W4*	1.15
6BE6	1.80	6SN7-GT	1.80	35Z5-GT	1.15
6C4	1.80	**6SQ7**	1.35	45	1.10
6F6	1.50	**6SR7**	1.50	*50B5*	1.80
6H6	1.50	6V6-GT	1.50	50L6-GT	1.50
6J5	1.25	6X5-GT	1.35	80	.95
6J7	1.80	*12AT6*	1.50	117Z6-GT	2.20

Prices and other data subject to change without notice.

Type numbers of metal tubes are shown in bold-face type.
Type numbers of miniature tubes are shown in italics.

**"PRECISION MADE
FOR
FINER TONE"**

KEN-RAD
DEPENDABLE
RADIO TUBE
KEN RAD
KEN-RAD

**THIS TUBE CARTON
STANDS FOR
QUALITY**

KEN-RAD TUBES ARE A PRODUCT OF GENERAL ELECTRIC COMPANY

NATIONAL UNION

RECEIVING TUBES

Effective Feb. 1, 1947

Type	Retail Price
00A	$3.20
01A	1.25
0A4G	2.65
0Z4	2.20
0Z4G	2.20
1A3	1.80
1A4P	2.20
1A5G	2.20
1A5GT	1.50
1A6	1.80
1A7G	2.20
1A7GT	1.80
1B4P	1.80
1B5/25S	1.80
1B7GT	1.80
1C5G	2.20
1C5GT	1.80
1C6	1.80
1C7G	1.80
1D5GP	1.80
1D5GT	1.80
1D7G	2.20
1D8GT	2.65
1E4G	1.80
1E5GP	2.20
1E7G	3.20
1F4	1.80
1F5G	1.80
1F6	2.20
1F7GH	2.20
1G4G	1.80
1G4GT	1.80
1G5G	1.80
1G6G	2.20
1G6GT	2.20
1H4G	1.35
1H5G	1.80
1H5GT	1.50
1H6G	1.80
1J5G	2.65
1J6G	1.80
1L4	2.20
1LA4	3.20
1LA6	3.20
1LB4	3.20
1LH4	3.20
1LN5	3.20
1N5G	2.20
1N5GT	1.30
1N6G	1.80
1P5GT	2.20
1Q5GT	2.20
1R5	2.20
1S4	2.20
1S5	2.20
1T4	2.20
1T5GT	2.20
IV	1.35
2A3	2.65
2A4G	3.20
2A5	1.35
2A6	1.35
2A7	1.50
2B7	1.80
2E5	1.80
3A8GT	3.20
3Q4	2.20
3Q5GT	2.20
3S4	2.20
5T4	2.65
5U4G	1.35
5V4G	2.20
5W4	1.50
5W4GT	1.25
5X4G	1.50
5Y3G	.95
5Y3GT/G	.95
5Y4G	1.05

Type	Retail Price
5Z3	$1.50
5Z4	1.80
6A3	2.65
6A4/LA	2.20
6A5G	3.90
6A6	2.20
6A7	1.35
6A8	1.80
6A8G	1.35
6A8GT	1.35
6AB5/6N5	2.20
6AB7/1853	2.65
6AC5G	1.80
6AC5GT	1.50
6AC7/1852	3.20
6AD6G	2.20
6AD7G	2.20
6AE5GT	1.80
6AE6G	1.80
6AE7GT	1.80
6AF6G	2.20
6AG5	3.20
6AG7	3.20
6AT6	1.80
6AU6	2.20
6B4G	2.65
6B5	2.65
6B6G	1.50
6B7	1.80
6B7S	3.20
6BA6	2.20
6PE6	2.20
6B8	2.65
6B8G	1.80
6C5	1.50
6C5G	1.35
6C5GT	1.35
6C6	1.35
6C8G	2.20
6D6	1.35
6D8G	2.20
6E5	1.50
6E6	2.65
6F5	1.50
6F5G	1.50
6F5GT	1.35
6F6	1.50
6F6G	1.25
6F6GT/G/	1.15
6F7	2.20
6F8G	1.80
6G6G	1.80
6H4GT	2.65
6H6	1.50
6H6G	1.50
6H6GT	1.50
6J5	1.25
6J5G	1.35
6J5GT	1.25
6J7	1.80
6J7G	1.50
6J7GT	1.50
6J8G	2.20
6K5G	1.50
6K6G	1.50
6K6GT	1.35
6K7	1.50
6K7G	1.50
6K7GT	1.35
6K8	1.80
6K8G	1.80
6K8GT	1.80
6L5G	1.50
6L6	2.65
6L6G	2.65
6L7	2.20
6L7G	2.20
6N5	2.20

Type	Retail Price
6N6G	$3.20
6N7	2.20
6N7G	2.20
6N7GT/G	2.20
6P5G	1.15
6P5GT	1.10
6P7G	3.20
6Q7	1.80
6Q7G	1.25
6Q7GT	1.25
6R7	2.20
6R7G	1.50
6R7GT	1.25
6S7	2.20
6S7G	2.20
6SA7	1.35
6SA7GT	1.50
6SB7-Y	2.65
6SC7	1.80
6SD7GT	1.80
6SF5	1.35
6SF5GT	1.35
6SF7	1.80
6SG7	1.80
6SH7	1.80
6SH7GH	1.80
6SJ7	1.50
6SJ7GT	1.50
6SK7	1.35
6SK7GT	1.50
6SL7GT	2.20
6SN7GT	1.80
6SQ7	1.35
6SQ7GT	1.50
6SR7	1.50
6SS7	1.35
6ST7	2.20
6SZ7	2.20
6T7G	1.80
6U5/6G5	1.80
6U6GT	1.80
6U7G	1.35
6V6	2.65
6V6G	1.80
6V6GT	1.50
6V7	3.20
6V7G	1.80
6W5G	2.65
6W7G	2.20
6X5	2.20
6X5G	1.50
6X5GT	1.35
6Y6G	2.20
6Y7G	2.20
6Z7G	2.65
6ZY5G	1.80
7A4	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80
7C6	1.80
7C7	1.80
7E6	1.80
7E7	2.20
7F7	2.20
7G7/1232	2.65
7H7	2.65
7J7	2.65
7K7	2.65
7L7	2.65
7N7	2.65

Type	Retail Price
7Q7	$1.80
7R7	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A	1.35
12A5	3.20
12A6GT	2.65
12A7	2.65
12AH7GT	2.20
12A8GT	1.35
12AT6	1.50
12B8GT	2.20
12BA6	1.80
12BE6	1.20
12C8	2.65
12F5GT	1.35
12H6	1.50
12J5GT	1.35
12J7GT	1.50
12K7GT	1.35
12K8	2.20
12K8GT	1.80
12Q7GT	1.25
12SA7	1.35
12SA7GT	1.80
12SC7	1.80
12SF5	1.50
12SF5GT	1.50
12SF7	1.80
12SG7	1.80
12SH7	1.80
12SH7GT	1.80
12SJ7	1.50
12SJ7GT	1.50
12SK7	1.35
12SK7GT	1.50
12SL7GT	2.20
12SN7GT	1.80
12SQ7	1.35
12SQ7GT	1.50
12SR7	1.80
12SR7GT	1.80
12Z3	1.35
14A4	2.65
14A5	3.90
14A7/12B7	2.65
14B6	2.20
14B8	2.65
14E6	1.80
14H7	2.65
14J7	2.65
14Q7	2.20
14R7	2.20
15	2.65
18	2.65
19	1.80
20	3.90
22	3.20
24A	1.25
25A6	2.65
25A6G	1.50
25A6GT	1.50
25A7G	2.20
25A7GT	2.20
25AC5GT	2.20
25AC5G	2.20
25B6G	2.65
25B6GT	2.65
25C6G	2.65
25L6	2.20
25L6G	1.80
25L6GT	1.50
25Y5	3.20
25Z5	1.35
25Z6	1.80
25Z6G	1.35
25Z6GT	1.35

Type	Retail Price
26	$1.05
27	.95
30	1.35
31	1.35
32	1.80
32L7GT	2.65
33	1.80
34	1.80
35	1.35
35A5	1.80
35L6GT	1.35
35W4	1.15
35Y4	2.20
35Z3	1.80
35Z4GT	1.10
35Z5GT	1.15
35Z6G	1.80
36	1.35
37	1.15
38	1.50
39/44	1.35
40	2.20
41	1.15
42	1.15
43	1.50
45	1.10
45Z3	1.50
45Z5GT	1.50
46	1.50
47	1.50
48	3.90
49	1.80
50	3.20
50A5	2.65
50B5	1.80
50C6G	2.65
50L6GT	1.50
50Y6GT	1.50
50Z7G	1.80
52	3.90
53	2.20
55	1.50
56	1.10
57	1.25
58	1.25
59	2.20
70A7GT	3.20
70L7GT	2.65
71A	1.25
75	1.15
76	1.25
77	1.25
78	1.25
79	2.20
80	.95
81	2.65
82	1.80
83	1.80
83V	2.65
84/6Z4	1.50
85	1.25
89	1.35
V99	3.90
X99	3.90
117L7GT	3.20
117NGT	3.20
117P7GT	3.20
117Z3	2.20
117Z6GT	2.20
485	2.65
950	2.65
XXD....	2.20
XXL	2.20
VR90-30	3.20
VR105-30	3.20
VR150-30	3.20
Majestic	3.20

PRICES AND TYPES SUBJECT TO CHANGE AND/OR WITHDRAWAL WITHOUT NOTICE.

NATIONAL UNION RADIO CORP. - - - - NEWARK 2, NEW JERSEY

NATIONAL UNION

TRANSMITTING TUBES

Precise engineering techniques and rigid quality control under skillful technical supervision make National Union Transmitting and Special Purpose Tubes the "preferred" tubes for replacement and initial equipment service.

"War-born know-how" through National Union Research continues to assure the reputation that National Union Tubes enjoy for long life, economy and reliability.

NU-3C36

NU-3C37

*Ionization Gauge

TYPE	FUNCTION
0A3/VR75	Diode Voltage Regulator
0C3/VR105	Diode Voltage Regulator
0D3/VR150	Diode Voltage Regulator
2C22	U.H.F. Amp. Triode
2C26A	U.H.F. Triode
2C34/RK34	Twin Triode Power Amp.
2C45	Power Amp. Triode
2C53	Very High Mu Triode Amp.
2D21	Thyratron-Gas
3B24	Diode Vacuum Rectifier
3B25	H.W. Gas Rectifier
3B27	H.W. H.V. Rectifier
3C37	Micro Wave Coaxial Triode
3D22	Thyratron-Tetrode
3E29	U.H.F. Beam Power Amp.
4B26/2000	H.W. Gas Rectifier
4C27/CV92	U.H.F. Power Amp.-Triode
4E27/8001	H.F. Beam Pentode
10Y	Trans. & Rec. Triode Amp. Osc.
17	Thyratron Triode
24G	H.F. Triode
40T	Med. Mu Triode
40TZ	High Mu Triode
51A	Med. Mu Triode
51Z	High Mu Triode
60	Med. Mu Triode
65	Beam Power Amp.
69	Beam Power Amp.
75H	Low Mu Triode
89Y	Receiving Pentode Amp.
100TH	High Mu Triode
114B	U.H.F. Amp. Triode
200	Power Amp. Triode
203A	Power Amp.-Osc. Triode
211	Power Amp.-Osc. Triode
217A	H.W.-H.V. Rectifier
217C	H.W.-H.V. Rectifier
249C	H.W.-M.V. Rectifier
300	Power Amp. Triode
307A	Power Amp. Pentode
316A	U.H.F. Amp. Osc. Triode
327A	U.H.F. Triode
350A	Beam Power Amp.
350B	Beam Power Amp.
371B	H.W.-H.V. Rectifier
400	Pow. Amp. Osc.-Class B Mod.
446A	U.H.F. Triode Amp.
468	Therapy Type H.F. Triode Osc.
575A	H.W.-M.V. Rectifier
576	H.W.-M.V. Rectifier
615	U.H.F. Power Amp.-Triode
705A	H.W.-H.V. Rectifier
715B	Pulse Mod. Tetrode
724B	Gas Switching Tube
726B	U.H.F. Osc. Velocity Vari.
800	Power Amp.-Osc. Triode
801/801A	Power Amp. Triode
802	Power Amp. Pentode
803	Power Amp. Pentode
804	Power Amp. Pentode
805	Power Amp. Osc. Triode
806	Power Amp. Triode
807	Beam Power Amp.
808	Power Amp. Osc. Triode
809	Power Amp. Mod.-Triode
810	Power Amp. Mod. Triode
811	High Mu Triode
812	Low Mu Triode
812H	R.F. Amp. Osc. Mod. Triode
813	Beam Power Amp.
814	Beam Power Amp.
815	U.H.F. Beam Power Amp.
816	H.W. Mercury Vap. Rect.
826	U.H.F. Med Mu Triode
828	Beam Power Amp.
829B	U.H.F. Beam Power Amp.
830B	Power Amp. Triode
832	U.H.F. Beam Power Amp.
832A	U.H.F. Beam Power Amp.
833A	Power Amp. Triode
834	U.H.F. Power Amp. Triode
835	Power Amp. Triode
836	H.W.-H.V. Rectifier
837	Power Amp. Pentode
838	Power Amp. Triode
841	Power Amp. Triode
842	A.F. Power Amp. Triode
843	Power Amp. Triode
845	A.F. Power Amp. Triode
850	Power Amp. Tetrode
852	Power Amp. Triode
860	Power Amp. Tetrode
861	Trans. Tetrode Amp.
865	Power Amp. Tetrode
866/866A	H.W.-M.V. Rectifier
866Jr	H.W.-M.V. Rectifier
872A	H.W.-M.V. Rectifier
873	H.W.-M.V. Rectifier
878	Half-Wave—High Vac. Rect.
884	Thyratron Triode
885	Grid Control Gas Rect.
931	Phototube
955	Acorn Triode
991	Neon Volt. Reg.
1616	H.W.-H.V. Rectifier
1623	Power Amp. Triode
1624	Beam Power Amp.
1625	Beam Power Amp.
1626	Low Mu Triode
2000	H.W. Gas Rectifier
2050	Grid Controlled Gas Rect.
2051	Grid Control Gas Rect.
7193	U.H.F. Amp. Triode
8000	Low Mu Power Amp. Triode
8001	H.F. Beam Pentode
8003	Power Amp. Triode
8005	Power Amp. Triode
8008	H.W.-M.V. Rectifier
8011/VT90	U.H.F. Power Amp. Triode
8012	U.H.F. Power Amp. Triode
8020	H.W.-H.V. Rect.
8025	U.H.F. Power Amp. Triode
E1148	U.H.F. Osc. Triode
CV92	U.H.F. Power Amp.-Triode
RK34	Twin Triode Power Amp.
VT90	U.H.F. Power Amp. Triode
FG67	Grid Contr. Gas Rect.
R1038	Ionization Gauge

***N. U. IONIZATION GAUGE** measures degree of vacuum over range of pressures from 10^{-3} mms. of mercury to below 1×10^{-8} mms.

Filament Voltage............3 Volts†

Filament Current........2 Amperes

†The filament voltage should be adjusted to give an Electron Collector Current of 20 Milliamperes.

Ion Collector Voltage....Negative 13 V.

Shield Potential..............Negative 13 V.

Electron Collector Voltage..........200 V.

Electron Collector Current........20 Ma.

- Sensitivity—Ten times the ion current in amperes equals the pressure in mms. of mercury.

It is possible to expose the hot filament of this gauge to air at atmospheric pressure and later have it function efficiently under vacuum conditions.

NATIONAL UNION

PHOTOTUBES
VIBRATORS

N. U. PHOTOTUBES

41—"In-demand" types. Wide DIRECT REPLACEMENT coverage in motion picture, relay and industrial photoelectric equipment.

Gas-filled or Vacuum Types • Cartridge • Standard and Special Red Sensitive • Blue Sensitive.

PRICES

N. U. Type	Class	List† Price	N. U. Type	Class	List† Price	N. U. Type	Class	List† Price	N. U. Type	Class	List† Price
NU-1	C	$4.10	NU-10	C	$35.00	NU-25V	C	$5.00	NU-55	C	$5.00
	D	2.60		D	25.00		D	3.00		D	2.25
NU-1V	C	3.50	NU-11V	C	5.00	NU-26	C	5.50	NU-56	Prices on request	
	D	2.60		D	3.00		D	3.30	NU-57	Prices on request	
NU-2	C	5.50	NU-13V	C	5.00	NU-29	Q	8.00	NU-58	Q	6.00
	D	3.30		D	3.00		R	1.75		R	4.00
NU-2V	C	5.50	NU-15	C	30.00	NU-30	C	2.60	NU-59	Q	8.00
	D	3.30		D	22.00		D	1.50		R	3.00
NU-3	C	5.50	NU-18	C	12.00	NU-30V	C	2.80	NU-60	Q	6.00
	D	3.30		D	7.00		D	1.85		R	4.00
NU-4	C	5.50	NU-21	C	5.60	NU-31V	C	5.00	NU-61	Q	8.00
	D	3.30		D	3.25		D	3.00		R	4.50
NU-4V	C	5.50	NU-22	C	4.00	NU-34	Q	8.00	NU-64	Q	8.00
	D	3.30		D	2.40		R	3.00		R	3.00
NU-5	C	6.00	NU-23	C	2.90	NU-36	C	4.20	NU-74	Q	8.00
	D	3.50		D	1.75		D	2.50		R	4.50
NU-7	C	5.50	NU-20	Replace with NU-25		NU-41	Cartridge Type	1.75	NU-91	Q	8.00
	D	3.30	NU-25	C	4.20	NU-42	Cartridge Type	1.80		R	2.50
NU-8	C	5.50		D	2.50	NU-54	C	5.00			
	D	3.30					D	2.50			

†Effective Dec. 1, 1946.

ORDERING: When ordering, indicate SENSITIVITY desired by adding the Class to the type number, as for NU-1, Class C, order NU-1-C, etc. Class C type will be shipped unless otherwise specified on the order.

Tubes available on Special Order with Sensitivities greater than that of Class C and D tubes—write for prices.

Phototubes available WITHOUT BASE upon special request.

INTERCHANGEABILITY CHART

To Replace	Use	To Replace	Use	To Replace	Use	To Replace	Use	To Replace	Use	To Replace	Use
1P37	NU-91	G7	NU-7	NU-20	NU-25	CE-42	NU-42	CE-64	NU-64	868	NU-1
1P41	NU-22	CE-8	NU-8	CE-21	NU-21	51A	NU-25	71A	NU-2	917	NU-11V
CE-1	NU-1	G9	NU-1	CE-22	NU-22	53ABB	NU-5	71AV	NU-2V	918	NU-1
CE-1V	NU-1V	V9	NU-2	PJ22	NU-1V	CE-54	NU-54	CE-74	NU-74	919	NU-13V or NU-31V
CE-2	NU-2	CE-10	NU-10	CE-23	NU-23	CE-55	NU-55	75A	NU-7		
CE-2V	NU-2V	G10	NU-3	PJ-23	NU-1	CE-56	NU-56	79A	NU-3		
CE-3	NU-3	CE-11V	NU-11V	CE-25	NU-25	CE-57	NU-57	CE91	NU-91	920	NU-21
WE-3A	NU-3	G12	NU-4	CE-25V	NU-25V	58A	NU-4	441	NU-61	921	NU-41
4GC	NU-2	CE-13V	NU-13V	CE-26	NU-26	58AL	NU-4	WL728	NU-3	922	NU-42
4G3A	NU-3	G14	NU-21	CE-29	NU-29	58AV	NU-4V	WL734	NU-1V	923	NU-23
CE-4	NU-4	CE-15	NU-15	CE-30	NU-30	CE-58	NU-58	WL735	NU-1	924	NU-22
CE-4V	NU-4V	G-15F	NU-25	CE-30V	NU-30V	CE-59	NU-59	WL737	NU-2	925	NU-30V
CE-4 Spec	NU-8	G16B	NU-5	CE-31V	NU-31V	59A	NU-1	WL738	NU-3	927	NU-25
CE-5	NU-5	G17F	NU-22	CE-34	NU-34	59AV	NU-1V	WL739	NU-5	929	NU-29
G4	NU-5	CE-18	NU-18	CE-36	NU-36	CE-60	NU-60	WL741	NU-23	930	NU-30
WE6A	NU-26	G18T	NU-21	CE-41	NU-41	CE-61	NU-61	803A	NU-3	934	NU-34
CE-7	NU-7	CE-20	NU-25								

N. U. UNIVIBES
Auto Radio Vibrators

Standardized Stock • Minimum Inventory • Maximum Profit

Only 8 N.U. Univibes needed to replace types used in over 2500 Radio Set Models . . . covering 182 Brand Names.

Only 8 N.U. Univibes needed to replace 290 types of competitive brand* Vibrators.

N.U. Type	List†	Suggested Inventory Stock Ratio	6 Volt 115 Cycle	Overall Length	Seated Height	Diameter (Max.)	Pin Length	Basing Fig.
400	$4.10	23%	Non-Sync.	3	2 7/16	1 5/16	9/16	D
402	4.10	13%	Non-Sync.	3 3/16	2 ⅞	1 ½	⅜	B
404	4.10	23%	Non-Sync.	3 11/16	3 ¼	1 ½	9/16	D
406	3.45	16%	Non-Sync.	3 7/16	2 ⅞	1 ½	9/16	D
408	4.10	4%	Non-Sync.	3 11/16	3 ⅛	1 ½	9/16	A
500	6.90	10%	Sync.	4 ¾	4 3/16	1 15/16	9/16	F
600	6.90	7%	Sync.	3 ⅝	3 ⅛	1 ½	9/16	C
602	6.90	4%	Sync.	3 ¾	3 ⅛	1 ½	9/16	E

†Effective 9-25-46—but subject to change without notice.

*INCLUDING—A. T. R. • Electronic Labs • James • Mallory • Oak • Philco • R. C. A. • Radiart • Utah.

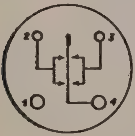


FIG. A

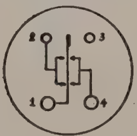


FIG. B

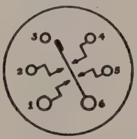


FIG. C

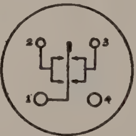


FIG. D

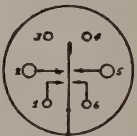


FIG E

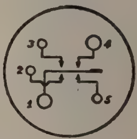


FIG. F

DETAIL SUBSTITUTION CHART AVAILABLE AT N.U. DISTRIBUTORS

NATIONAL UNION RADIO CORP. - - - - NEWARK 2, NEW JERSEY

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

NATIONAL UNION

REPLACEMENT PARTS

BATTERIES

Engineered to TOP QUALITY Standards • Complete Replacement coverage for the Service Engineer • 26 N. U. types replace 403 competitive types in 21 makes.

"A"-"B" BATTERY PACKS

NU Cat. No.	Voltage	Physical Specs. in Inches: Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
N801	1½–90	16 1/16	4 7/16	6 11/16	1	21½	$7.50 *7.80
N803	1½–90	12 1/16	1 9/16	6 7/16	6	38½	5.00
N804	6–90	9	2½	4⅜	6	33½	5.00
N805	1½–90	10¾	2 11/16	6 5/16	4	37½	5.35 *5.60
N807	9–90	16 1/16	4 7/16	6 11/16	1	23½	7.50 *7.80

FARM "A" BATTERIES

NU Cat. No.	Voltage	Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
A832	1½	7 13/16	2 13/16	6 11/16	4	32½	2.95 *3.25
A840	3	10 11/16	4 1/16	6 13/16	1	17	4.73 *5.15

STANDARD "B" BATTERIES

NU Cat. No.	Voltage	Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
B850	45	7 15/16	3⅛	7 1/16	6	45	2.50 *2.65
B851	45	7 15/16	4¼	7 1/16	6	68	2.95 *3.14
C880	22½	4 3/16	2 9/16	2 15/16	10	15	1.70

STANDARD "C" BATTERIES

NU Cat. No.	Voltage	Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
C870	4½	3 15/16	15/16	2 15/16	10	8	.75
C872	7½	4⅛	15/16	3 5/16	10	7	.90
C880	22½	4 3/16	2 9/16	2 15/16	10	15	1.70

*These Prices Apply to West Coast.
Prices subject to change without notice.

PORTABLE "A" BATTERIES

NU Cat. No.	Voltage	Physical Specs. in Inches: Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
A830	1½	2⅝	2⅝	4	6	8½	$.90
A830L	1½	3⅞	1 5/16	6 5/16	6	11½	.75
A831	1½	3⅞	2⅝	4 1/16	6	14	1.25
A835	4½	3 15/16	1 7/16	4¾	6	8	.75
A837	6	2⅝	2⅝	4 3/16	6	8½	.90
A839	7½	3⅝	2¾	4 7/16	4	9	1.25
"D" (HEAVY DUTY)	1½	....	Dia. 1⅜	2½	240	56	.10
AA (PEN-LIGHT)	1½	....	Dia. 37/64	1 61/64	180	8	.075

PORTABLE "B" BATTERIES

NU Cat. No.	Voltage	Length, Max.	Width, Max.	Height, Max.	Std. Pkg., Quan.	Std. Pkg., Wt. (Lbs.)	Prices Each, List
B860	45	4 3/16	2½	5⅛	6	17½	$2.00
B861	45	4⅜	1½	5⅝	6	11	2.00
B862	45	3 9/16	1 11/16	5⅜	6	22	1.62
B863	45	3½	2¼	4 7/16	6	11	2.00
B864	45	3	2 5/16	4 1/16	10	13½	2.58
B865	67½	2⅝	1⅜	3⅝	6	5½	2.43

Complete interchangeability—with 21 competitive makes. An NU Battery for every "demand-type" replacement. See NU Cross Index.

VOLUME CONTROLS • "SAV-A-SHAFT"

NO stock problem
NO replacement headaches
All MIDGET size

$1.50 list complete with switch

INDIVIDUAL CARTON PACKED

10 TYPES HANDLE 95% OF YOUR SERVICE WORK

CAT. NO.	RES.-OHMS	APPLICATION
NU 5M-A	5,000	Voltage Divider Potentiometer
NU 10M-B	10,000	Antenna Grid Bias
NU 25M-A	25,000	Voltage Divider Potentiometer
NU 50M-B	50,000	Audio Grid—Tone—Antenna Control
NU 100M-B	100,000	Antenna Control—Audio Grid—Tone
NU 250M-TX	250,000	Tone Compensation—Audio Grid
NU 500M-TX	500,000	Tone Compensation—Audio Grid
NU 1 MEG-TX	1 MEG	Tone Compensation—Audio Grid
NU 2 MEG-TX	2 MEG	Tone Compensation—Audio Grid
NU 500M-CB	500,000	Special Tone Control—Audio Grid

SPECIFICATIONS: Max. Diameter (not including terminals) 1 1/16" approx.—Max. Length (not including terminals) 1 9/16" approx.

NOTES: Each Control is supplied WITH SWITCH. TAPPED Controls indicated by letter "T" in Catalog Number. Special TONE Control indicated by letter "C" in Cat. No.

UNIBALLASTS •

The National Union UNIBALLAST is a metal shell plug-in type LINE VOLTAGE DROPPING RESISTOR designed to supply Filament and Pilot Light voltages to Radio Sets operating from A.C. or D.C. 117 (Mean) Volt Power Supply Lines. The Voltage Dropping Range is indicated on every Uniballast.

ONLY TEN UNIBALLASTS are required to provide adequate replacements for over 875 types of ordinary ballasts.

ALL TYPES $1.25 LIST, EA., INDIVIDUAL CARTON PACKED.

Use N.U. Uniballast	To Replace Ballasts with Prefix	Having Voltage Drop Range From	And Suffix
10-23-1	BK,BL,K,L,M	10 to 23	A,B,C,D
10-23-2	BK,BL,K,L,M	10 to 23	E
10-23-3	BK.BL,K,L,M	10 to 23	F,G,H
23-55-1	BK,BL,K,L,M	23 to 55	A,B,C,D
23-55-2	BK,BL,K,L,M	23 to 55	E
23-55-3	BK,BL,K,L,M	23 to 55	F,G,H
60-92-1	BK,BL,K,L,M	60 to 92	A,B,C,D
60-92-2	BK,BL,K,L,M	60 to 92	E
60-92-3	BK.BL,K,L,M	60 to 92	F,G,H
92-105-1	BK,BL,K,L,M	92 to 105	A,B,C,D

PHYSICAL SPECIFICATIONS

Envelope ....Metal Shell (MT8)—Black

Base..........Small Wafer—Octal 8 Pin

Overall Length ....3⅛"

Seated Height ....2 11/16"

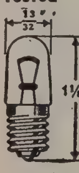
Bulb Diameter ....1"

Use—"Uniballast Service Manual" for Complete Replacement Data

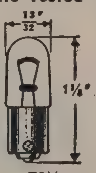
PANEL LAMPS • Shock Tested • Torque Tested • Life Tested • Brighter Service—Longer

Type No.	Rated Volts	Amps.	Base	Bead Color	Bulb Style	List Price‡
N-13	3.8	.30	Screw	Green	G3½	$.10
N-14	2.5	.30	Screw	Blue	G3½	.10
N-40*	6-8	.15	Screw	Brown	T3¼	.09
N-40A	6-8	.15	Bayonet	Brown	T3¼	.09
N-41*	2.5	.50	Screw	White	T3¼	.09
N-42	3.2	.35	Screw	Green	T3¼	.12
N-43	2.5	.50	Bayonet	White	T3¼	.09
N-44*	6-8	.25	Bayonet	Blue	T3¼	.09
N-45	3.2	.35	Bayonet	Green	T3¼	.12
N-46*	6-8	.25	Screw	Blue	T3¼	.09
N-47*	6-8	.15	Bayonet	Brown	T3¼	.09
N-48	2.0	.06	Screw	Pink	T3¼	.15
N-49	2.0	.06	Bayonet	Pink	T3¼	.15
N-49A	2.1	.12	Bayonet	White	T3¼	.18
N-50*	6-8	.20	Screw	White	G3½	.10
N-51*	6-8	.20	Bayonet	White	G3½	.08
N-55*	6-8	.40	Bayonet	White	G4½	.08
N-292	2.9	.17	Screw	White	T3¼	.12
N-291	2.9	.17	Bayonet	White	T3¼	.12
N-292A	2.9	.17	Bayonet	White	T3¼	.12
N-1455	18.0	.25	Screw	Brown	G5	.10
N-1455A†	18.0	.25	Bayonet	Brown	G5	.10
N-1456†	18.0	.25	Bayonet	Brown	G5	.10
N-1490	3.2	.16	Bayonet	White	T3¼	.11

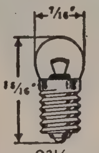
*Used also in Coin Operated Machines. †Used also in Toy Trains.
‡All subject to Excise Tax—except N-51 and N-52.



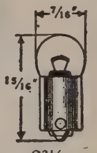
T3¼



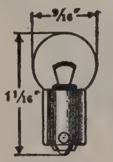
T3¼



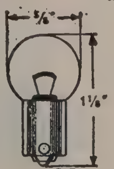
G3½



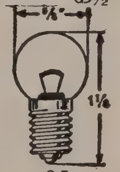
G3½



G4½



G-5



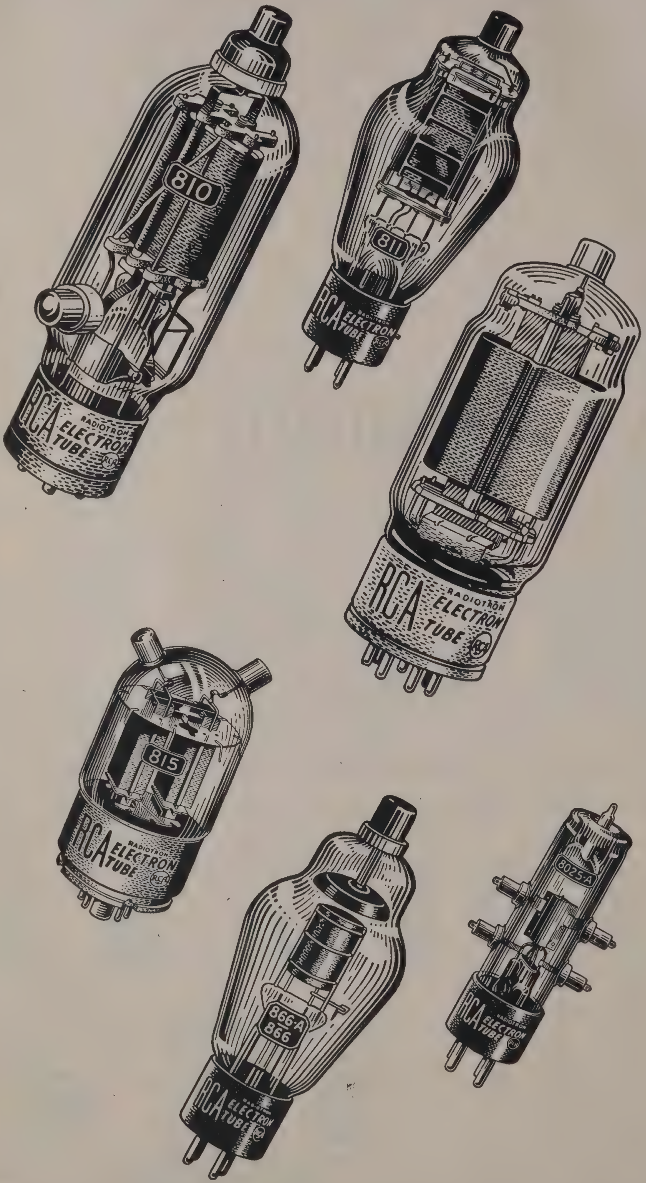
G-5

PACKING: 10 Lamps to the Unit Carton. 20 Unit Cartons (200 lamps) to the Standard Package.

All prices and types on this page subject to change and/or withdrawal without notice.

RCA Preferred Type Renewal Products

AMATEUR TUBES



TYPE NO.	USER PRICE
OC3/VR105	$ 1.20
OD3/VR150	1.20
2BP1	8.75
2C43	10.30
2E26	4.00
3A4	1.05
3A5	1.50
3KP1	13.25
4D21/4-125A	25.00
4E27/8001	27.50
5R4-GY	1.30
6AG7-Y	1.50
6AK5	3.15
6AS7-G	5.45
6C24	45.00
6F4	5.55
6J4	4.90
10-Y	2.30
801-A	3.00
802	4.25
805	10.00
806	30.00
807	2.30
808	8.50
809	3.50
810	12.50
811	3.50
812	3.50
813	14.50
814	14.00
815	6.25
816	1.25
826	9.25
828	12.50
829-B	14.75
832-A	10.60
833-A	45.00
866-A/866	1.75
913	10.25
954	4.90
955	3.10
956	5.45
958A	5.45
2050	1.70
5557	6.50
8000	13.25
8005	7.00
8025-A	9.25
9001	2.70
9002	2.15
9003	2.70

RCA Preferred Type Renewal Products

NON-RECEIVING TUBES

- POWER TUBES
- CATHODE-RAY TUBES
- PHOTOTUBES
- SPECIAL TUBES

Type	Retail Price
OA2	$ 2.30
OA3/VR75	1.20
OA4-G	1.15
OC3/VR105	1.20
OD3/VR150	1.20
1C21	2.20
1P21	47.50
1P22	12.75
1P28	13.50
1P29	2.55
1P37	2.50
1P39	1.85
1P40	1.60
1P41	2.40
1P42	5.40
2AP1-A	9.50
2BP1	8.75
2BP11	10.00
†2C21/1642	1.20
†2C22	1.40
†2C40	13.60
†2C43	10.30
2D21	1.80
2E24	5.10
2E26	4.00
2F21	95.00
2P23	850.00
2V3-G	2.75
2X2/879	1.80
2X2-A	1.80
†3A4	1.05
†3A5	1.50
3AP1-A	13.00
3B25	5.80
3BP1-A	15.00
3C23	11.00
3C33	18.50
3D22	12.00
3E22	6.85
3E29	17.25
3KP1	13.25
4B26/2000	9.00
4-125/4D21	25.00
4E27/8001	27.50
5BP1-A	20.50
5CP1-A	21.00
5FP4	38.00
5HP1-A	21.50
†5R4-GY	1.30
†6AG7-Y	1.50
†6AK5	3.15
†6AS7-G	5.45
6C24	45.00
†6F4	5.55
†6J4	4.90
†6SJ7-Y	.75
†6SN7-GTY	1.20
7C24	145.00
7CP1	24.00
8D21	1700.00
9C21	850.00
9C22*	1200.00
9C25	1050.00
9C27	775.00
†10-Y	2.30
†12A6	1.10
†12K8-Y	1.15
†12L8-GT	$ 1.95
12SW7	.95
12SX7-GT	1.20
12SY7	1.15
26A6	1.90
†26A7-GT	5.15
26C6	1.60
26D6	1.75
†89-Y	.80
105	40.00
172	38.50
203-A	12.00
204-A	100.00
207	220.00
211	12.00
217-C	20.00
304-TH	50.00
502-A	1.80
559	5.35
575-A	28.00
579-B	12.00
627	13.00
629	5.50
672	23.00
673	28.00
676	40.00
677	40.00
678	40.00
800	10.00
801-A	3.00
802	4.25
803	21.00
804	15.00
805	10.00
806	30.00
807	2.30
808	8.50
809	3.50
810	12.50
811	3.50
812	3.50
813	14.50
814	14.00
815	6.25
816	1.25
826	9.25
827-R	150.00
828	12.50
829-B	14.75
830-B	10.00
†832-A	10.60
833-A	45.00
834	12.50
836	6.00
837	4.15
838	12.00
†841	3.80
842	3.50
843	2.00
845	12.00
846	220.00
849	120.00
850	37.50
851	210.00
852	25.00
857-B	190.00
858	375.00
860	30.00
861	$155.00
862-A**	950.00
864	1.20
865	10.00
866-A/866	1.75
868	2.15
869-B	120.00
870-A	825.00
872-A/872	7.50
874	2.50
878	11.00
880	440.00
884	1.70
885	1.80
889-A	190.00
889R-A*	280.00
891	200.00
891-R*	345.00
892	200.00
892-R*	345.00
893-A	570.00
893A-R*	1050.00
898-A**	950.00
902-A	9.75
905-A	45.00
907	48.75
908-A	15.00
912	155.00
913	10.25
914-A	85.00
917	3.00
918	2.60
919	3.00
920	3.25
921	1.75
922	1.80
923	1.75
924	2.25
925	1.85
926	2.50
927	2.50
928	2.75
929	1.75
930	1.50
931-A	9.25
934	3.00
935	6.75
†954	4.90
†955	3.10
†956	5.45
†957	3.25
†958-A	5.45
†959	5.45
991	.75
†1603	6.15
1608	4.00
1609	7.50
†1610	2.15
†1613	1.70
†1614	$ 1.80
1616	7.50
1619	2.20
†1620	6.00
†1621	1.85
†1622	2.00
1623	3.50
1624	3.50
1625	2.30
1626	1.60
1629	1.20
†1631	2.15
†1632	2.70
1633	1.65
†1644	2.70
1654	4.00
1840	850.00
1848	390.00
1850-A	425.00
†1851	2.70
2050	1.70
2051	1.70
5550	38.00
5551	65.00
5552	95.00
5553	210.00
5554	$150.00
5555	290.00
5556	7.00
5557	6.50
5558	11.00
5559	16.00
5560	19.25
5561	30.00
†7193	2.15
8000	13.25
8003	11.25
8005	7.00
8008	7.50
8012-A	14.00
8013-A	9.00
8020	18.00
8025-A	9.25
†9001	2.70
†9002	2.15
†9003	2.70
†9004	2.15
†9005	3.00
†9006	1.40

* The following prices apply when similar radiator in good condition is returned prepaid to address on return authorization at time of purchase of new tube.

TRADE-IN PRICES FOR RADIATOR TYPE TUBES

Type	User Price
9C22	$1000.00
889-R-A	250.00
891-R	300.00
892-R	300.00
893-A-R	900.00

** $5.00 credit allowed for prepaid return of shipping container and $10.00 salvage credit allowed for prepaid return of 862-A and 898-A at time of new tube purchase, both to be in good condition.

Types marked with (†) are subject to Federal Excise Tax which is included, where applicable, in the prices shown below.

ALL PRICES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

RCA Preferred Type Renewal Products

RECEIVING TUBES

October 28, 1946

Type	Retail Price
OZ4	$2.20
OZ4G	2.20
1A3	1.80
1A4P	2.20
1A5GT	1.50
1A6	1.80
1A7GT	1.80
*1B3GT/8016	3.90
1B4P	1.80
1B5/255	1.80
1C5GT	1.80
1C6	1.80
1C7G	1.80
1D5GP	1.80
1D7G	2.20
1D8GT	2.65
1E5GP	2.20
1E7G	3.20
1F4	1.80
1F5G	1.80
1F6	2.20
1F7G	2.20
1G4GT	1.80
1G5G	1.80
1G6GT	2.20
1H4G	1.35
1H5GT	1.50
1H6G	1.80
1J5G	2.65
1J6G	1.80
1L4	2.20
1LA4	3.20
1LA6	3.20
1LB4	3.20
1LE3	1.80
1LH4	3.20
1LN5	3.20
1N5GT	1.80
1P5GT	2.20
1Q5GT	2.20
1R5	2.20
1S4	2.20
1S5	2.20
1T4	2.20
1T5GT	2.20
1U4	1.80
1V	1.35
2A3	2.65
2A5	1.35
2A6	1.35
2A7	1.50
2B7	1.80
2E5	1.80
3Q4	2.20
3Q5GT	2.20
3S4	2.20
3V4	2.20
5T4	2.65
5U4G	1.35
5V4G	2.20
5W4	1.50
5X4G	$1.50
5Y3GT	.95
5Y4G	1.05
5Z3	1.50
5Z4	1.80
6A4/LA	2.20
6A6	2.20
6A7	1.35
6A8	1.80
6A8G	1.35
6A8GT	1.35
6AB5/6N5	2.20
6AB7/1853	2.65
6AC5GT	1.50
6AC7/1852	2.65
6AD7G	2.20
6AF6G	2.20
6AG5	3.20
6AG7	3.20
6AK6	2.20
6AL5	1.80
6AQ5	1.80
6AQ6	1.80
6AT6	1.50
6AU6	1.80
6B4G	2.65
6B5	2.65
6B6G	1.50
6B7	1.80
6B8	2.65
6B8G	1.80
6BA6	1.80
6BE6	1.80
6BF6	1.50
*6BG6G	5.45
6C4	1.50
6C5	1.50
6C5GT	1.35
6C6	1.35
6C8G	2.20
6D6	1.35
6D8G	2.20
6E5	1.50
6F5	1.50
6F5GT	1.35
6F6	1.50
6F6G	1.25
6F6GT	1.15
6F7	2.20
6F8G	1.80
6G6G	1.80
6H6	1.50
6H6GT	1.50
6J5	1.25
6J5GT	1.25
6J6	2.65
6J7	1.80
6J7G	1.50
6J7GT	1.50
6K6GT	1.35
6K7	1.50
6K7G	$1.50
6K7GT	1.35
6K8	1.80
6K8G	1.80
6L5G	1.50
6L6	2.65
6L6G	2.65
6L7	2.20
6L7G	2.20
6N7	2.20
6N7GT	2.20
6Q7	1.80
6Q7G	1.25
6Q7GT	1.25
6R7	2.20
6R7GT	1.25
6S7	2.20
6S7G	2.20
6SA7	1.35
6SA7GT	1.50
6SB7-Y	2.65
6SC7	1.80
6SF5	1.35
6SF5GT	1.35
6SF7	1.80
6SG7	1.80
6SH7	1.80
6SJ7	1.50
6SJ7GT	1.50
6SK7	1.35
6SK7GT	1.50
6SL7GT	2.20
6SN7GT	1.80
6SQ7	1.35
6SQ7GT	1.50
6SR7	1.50
6SS7	1.35
6ST7	2.20
6SZ7	2.20
6T7G	1.80
6U5/6G5	1.80
6U7G	1.35
6V6	2.65
6V6G	1.50
6V6GT	1.50
6W7G	2.20
6X4	1.50
6X5	2.20
6X5GT	1.35
6Y6G	2.20
6Z7G	2.65
6ZY5G	1.80
7A4	1.80
7A5	1.80
7A7	1.80
7A8	1.80
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80
7C6	$1.80
7C7	1.80
7E6	1.80
7E7	2.20
7F7	2.20
7G7/1232	2.65
7H7	2.65
7J7	2.65
7Q7	1.80
7Y4	1.80
10	3.90
12A7	2.65
12A8GT	1.35
12AH7GT	2.20
12AT6	1.50
12AU7	1.80
12BA6	1.80
12BE6	1.80
12C8	2.65
12F5GT	1.35
12H6	1.50
12J5GT	1.35
12J7GT	1.50
12K7GT	1.35
12K8	2.20
12Q7GT	1.25
12SA7	1.35
12SA7GT	1.80
12SC7	1.80
12SF5	1.50
12SF7	1.80
12SG7	1.80
12SH7	1.80
12SJ7	1.50
12SJ7GT	1.50
12SK7	1.35
12SK7GT	1.50
12SL7GT	2.20
12SN7GT	1.80
12SQ7	1.35
12SQ7GT	1.50
12SR7	1.80
12SR7GT	1.80
12Z3	1.35
14A7/12B7	2.65
15	2.65
19	1.80
24A	1.25
25A6	2.65
25L6	2.20
25L6GT	1.50
25Z5	1.35
25Z6	1.80
25Z6GT	1.35
26	1.05
27	.95
30	1.35
31	1.35
32	1.80
32L7GT	2.65
33	1.80
34	$1.80
35	1.35
35A5	1.80
35L6GT	1.35
35W4	1.15
35Z3	1.80
35Z4GT	1.10
35Z5GT	1.15
36	1.35
37	1.15
38	1.50
39/44	1.35
41	1.15
42	1.15
43	1.50
45	1.10
45Z3	1.50
45Z5GT	1.50
46	1.50
47	1.50
49	1.80
50	3.20
50B5	1.80
50L6GT	1.50
50Y6GT	1.50
53	2.20
55	1.50
56	1.10
57	1.25
58	1.25
59	2.20
70L7GT	2.65
71A	1.25
75	1.15
76	1.25
77	1.25
78	1.25
79	2.20
80	.95
81	2.65
82	1.80
83	1.80
83V	2.65
84/6Z4	1.50
85	1.25
89	1.35
117L7GT/117M7GT	3.20
117N7GT	3.20
117P7GT	3.20
117Z3	1.80
117Z6GT	2.20

TELEVISION KINESCOPES

Type	Retail Price
5TP4	67.50
7DP4	27.00
7GP4	24.25
9AP4(1)	62.50
10BP4	49.50
12AP4(1)	75.00

Note: (1) Pre-War Type

Retail prices include Federal Excise Taxes. State and Local Taxes imposed upon the sale of tubes may be added to these prices, provided they are separately stated and collected.

RAYTHEON

ELECTRONIC AND RADIO TUBES

RADIO RECEIVING TUBES

Price List

SUGGESTED LIST PRICES EFFECTIVE DEC. 1, 1946.

Type	Price	Type	Price	Type	Price	Type	Price	Type	Price
00A	$3.20	3Q5GT	$2.20	6K8	$1.80	7C5	$1.80	30	$1.35
0Y4	2.20	3S4	2.20	6K8GT	1.80	7C6	1.80	32	1.80
0Z4	2.20	5U4G	1.35	6L6G	2.65	7C7	1.80	32L7GT	2.65
0Z4G	2.20	5V4G	2.20	6L6GA	2.65	7E5/1201	2.65	33	1.80
1A5GT	1.50	5W4GT	1.25	6L7G	2.20	7E6	1.80	34	1.80
1A6	1.80	5X4G	1.50	6N7	2.20	7E7	2.20	35/51	1.35
1A7GT	1.80	5Y3GT	.95	6N7GT	2.20	7F7	2.20	35A5	1.80
1C5GT	1.80	5Y4G	1.05	6P5GT	1.10	7G7/1232	2.65	35L6GT	1.35
1C6	1.80	5Z3	1.50	6Q7	1.80	7H7	2.65	35W4	1.20
1C7G	1.80	6A3	2.65	6Q7GT	1.25	7L7	2.65	35Z3	1.80
1D7G	2.20	6A5G	3.90	6R7GT	1.25	7N7	2.65	35Z4GT	1.10
1G4GT	1.80	6A6	2.20	6S7	2.20	7Q7	1.80	35Z5GT	1.15
1G6GT	2.20	6A7	1.35	6S7G	2.20	7Y4	1.80	36	1.35
1H4G	1.35	6A8GT	1.35	6SA7	1.35	10	3.90	37	1.15
1H5GT	1.50	6AB7/1853	2.65	6SA7GT	1.50	12A6	2.65	38	1.50
1J6G	1.80	6AC5GT	1.50	6SC7GT	1.50	12A6GT	2.65	39/44	1.35
1L4	2.20	6AC7/1852	3.20	6SD7GT	1.80	12A7	2.65	41	1.15
1LA4	3.20	6AD7G	2.20	6SF5GT	1.35	12A8GT	1.35	42	1.15
1LA6	3.20	6AG5	3.20	6SF7	1.80	12AT6	1.55	43	1.50
1LB4	3.20	6AG7	3.20	6SG7	1.80	12BA6	1.85	45	1.10
1LD5	3.20	6AT6	1.55	6SH7	1.80	12BD6	1.85	45Z5GT	1.50
1LH4	3.20	6B6G	1.50	6SH7GT	1.80	12BE6	1.85	46	1.50
1LN5	3.20	6B7	1.80	6SJ7	1.50	12C8	2.65	47	1.50
1N5GT	1.80	6BA6	1.85	6SJ7GT	1.50	12J7GT	1.50	49	1.80
1P5GT	2.20	6BD6	1.85	6SK7	1.35	12K7GT	1.35	50	3.20
1Q5GT	2.20	6BE6	1.85	6SK7GT	1.50	12Q7GT	1.25	50B5	1.85
1R5	2.20	6B8	2.65	6SL7GT	2.20	12SA7	1.35	50L6GT	1.50
1S4	2.20	6B8G	1.80	6SN7GT	1.80	12SA7GT	1.80	50Y6GT	1.50
1S5	2.20	6C5	1.50	6SQ7	1.35	12SF5GT	1.50	52	3.90
1T4	2.20	6C5GT	1.35	6SQ7GT	1.50	12SH7	1.80	53	2.20
1T5GT	2.20	6C6	1.35	6SR7	1.50	12SH7GT	1.80	56	1.10
1U4	1.80	6D6	1.35	6U5/6G5	1.80	12SJ7	1.50	57	1.25
1V	1.35	6E5	1.50	6U6GT	1.80	12SJ7GT	1.50	58	1.25
2A3	2.65	6F5	1.50	6U7G	1.35	12SK7	1.35	70L7GT	3.90
2A4G	3.20	6F5GT	1.35	6V6	2.65	12SK7GT	1.50	71A	1.25
2A5	1.35	6F6	1.50	6V6GT	1.50	12SL7GT	2.20	75	1.15
2A6	1.35	6F6G	1.25	6X5GT	1.35	12SQ7	1.35	76	1.25
2A7	1.50	6F6GT	1.15	6Y6G	2.20	12SQ7GT	1.50	77	1.25
2E31	3.90	6F7	2.20	6ZY5G	1.80	12SR7	1.80	78	1.25
2E32	3.90	6F8G	1.80	6Z7G	2.65	12Z3	1.35	80	.95
2E35	3.90	6G6G	1.80	7A4	1.80	19	1.80	81	2.65
2E36	3.90	6H6	1.50	7A5	1.80	20	3.90	82	1.80
2E41	3.90	6H6GT	1.50	7A6	1.80	22	3.20	83	1.80
2E42	3.90	6J5	1.25	7A7	1.80	24A	1.25	83V	2.65
2G21	3.90	6J5GT	1.25	7A8	1.80	25AC5GT	2.20	84/6Z4	1.50
2G22	3.90	6J7	1.80	7B4	1.80	25L6GT	1.50	85	1.25
3A8GT	3.20	6J7GT	1.50	7B5	1.80	25Z5	1.35	117L/M7GT	3.20
3B7/1291	3.20	6J8G	2.20	7B6	1.80	25Z6GT	1.35	117Z6GT	2.20
3D6/1299	3.20	6K6GT	1.35	7B7	1.80	26	1.05	XXD	2.20
3Q4	2.20	6K7	1.50	7B8	1.80	27	.95	XXL	2.20
		6K7GT	1.35						

Prices include all manufacturers' Federal Excise Taxes as set forth in the Internal Revenue Code chapter 29, sub-chapter A.

PRICES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

RAYTHEON

ELECTRONIC AND RADIO TUBES

TRANSMITTING AND SPECIAL PURPOSE TUBES

RAYTHEON TRANSMITTING TUBES

Type No.	Construction	Special Applications	Filament			Maximum Voltages				Power-Watts		Suggested User Price
			Volts	Amps	Type	Plate	Grid	Screen	Suppressor	Dissipation	Output	
2C34/RK34	Dual Triode	H. F. Oscillator Amp.	6.3	0.8	Heater	300	−36			10*	16*	**$3.50**
RK-4D22	Beam Tetrode	R-F Oscillator Amp.	25.2 12.6	0.8 1.6	Cathode	750	−200	350		50	100	**9.75**
RK-4D32	Beam Tetrode	R-F Oscillator Amp.	6.3	3.75	Cathode	750	−200	350		50	100	**9.75**
5D23/RK65	R-F Tetrode	R-F Amplifier	5.0	14.0	Thor.	3000	−250	500			565	**34.50**
RK-6D22	Tetrode	R-F, A-F Amplifier	5.0	28.5	Thor.	3500	−250	500		450	1000	**55.00**
RK-20A	R-F Pentode	Suppressor Mod.	7.5	3.25	Thor.	1250	−100	300	+45	40	84	**15.00**
RK-25	R.F. Pentode	Suppressor Mod.	6.3	0.9	Heater	500	−90	200	+45	10	22	**3.95**
RK-28A	R-F Pentode	Suppressor Mod.	10.0	5.0	Thor.	2000	−100	400	+45	125	250	**21.00**
RK-38	Triode	R-F, A-F Amplifier	5.0	8.0	Thor.	3000	−200			100	225	**13.50**
RK-48A	Beam Tetrode	R-F Oscillator Amp.	10.0	5.0	Thor.	2000	−100	400		100	250	**27.50**
RK-59	Dual Triode	Quick Heating	6.3	1.0	Oxide	500	−60			15*	32*	**4.50**
RK-63	Triode	R-F, A-F Amplifier	5.0	10.0	Thor.	3000	−200			200	525	**22.00**
RK-807	Beam Tetrode	R.F. Osc.-Amp.	6.3	0.9	Heater	600	−45	250		25	40	**2.25**
814/RK47	Beam Tetrode	R-F Oscillator Amp.	10.0	3.25	Thor.	1250	−70	300		50	120	**14.70**
RK-837	R.F. Pentode	Suppressor Mod.	12.6	0.7	Heater	500	− 75	200	+40	12	22	**2.80**

*Indicates value for both sections combined.

RAYTHEON SPECIAL PURPOSE TUBES

Type No.	Construction	Special Applications	Filament			Rated Voltages				Power-Watts		Suggested User Price
			Volts	Amps	Type	Plate	Grid	Screen	Suppressor	Dissipation	Output	
2C33/RX233A	Gas Triode	Control Thyratron	2.5	2.5	Oxide	1050	35					**$5.00**
(t) **6AK5**	R.F. Pentode	U.H.F. Amplifier	6.3	0.175	Heater	180	−3	120		1.7		**1.93**
(t) **6J6**	Dual Triode	U.H.F. Oscillator	6.3	0.45	Heater	100	−1					**2.14**
6N4	Triode	U.H.F. Oscillator-Amp	6.3	0.2	Heater	180	−35					**3.00**
RK-61	Gas Triode	Radio Control	1.4	0.05	Oxide	45	−3					**3.90**
CK-568AX	Triode	U.H.F Oscillator	1.25	0.070	Filament	135	−6					**3.90**
CK569AX	Pentode	Amplifier	1.25	0.050	Filament	675	0	67.5				**2.60**
CK600AX	Triode	U.H.F. Oscillator	1.25	0.125	Filament	135	−5					**3.90**
CK605CX	Pentode	U.H.F. Amplifier	6.3	0.2	Heater	120	−2.0	120				**8.00**
CK606BX	Diode	U.H.F. Rectifier	6.3	0.15	Heater	420	(Max. Peak Inverse)					**6.40**
CK-608CX	Triode	Osc. Amp.	6.3	0.2	Heater	120	−2.0					**7.00**
CK-619CX	Triode	Osc. Amp.	6.3	0.2	Heater	250	−2.0					**7.00**
RK-715B	Tetrode	Pulse Modulator	27.0	2.15	Cathode	15000	−1000	1350		60		**42.90**
RK-715C	Tetrode	Pulse Modulator	27.0	2.15	Cathode	18000	−1000	1350		60		**42.90**
(t) **717A**	R.F. Pentode	U.H.F. Amplifier	6.3	0.175	Heater	120	−2	120		1.7		**7.50**
(t) **954**	R.F. Pentode Sharp Cutoff	U.H.F Amplifier	6.3	0.15	Heater	250	−3	100				**4.60**
(t) **955**	Triode	U.H.F. Oscillator	6.3	0.15	Heater	180	−35				0.5	**3.05**
(t) **956**	R.F. Pentode Remote Cutoff	U.H.F Amplifier	6.3	0.3	Heater	250	−3	100				**4.60**
(t) **957**	Triode	U.H.F. Amplifier	1.25	0.05	Oxide	135	−5					**3.25**
CK-1089	Gas Tetrode	Control			Cold	100						**6.00**
CK-1090	Gas Triode	Control			Cold	100						**6.00**
2050	Gas Tetrode	Control Thyratron	6.3	0.6	Heater	650	−3.8	0				**1.75**
(t) **9001**	R.F. Pentode Sharp Cutoff	U.H.F Amplifier	6.3	0.15	Heater	250	−3	100				**2.68**
(t) **9002**	Triode	U.H.F. Oscillator	6.3	0.15	Heater	250	−7					**2.14**
(t) **9003**	R.F. Pentode Remote Cutoff	U.H.F. Amplifier	6.3	0.15	Heater	250	−3	100				**2.68**
(t) **9006**	Diode	H.F. Rectifier	6.3	0.15	Heater	750	(Max. Peak Inverse)					**1.50**

(t) Types subject to 10% Federal Excise Tax, which has been added.

SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

RAYTHEON

ELECTRONIC AND RADIO TUBES

INDUSTRIAL AND HEARING AID TUBES

RAYTHEON RECTIFIER TUBES

Type No.	Construction	Filament			Max. Peak Inverse Volts	Max. Peak Current	Average Current D.C.	Av. Tube Drop	Max. Height	Base	**Suggested User Price**
		Volts	Amps	Type							
BH	Full Wave—Gas			Cold Cathode	1,000	400 ma	125 ma	90	4⅜″	4-Pin	**$2.70**
RK-3B24	Half Wave—High Vacuum	2.5 5.0	3.0 3.0	Thoriated Thoriated	20,000 20,000	150 ma 300 ma	30 ma 60 ma		4$\frac{13}{16}$″	4-Pin	**7.25**
RK-3B26	Clipper Diode—High Vacuum	2.5	4.75	Cathode	15,000	8 amp	20 ma	130	4⅜″	Octal	**12.50**
RK-3B29	Half Wave—High Vacuum	2.5	4.75	Cathode	16,000	250 ma	65 ma	130	5¼″	4-Pin	**13.30**
RK-4B31	Clipper Diode—High Vacuum	5.0	5.25	Cathode	16,000	16 amp	60 ma	150	7″	Jumbo 4-Pin	**19.55**
RK-72	Half Wave—High Vacuum	2.5	3.0	Thoriated	20,000	150 ma	30 ma	200	4$\frac{13}{16}$″	4-Pin	**7.20**
RK-73	Clipper Diode—High Vacuum	2.5	4.25	Oxide Fil.	13,000	3 amp	20 ma	135	4⅜″	Octal	**12.50**
RX-120	Half Wave—Mercury, Argon	2.5	30.0	Cathode	150	120 amp	20 amp	5	8$\frac{15}{16}$″	Mogul	**17.75**
RX-120A	Half Wave—Mercury	2.5	30.0	Cathode	300 750	120 amp 120 amp	20 amp 10 amp	6 6	8$\frac{15}{16}$″	Mogul	**20.00**
RX-212	Half Wave—Mercury	2.5	30.0	Cathode	1,000	120 amp	20 amp	10	12″	Mogul	**27.15**
RX-215	Full Wave—Mercury	2.5	30.0	Cathode	500	90 amp	15 amp	10	8″	S. Jumbo 4-Pin	**24.30**
RX-235	Half Wave—High Vacuum	2.5	3.0	Thoriated	25,000	90 ma	30 ma	200	6⅝″	4-Pin	**14.85**
RK-705A	Half Wave—High Vacuum	2.5 5.0	5.0 5.0	Thoriated	35,000 35,000	375 ma 750 ma	50 ma 100 ma		5$\frac{1}{16}$″	Special 4-Pin	**14.05**
1005/CK1005	Full Wave—Gas	6.3	0.1	Oxide	450	210 ma	70 ma	20	2⅝″	Octal	**3.80**
1006/CK1006	Full Wave—Gas	1.75	20.0	*Oxide	1,600	600 ma	200 ma	20	4$\frac{11}{16}$″	4-Pin	**3.25**
CK-1007	Full Wave—Gas	1.0	1.2	*Oxide	980	330 ma	110 ma	24	2⅝″	Octal	**1.90**
1641/RK60	Full Wave—High Vacuum	5.0	3	Oxide	4,500 2,500	150 ma 330 ma	50 ma 250 ma	61	5¾″	4-Pin	**2.75**
5517/CK1013	Half Wave—Gas			Cold Cathode	2,800	50 ma	6 ma	100	2¼″	Miniature	**2.25**

*May be used as ionic heated cathode rectifier under some conditions.

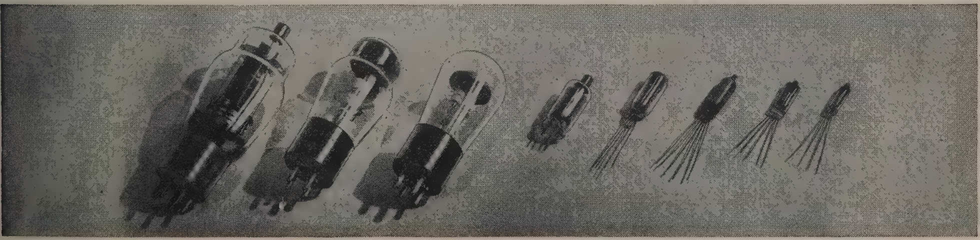
RAYTHEON HEARING AID TUBES

The hearing aid tubes listed below are an exclusive Raytheon development and have been used as original equipment in the majority of small wearable hearing aids which have been manufactured in the United States.

These tubes are also finding many new applications in circuits and equipment where very low battery drain, extremely small size, and long life are required. The types with an "A" in the suffix are of the "flat" construction, designed and made only by Raytheon.

Type No.	Construction	Application	Filament			Rated Voltages			Output Watts	Ampl. Factor	**Suggested User Price**
			Volts	Amps.	Type	Plate	Grid	Screen			
CK502AX	Pentode	Output Stage	1.25	0.030	Oxide	45	−1.25	45	0.006		**$3.20**
CK503AX	Pentode	Output Stage	1.25	0.030	Oxide	45	−2.0	45	0.095		**3.20**
CK505AX	Pentode	Voltage Amplifier	0.625	0.030	Oxide	30	0	30		175	**3.20**
CK506AX	Pentode	Output Stage	1.25	0.050	Oxide	45	−4.5	45	0.025		**3.20**
CK507AX	Pentode	Output Stage	1.25	0.045	Oxide	45	−2.0	45	0.011		**3.20**
CK510AX	Double space charge tetrode	Voltage Amplifier	0.625	0.050	Oxide	45	0	45		32.5**	**5.35**
CK515BX	Triode	Voltage Amplifier	0.625	0.030	Oxide	45	0			24	**3.20**

**Each section.
Each of the types listed above is supplied with 1¼″ leads which are tinned for easy soldering into the equipment. By substituting the letter "Y" for "X", the tubes may be obtained at the same prices with 0.2 in. leads for use with commercially available sockets.



RAYTHEON

ELECTRONIC AND RADIO TUBES

CAVITY MAGNETRONS AND REFLEX KLYSTRONS

RAYTHEON CAVITY MAGNETRON TUBES

Type No.	Heater		Class	Band or Range Mc	Minimum Ratings			Typical Operation				Suggested User Price
	Volts	Amps			Anode Kv	Anode Amps	Input Watts	Anode Kv	Anode Amps	Field Gauss	Pk. P.O. Kw	
RK-2J22	6.3	1.5	Fixed Frequency—Pulsed	3267–3333	22.0	30.0	600	20.0	30.0	2250	265	**$180.00**
RK-2J23	6.3	1.5	Fixed Frequency—Pulsed	3071–3100	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J24	6.3	1.5	Fixed Frequency—Pulsed	3047–3071	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J25	6.3	1.5	Fixed Frequency—Pulsed	3019–3047	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J26	6.3	1.5	Fixed Frequency—Pulsed	2992–3019	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J27	6.3	1.5	Fixed Frequency—Pulsed	2965–2992	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J28	6.3	1.5	Fixed Frequency—Pulsed	2939–2965	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J29	6.3	1.5	Fixed Frequency—Pulsed	2914–2939	22.0	30.0	600	20.0	30.0	2400	275	**180.00**
RK-2J30	6.3	1.5	Fixed Frequency—Pulsed	2860–2900	22.0	30.0	600	20.0	30.0	1900	285	**180.00**
RK-2J31	6.3	1.5	Fixed Frequency—Pulsed	2820–2860	22.0	30.0	600	20.0	30.0	1900	285	**180.00**
RK-2J32	6.3	1.5	Fixed Frequency—Pulsed	2780–2820	22.0	30.0	600	20.0	30.0	1900	285	**180.00**
RK-2J33	6.3	1.5	Fixed Frequency—Pulsed	2740–2780	22.0	30.0	600	20.0	30.0	1900	285	**180.00**
RK-2J34	6.3	1.5	Fixed Frequency—Pulsed	2700–2740	22.0	30.0	600	20.0	30.0	1900	285	**180.00**
RK-2J36	6.3	1.3	Fixed Frequency—Pulsed	9003–9168	13.5	12.0	200	11.5	10.0	2500	15.0	**162.95**
RK-2J38	6.3	1.25	Fixed Frequency—Pulsed	3249–3263	6.0	8.0	200	4.9	3.0	Pkge	5.0	**170.00**
RK-2J39	6.3	1.25	Fixed Frequency—Pulsed	3267–3333	6.0	8.0	200	5.4	5.0	Pkge	8.7	**170.00**
RK-2J40	6.3	1.3	Fixed Frequency—Pulsed	9305–9325	13.5	10.0	300	11.5	10.0	2500	10.0	**264.80**
RK-2J48	6.3	1.0	Fixed Frequency—Pulsed	9310–9320	16.0	16.0	230	12.0	12.0	4850	50.0	**269.00**
RK-2J49	6.3	1.0	Fixed Frequency—Pulsed	9000–9160	16.0	16.0	180	12.0	12.0	5400	58.0	**166.50**
RK-2J50	6.3	1.0	Fixed Frequency—Pulsed	8740–8890	16.0	16.0	180	12.0	12.0	5400	58.0	**166.50**
RK-2J54	6.3	1.5	Tunable —Pulsed	3123–3259	14.0	15.0	250	11.6	12.5	1400	45.0	**231.00**
RK-2J55	6.3	1.0	Fixed Frequency—Pulsed	9345–9405	16.0	16.0	180	12.8	12.0	Pkge	50.0	**180.00**
RK-2J56	6.3	1.0	Fixed Frequency—Pulsed	9215–9275	16.0	16.0	180	12.8	12.0	Pkge	50.0	**180.00**
RK-2J58	6.3	1.5	Tunable —Pulsed	2992–3100	22.0	15.0	600	10.5	12.5	1450	50.0	**231.00**
RK-2J61A	6.3	1.5	Tunable —Pulsed	3000–3100	15.0	15.0	250	10.7	12.5	1300	35.0	**231.00**
RK-2J62A	6.3	1.5	Tunable —Pulsed	2914–3010	15.0	15.0	250	10.2	12.5	1300	35.0	**231.00**
RK-2J66	6.3	1.5	Tunable —Pulsed	2845–2905	20.0	25.0	400	18.0	25.0	1700	150	**301.00**
RK-2J67	6.3	1.5	Tunable —Pulsed	2795–2855	20.0	25.0	400	18.0	25.0	1700	150	**301.00**
RK-2J68	6.3	1.5	Tunable —Pulsed	2745–2805	20.0	25.0	400	18.0	25.0	1700	150	**301.00**
RK-2J69	6.3	1.5	Tunable —Pulsed	2695–2755	20.0	25.0	400	18.0	25.0	1700	150	**301.00**
RK-4J31	16.0	3.1	Fixed Frequency—Pulsed	2860–2900	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J32	16.0	3.1	Fixed Frequency—Pulsed	2820–2860	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J33	16.0	3.1	Fixed Frequency—Pulsed	2780–2820	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J34	16.0	3.1	Fixed Frequency—Pulsed	2740–2780	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J35	16.0	3.1	Fixed Frequency—Pulsed	2700–2740	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J36	16.0	3.1	Fixed Frequency—Pulsed	3650–3700	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J37	16.0	3.1	Fixed Frequency—Pulsed	3600–3650	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J38	16.0	3.1	Fixed Frequency—Pulsed	3550–3600	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J39	16.0	3.1	Fixed Frequency—Pulsed	3500–3550	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J40	16.0	3.1	Fixed Frequency—Pulsed	3450–3500	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J41	16.0	3.1	Fixed Frequency—Pulsed	3400–3450	30.0	70.0	1200	28.0	70.0	2500	750	**288.50**
RK-4J43	16.0	3.1	Fixed Frequency—Pulsed	2992–3019	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J44	16.0	3.1	Fixed Frequency—Pulsed	2965–2992	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J53	16.0	3.1	Fixed Frequency—Pulsed	2793–2813	30.0	70.0	1200	28.0	70.0	2700	900	**288.50**
RK-4J54	12.6	3.75	Fixed Frequency—Pulsed	6875–6775	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-4J55	12.6	3.75	Fixed Frequency—Pulsed	6775–6675	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-4J56	12.6	3.75	Fixed Frequency—Pulsed	6675–6575	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-4J57	12.6	3.75	Fixed Frequency—Pulsed	6575–6475	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-4J58	12.6	3.75	Fixed Frequency—Pulsed	6475–6375	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-4J59	12.6	3.75	Fixed Frequency—Pulsed	6375–6275	25.0	35.0	650	17.5	30.0	Pkge	200	**320.50**
RK-725A	6.3	1.0	Fixed Frequency—Pulsed	9345–9405	16.0	16.0	180	12.0	12.0	5400	50.0	**166.50**

CAUTION: Magnetron ratings listed are for general reference only. Complete technical data and operating notes on individual tubes may be obtained upon request

RAYTHEON REFLEX KLYSTRONS

Type No.	Heater		Class	Range Mc	Maximum Ratings			Typical Operation				Suggested User Price
	Volts	Amps			Eg_1 Volts	Eg_2, Eg_3 Volts	Rep. Volts	Eg_1 Volts	Eg_2, Eg_3 Volts	Rep. Volts	P.O. Mw	
(t) **RK-2K25/723A-B**	6.3	.44	Internal Cavity	8500–9660	Res. = 330v		0 to −400	Res. = 300v		−130: −185	33	**$38.22**
(t) **RK-2K28**	6.3	.65	External Cavity Req.	1200–3750	300	300	0 to −300	300	300	−155: −290	140	**38.49**
(t) **RK-707B**	6.3	.65	External Cavity Req	1200–3750	300	300	0 to −300	300	300	−155: −290	140	**34.43**

(t) Types subject to 10% Federal Excise Tax, which has been added.

SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

SYLVANIA RADIO RECEIVING TUBES

Type	Retail Price
OOA	$3.20
OIA	1.25
OA4G	2.65
OZ4	2.20
OZ4G	2.20
1A1/5E1	1.50
1A3	1.80
1A4P	2.20
1A4T (1A4)	2.20
1A5G	2.20
1A5GT	1.50
1A6	1.80
1A7G	2.20
1A7GT	1.80
1AB5	2.65
1B1	1.50
1B4P (1B4/951)	1.80
1B5 (1B5/25S)	1.80
1B7G, GT	1.80
1C1	1.50
1C5G	2.20
1C5GT	1.80
1C6	1.80
1C7G	1.80
1C8	3.20
1D1	1.50
1D5GP	1.80
1D5GT, G	1.80
1D7G	2.20
1D8GT	2.65
1E1	1.50
1E4G	1.80
1E5GP, G, GT	2.20
1E7G	3.20
1F1	1.50
1F4	1.80
1F5G	1.80
1F6	2.20
1F7G, GH, GV	2.20
1G1	1.50
1G4G, GT	1.80
1G5G	1.80
1G6G, GT	2.20
1H4G	1.35
1H5G	1.80
1H5GT	1.50
1H6G	1.80
1J1	1.50
1J5G	2.65
1J6G	1.80
1K1	1.50
1L4	2.20
1LA4	3.20
1LA6	3.20
1LB4	3.20
1LC5	3.20
1LC6	3.20
1LD5	3.20
1LE3	2.65
1LG5	3.20
1LH4	$3.20
1LN5	3.20
1N5G	2.20
1N5GT	1.80
1N6G	1.80
1P5G, GT	2.20
1Q5G, GT	2.20
1Q6	3.20
1R1G	1.50
1R4 (1R4/1294)	2.65
1R5	2.20
1S4	2.20
1S5	2.20
1SA6GT	2.20
1SB6GT	2.20
1T1G	1.50
1T4	2.20
1T5GT	2.20
1U4	2.20
1V	1.35
1V5	3.20
1W5	3.20
1Y1	1.50
1Z1	1.50
2	1.80
2A3 (2A3H)	2.65
2A4G	3.20
2A5	1.35
2A6	1.35
2A7	1.50
2A7S	3.20
2B7	1.80
2B7S	3.20
2E5	1.80
2G5	2.20
2S/4S	3.20
2V3G	3.90
2W3, GT	1.80
2X2/879	3.20
2Z2/G84	3.20
3	1.80
3A8GT	3.20
3B5GT	2.20
3B7 (3B7/1291)	3.20
3D6 (3D6/1299)	3.20
3E6	3.20
3LE4	3.20
3LF4	2.65
3Q4	2.20
3Q5G, GT	2.20
3S4	2.20
3V4	2.20
4	1.80
4A1	3.20
4A6G	2.65
5	1.80
5T4	2.65
5U4G	1.35
5V4G	2.20
5W4	1.50
5W4G, GT	$1.25
5X4G	1.50
5Y3G, GT	.95
5Y4G	1.05
5Z3	1.50
5Z4, GT	1.80
6	1.80
6A3	2.65
6A4 (6A4/LA)	2.20
6A5G	3.90
6A6	2.20
6A7	1.35
6A7S	3.20
6A8	1.80
6A8G, GT	1.35
6AB5/6N5	2.20
6AB7 (6AB7/1853)	2.65
6AC5G	1.80
6AC5GT	1.50
6AC7 (6AC7/1852)	3.20
6AD6G	2.20
6AD7G	2.20
6AE5G	2.20
6AE5GT	1.80
6AE6G	1.80
6AE7GT	1.80
6AF5G	1.80
6AF6G	2.20
6AG5	3.20
6AG7	3.20
6AK6	2.65
6AL5	2.20
6AQ6	2.20
6AT6	1.80
6AU6	2.20
6B4G	2.65
6B5	2.65
6B6G	1.50
6B7	1.80
6B7S	3.20
6BA6	2.20
6BE6	2.20
6B8	2.65
6B8G, GT	1.80
6C4	1.80
6C5	1.50
6C5G, GT	1.35
6C6	1.35
6C7	3.20
6C8G	2.20
6D5G	2.20
6D6	1.35
6D7	3.20
6D8G	2.20
6E5	1.50
6E6	2.65
6E7	3.20
6F5, G	1.50
6F5GT	1.35
6F6	1.50
6F6G	$1.25
6F6GT	1.15
6F7	2.20
6F7S	3.20
6F8G	1.80
6G5 (6U5/6G5)	1.80
6G6G	1.80
6H4GT	2.65
6H6, G, GT	1.50
6J5, GT	1.25
6J5G	1.35
6J6	2.65
6J7	1.80
6J7G, GT	1.50
6J8G	2.20
6K4	3.90
6K5G, GT	1.50
6K6G	1.50
6K6GT	1.35
6K7, G	1.50
6K7GT	1.35
6K8, G, GT	1.80
6L5G	1.50
6L6, G, GA	2.65
6L7, G	2.20
6N5 (6AB5/6N5)	2.20
6N6G	3.20
6N7, G, GT	2.20
6P5G	1.15
6P5GT	1.10
6P7G	3.20
6Q6, G (6T7G)	1.80
6Q7	1.80
6Q7G, GT	1.25
6R6G	3.90
6R7	2.20
6R7G	1.50
6R7GT	1.25
6S7, G	2.20
6SA7	1.35
6SA7GT	1.50
6SB7Y	2.65
6SC7	1.80
6SD7GT	1.80
6SF5, GT	1.35
6SF7	1.80
6SG7	1.80
6SH7, GT	1.80
6SJ7, GT	1.50
6SK7	1.35
6SK7GT	1.50
6SL7GT	2.20
6SN7GT	1.80
6SQ7	1.35
6SQ7GT	1.50
6SR7	1.50
6SS7	1.35
6ST7	2.20
6SZ7	2.20
6T5	3.20

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SYLVANIA RADIO RECEIVING TUBES

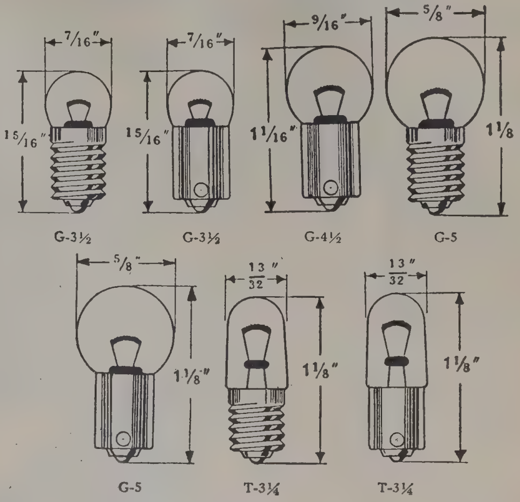
Type	Retail Price
6T7G (6Q6G)	$1.80
6U5 (6U5/6G5)	1.80
6U6GT	1.80
6U7G	1.35
6V6	2.65
6V6G	1.80
6V6GT	1.50
6V7	3.20
6V7G	1.80
6W5G	2.65
6W7G	2.20
6X5	2.20
6X5G	1.50
6X5GT	1.35
6Y5	3.20
6Y5V	3.20
6Y6G	2.20
6Y7G	2.20
6Z4 (84/6Z4)	1.50
6Z5 (6Z5/12Z5)	3.20
6Z7G	2.65
6ZY5G	1.80
7	1.80
7A4	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AG7	2.20
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C4	3.20
7C5	1.80
7C6	1.80
7C7	1.80
7E5	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7 (7G7/1232)	2.65
7H7	2.65
7J7	2.65
7K7	2.65
7L7	2.65
7N7	2.65
7Q7	1.80
7R7	2.65
7S7	2.65
7V7	3.20
7W7	3.20
7X7 (XXFM)	2.65
7Y4	1.80
7Z4	1.80
8	1.80
9	1.80
10	3.90
12A	1.35
12A5	3.20
12A6, GT	2.65
12A7	2.65
12A8G	1.80
12A8GT	1.35
12AH7GT	$2.20
12AT6	2.20
12B7 (14A7/12B7)	2.65
12B8GT	2.20
12BA6	2.20
12BE6	2.20
12C8	2.65
12F5GT	1.35
12H6	1.50
12J5GT	1.35
12J7G	1.80
12J7GT	1.50
12K7G	1.80
12K7GT	1.35
12K8	2.20
12K8GT	1.80
12Q7G	1.80
12Q7GT	1.25
12SA7	1.35
12SA7GT	1.80
12SC7	1.80
12SF5, GT	1.50
12SF7	1.80
12SG7	1.80
12SH7, GT	1.80
12SJ7, GT	1.50
12SK7	1.35
12SK7GT	1.50
12SL7GT	2.20
12SN7GT	1.80
12SQ7	1.35
12SQ7GT	1.50
12SR7, GT	1.80
12Z3	1.35
12Z5 (6Z5/12Z5)	3.20
14	2.65
14A4	2.65
14A5	3.90
14A7 (14A7/12B7)	2.65
14AF7 (XXD)	2.20
14B6	2.20
14B8	2.65
14C5	2.65
14C7	2.65
14E6	1.80
14E7	2.20
14F7	2.65
14H7	2.65
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	3.20
14Y4	2.65
15	2.65
18	2.65
19	1.80
20	3.90
22	3.20
24A	1.25
24S	$3.20
25A6	2.65
25A6G, GT	1.50
25A7G, GT	2.20
25AC5G, GT	2.20
25B5	3.20
25B6G	2.65
25B8GT	2.65
25C6G	2.65
25D8GT	2.65
25L6	2.20
25L6G	1.80
25L6GT	1.50
25N6G	3.20
25S (1B5/25S)	1.80
25Y5	3.20
25Z5	1.35
25Z6	1.80
25Z6G, GT	1.35
26	1.05
27	.95
27S	3.20
30	1.35
31	1.35
32	1.80
32L7GT	2.65
33	1.80
34	1.80
35 (35/51)	1.35
35A5	1.80
35L6G	1.80
35L6GT	1.35
35S (35S/51S)	3.20
35W4	1.50
35Y4	2.20
35Z3	1.80
35Z4GT	1.10
35Z5G	1.80
35Z5GT	1.15
35Z6G	1.80
36	1.35
37	1.15
38	1.50
39/44	1.35
40	2.20
40Z5 (45Z5GT)	1.50
41	1.15
42	1.15
43	1.50
45	1.10
45Z3	1.50
45Z5GT (40Z5)	1.50
46	1.50
46A1	1.80
46B1	1.80
47	1.50
48	3.90
49	1.80
50	3.20
50A5	2.65
50B5	3.20
50C6G	2.65
50L6GT	1.50
50Y6G, GT	1.50
50X6	2.20
50Z7G	1.80
52	$3.90
53	2.20
55	1.50
55S	3.20
56	1.10
56AS	3.20
56S	3.20
57	1.25
57AS	3.20
57S	3.20
58	1.25
58AS	3.20
58S	3.20
59	2.20
70A7GT	3.20
70L7GT	2.65
71A	1.25
75	1.15
75S	3.20
76	1.25
77	1.25
78	1.25
79	2.20
80	.95
81	2.65
82	1.80
83	1.80
83V	2.65
84/6Z4	1.50
85	1.25
85AS	3.20
89	1.35
VR90-30 (OB3)	3.20
99 (X99)	3.90
V99	3.90
100-70	1.80
VR105-30 (OC3)	3.20
117L7GT	3.20
117L7/M7GT	3.20
117M7GT	3.20
117N7GT	3.20
117P7GT	3.20
117Z3	2.20
117Z4GT	2.20
117Z6G, GT	2.20
VR150-30 (OD3)	3.20
182B (182B/482B)	2.65
183 (183/483)	2.65
401	2.65
485	2.65
950	2.65
OB3 (VR90-30)	3.20
OC3 (VR105-30)	3.20
OD3 (VR150-30)	3.20
XXD (14AF7)	2.20
XXFM (7X7)	2.65
XXL	2.20

All radio tubes are guaranteed for not less than 90 days from date of sale.

SYLVANIA PANEL LAMPS

Type No.	Filament Volts	Filament Ampere	Bulb Style	Type of Base	Bead Color
S40	6-8	0.15	T-3 ¼	Screw	Brown
S41	2.5	0.50	T-3 ¼	Screw	White
S42	3.2	0.35	T-3 ¼	Screw	Green
S43	2.5	0.50	T-3 ¼	Bayonet	White
S44	6-8	0.25	T-3 ¼	Bayonet	Blue
S45	3.2	0.35	T-3 ¼	Bayonet	White
S46	6-8	0.25	T-3 ¼	Screw	Blue
*S47	6-8	0.15	T-3 ¼	Bayonet	Brown
S48	2.0	0.06	T-3 ¼	Screw	Pink
*S49	2.0	0.06	T-3 ¼	Bayonet	Pink
S50	6-8	0.20	G-3 ½	Screw	White
S51	6-8	0.20	G-3 ½	Bayonet	White
S55	6-8	0.40	G-4 ½	Bayonet	White
S292	2.9	0.17	T-3 ¼	Screw	White
S292A	2.9	0.17	T-3 ¼	Bayonet	White
S1455	18.0	0.25	G-5	Screw	Brown
S1455A	18.0	0.25	G-5	Bayonet	Brown

DIMENSIONS (Actual Sizes)



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*Sylvania Types S47 and S49 are interchangeable with Types 40A and 49A respectively, in any other brand.

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- Power Measurement Lamps
- Gas, Voltage Regulators
- Electronic Devices
- Synchroscopes
- Spectrum Analyzers
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- Dilatometers
- Magnetrons
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- Glow Modulator Tubes
- Flash Tubes
- Thyratrons
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ELECTRIC

ARCTURUS
"KNOWN THE WORLD OVER"

STANDARD ARCTURUS CORPORATION

NEWARK 4, N. J.

The Oldest Name in Electronic Tubes

TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST
00A	$3.20	2B7	$1.80	6E5	$1.50	6ST7	$2.20	12J5GT	$1.35	30	$1.35
01A	1.25	2E5	1.80	6E6	2.65	6SZ7	2.20	12J7G	1.80	31	1.35
0A4G	2.65	2G5	2.20	6E7	3.20	6T5	3.20	12J7GT	1.50	32	1.80
0Z4	2.20	2V3G	3.90	6F5	1.50	6T7G	1.80	12K7GT	1.35	32L7GT	2.65
0Z4G	2.20	2W3	1.80	6F5G	1.50	6U5/6G5	1.80	12K8	2.20	33	1.80
1A3	1.80	2X2/879	3.20	6F5GT	1.35	6U6GT	1.80	12K8GT	1.80	34	1.80
1A4P	2.20	2Z2/G84	3.20	6F6	1.50	6U7G	1.35	12Q7G	1.80	35(35/51)	1.35
1A5G	2.20	3A8GT	3.20	6F6G	1.25	6V6	2.65	12Q7GT	1.25	35A5	1.80
1A5GT	1.50	3B5GT	2.20	6F6GT	1.15	6V6G	1.80	12SA7	1.35	35L6G	1.80
1A6	1.80	3B7(3B7/1291)	3.20	6F7	2.20	6V6GT	1.50	12SA7GT	1.80	35L6GT	1.35
1A7G	2.20	3D6(3D6/1299)	3.20	6F8G	1.80	6V7	3.20	12SC7	1.80	35W4	1.50
1A7GT	1.80	3E6	3.20	6G5(6U5/6G5)	1.80	6V7G	1.80	12SF5	1.50	35Y4	2.20
1AB5	2.65	3LE4	3.20	6G6G	1.80	6W5G	2.65	12SF5GT	1.50	35Z3	1.80
1B4P	1.80	3LF4	2.65	6H4GT	2.65	6W7G	2.20	12SF7	1.80	35Z4GT	1.10
1B5/25S	1.80	3Q4	2.20	6H6	1.50	6X4	1.50	12SG7	1.80	35Z5G	1.80
1B7G/GT	1.80	3Q5GT/G	2.20	6H6G/GT	1.50	6X5	2.20	12SH7	1.80	35Z5GT	1.15
1C5G	2.20	3S4	2.20	6J5	1.25	6X5G	1.50	12SH7GT	1.80	35Z6G	1.80
1C5GT	1.80	4A6G	2.65	6J5G	1.35	6X5GT	1.35	12SJ7	1.50	36	1.35
1C6	1.80	5T4	2.65	6J5GT	1.25	6Y5	3.20	12SJ7GT	1.50	37	1.15
1C7G	1.80	5U4G	1.35	6J6	2.65	6Y6G	2.20	12SK7	1.35	38	1.50
1C8	3.20	5V4G	2.20	6J7	1.80	6Y7G	2.20	12SK7GT	1.50	39/44	1.35
1D5GP	1.80	5W4	1.50	6J7G/GT	1.50	6Z4	1.50	12SL7GT	2.20	40	2.20
1D5G/GT	1.80	5W4G/GT	1.25	6J8G	2.20	6Z5	3.20	12SN7GT	1.80	40Z5	1.50
1D7G	2.20	5X4G	1.50	6K4	3.90	6Z7G	2.65	12SQ7	1.35	41	1.15
1D8GT	2.65	5Y3G/GT	.95	6K5G	1.50	6ZY5G	1.80	12SQ7GT	1.50	42	1.15
1E4G	1.80	5Y4G	1.05	6K6G	1.50	7A4	1.80	12SR7	1.80	43	1.50
1E5GP/G/GT	2.20	5Z3	1.50	6K6GT	1.35	7A5	1.80	12SR7GT	1.80	45	1.10
1E7G	3.20	5Z4	1.80	6K7	1.50	7A6	1.80	12Z3	1.35	45Z3	1.50
1F4	1.80	6A3	2.65	6K7G	1.50	7A7	1.80	12Z5	3.20	45Z5GT	1.50
1F5G	1.80	6A4/LA	2.20	6K7GT	1.35	7A8	1.80	14A4	2.65	46	1.50
1F6	2.20	6A5G	3.90	6K8	1.80	7AG7	2.20	14A5	3.90	47	1.50
1F7G/GH/GV	2.20	6A6	2.20	6K8G/GT	1.50	7B4	1.80	14A7(14A7/12B7)	2.65	48	3.90
1G4G/GT	1.80	6A7	1.35	6L5G	1.50	7B5	1.80	14AF7(XXD)	2.20	49	1.80
1G5G	1.80	6A8	1.80	6L6	2.65	7B6	1.80	14B6	2.20	50	3.20
1G6G/GT	2.20	6A8G/GT	1.35	6L6G/GA	2.65	7B7	1.80	14B8	2.65	50A5	2.65
1H4G	1.35	6AB5/6N5	2.20	6L7	2.20	7B8	1.80	14C5	2.65	50B5	3.20
1H5G	1.80	6AB7/1853	2.65	6L7G	2.20	7C5	1.80	14C7	2.65	50C6G	2.65
1H5GT	1.50	6AC5G	1.80	6N5(6AB5/6N5)	2.20	7C6	1.80	14E6	1.80	50L6GT	1.50
1H6G	1.80	6AC5GT	1.50	6N6G	3.20	7C7	1.80	14E7	2.20	50Y6G/GT	1.50
1J5G	2.65	6AC7/1852	3.20	6N7	2.20	7E6	1.80	14F7	2.65	50Z7G	1.80
1J6G	1.80	6AD6G	2.20	6N7G/GT	2.20	7E7	2.20	14H7	2.65	52	3.90
1L4	2.20	6AD7G	2.20	6P5G	1.15	7F7	2.20	14J7	2.65	53	2.20
1LA4	3.20	6AE5G	1.80	6P5GT	1.10	7F8	2.65	14N7	2.65	55	1.50
1LA6	3.20	6AE5GT	1.80	6P7G	3.20	7G7(7G7/1232)	2.65	14Q7	2.20	56	1.10
1LB4	3.20	6AE6G	1.80	6Q6G	1.80	7H7	2.65	14R7	2.20	57	1.25
1LC5	3.20	6AE7GT	1.80	6Q7	1.80	7J7	2.65	14S7	2.65	58	1.25
1LC6	3.20	6AF5G	1.80	6Q7G/GT	1.25	7K7	2.65	14W7	3.20	59	2.20
1LD5	3.20	6AF6G	2.20	6R6G	3.90	7L7	2.65	14Y4	2.65	70A7GT	3.20
1LE3	2.65	6AG5	3.20	6R7	2.20	7N7	2.65	15	2.65	70L7GT	2.65
1LG5	3.20	6AG7	3.20	6R7G	1.50	7Q7	1.80	18	2.65	71A	1.25
1LH4	3.20	6AK6	2.80	6R7GT	1.25	7R7	2.65	19	1.80	75	1.15
1LN5	3.20	6AL5	2.20	6S7	2.20	7S7	2.65	20	3.90	76	1.25
1N5G	2.20	6AQ5	2.20	6S7G	2.20	7V7	3.20	22	3.20	77	1.25
1N5GT	1.80	6AQ6	2.20	6SA7	1.35	7W7	3.20	24A	1.25	78	1.25
1N6G	1.80	6AT6	1.80	6SA7GT	1.50	7X7(XXFM)	2.65	25A6	2.65	79	2.20
1P5G/GT	2.20	6AU6	2.20	6SB7Y	2.65	7Y4	1.80	25A6G/GT	1.50	80	.95
1Q5G/GT	2.20	6B4G	2.65	6SC7	1.80	7Z4	1.80	25A7G/GT	2.20	81	2.65
1R4(1R4/1294)	2.65	6B5	2.65	6SD7GT	1.80	10	3.90	25AC5G/GT	2.20	82	1.80
1R5	2.20	6B6G	1.50	6SF5	1.35	12A	1.35	25B5	3.20	83	1.80
1S4	2.20	6B7	1.80	6SF5GT	1.35	12A5	3.20	25B6G	2.65	83V	2.65
1S5	2.20	6BA6	2.20	6SF7	1.80	12A6	2.65	25B8GT	2.65	84/6Z4	1.50
1SA6GT	2.20	6BE6	2.20	6SG7	1.80	12A6GT	2.65	25C6G	2.65	85	1.25
1SB6GT	2.20	6B8	2.65	6SH7	1.80	12A7	2.65	25D8GT	2.65	89	1.35
1T4	2.20	6B8G/GT	1.80	6SH7GT	1.80	12A8GT	1.35	25L6	2.20	117L7GT	3.20
1T5GT	2.20	6C4	1.80	6SJ7	1.50	12AH7GT	2.20	25L6G	1.80	117N7GT	3.20
1U4	2.20	6C5	1.50	6SJ7GT	1.50	12AT6	2.20	25L6GT	1.50	117P7GT	3.20
1V	1.35	6C5G/GT	1.35	6SK7	1.35	12B7(14A7/12B7)	2.65	25N6G	3.20	117Z3	2.20
1V5	3.20	6C6	1.35	6SK7GT	1.50	12B8GT	2.20	25Y5	3.20	117Z4GT	2.20
1W5	3.20	6C7	3.20	6SL7GT	2.20	12BA6	2.20	25Z5	1.35	117Z6GT	2.20
2A3	2.65	6C8G	2.20	6SN7GT	1.80	12BE6	2.20	25Z6	1.80	OB3(VR90-30)	3.20
2A4G	3.20	6D5G	2.20	6SQ7	1.35	12C8	2.65	25Z6G/GT	1.35	OC3(VR105-30)	3.20
2A5	1.35	6D6	1.35	6SQ7GT	1.50	12F5GT	1.35	26	1.05	OD3(VR150-30)	3.20
2A6	1.35	6D7	3.20	6SR7	1.50	12H6	1.50	27	.95	XXL	2.20
2A7	1.50	6D8G	2.20	6SS7	1.35						

Cathode-Ray, Industrial, Special Purpose, Transmission, Photo-Electric, X-Ray, Low-wattage Rectifier, Welding, Grid-controlled Rectifier Tube prices and discounts on request.

TUNG-SOL
RADIO TUBES

PRICE LIST—NOVEMBER 1, 1946

Type No.	Description	List Price
0Z4 Met	Cold Cathode Full-Wave Rectifier	$2.20
0Z4G	Cold Cathode Full-Wave Rectfier	2.20
1A4P	Remote Cut-Off Pentode Amplifier	2.20
1U4	Sharp Cut-Off RF Pentode Amplifier	2.20
1A5GT	Power Pentode	1.50
1A6	Pentagrid Converter	1.80
1A7GT	Pentagrid Converter	1.80
1B5	Duo-Diode Triode Amplifier	1.80
1C5GT	Power Pentode	1.80
1C6	Pentagrid Converter	1.80
1C7G	Pentagrid Converter	1.80
1D5GP	Remote Cut-Off Pentode Amplifier	1.80
1D7G	Pentagrid Converter	2.20
1F4	Power Pentode	1.80
1F5G	Power Pentode	1.80
1G4GT	Triode Amplifier	1.80
1G6GT	Twin Power Triodes	2.20
1H4G	Triode Amplifier	1.35
1H5G	Diode Triode Amplifier	1.80
1H5GT	Diode Triode Amplifier	1.50
1H6G	Duo-Diode Triode Amplifier	1.80
1J6G	Twin Power Triodes	1.80
1L4	R-F Amplifier Pentode Min.	2.20
1LA4 Loc	Power Pentode	3.20
1LA6 Loc	Pentagrid Converter	3.20
1LB4 Loc	Power Pentode	3.20
1LH4 Loc	Diode-Triode Amplifier	3.20
1LN5 Loc	RF Triple Grid Amplifier	3.20
1N5GT	RF Pentode Amplifier	1.80
1P5GT	Remote Cut-Off Triple-Grid Amplifier	2.20
1Q5GT	Beam Power Tube	2.20
1R5	Pentagrid Converter (miniature type)	2.20
1S4	Pentode Power Amplifier (miniature type)	2.20
1S5	Diode Pentode Amplifier (miniature type)	2.20
1T4	Diode Pentode Amplifier (miniature type)	2.20
1T5GT	Beam Power Tube	2.20
1V	Half-Wave Rectifier	1.35
2A3	Power Triode	2.65
2A4G	Argon Filled Thyratron	3.20
2A5	Power Pentode	1.35
2A6	Duo-Diode High-Mu Triode Amplifier	1.35
2A7	Pentagrid Converter	1.50
3A8GT	Diode Triode Pentode Amplifier	3.20
3Q4	Power Amp. Pentode Min.	2.20
3Q5GT	Beam Power Tube	2.20
3S4	Pentode Power Amplifier (miniature type)	$2.20
5U4G	Full-Wave Rectifier	1.35
5V4G	Full-Wave Rectifier	2.20
5W4GT/G	Full-Wave Rectifier	1.25
5X4G	Full-Wave Rectifier	1.50
5Y3GT	Full-Wave Rectifier	.95
5Y4G	Full-Wave Rectifier	1.05
5Z3	Full-Wave Rectifier	1.50
6A3	Power Triode	2.65
6A6	Twin Power Triodes	2.20
6A7	Pentagrid Converter	1.35
6A8GT	Pentagrid Converter	1.35
6AB7/1853	Television Amplifier Pentode	2.65
6AC5GT	Power Triode	1.50
6AC7/1852	Amplifier Pentode	3.20
6AD7G	Triode-Pentode Power Amplifier	2.20
6AF6G	Electron Ray Tube	1.80
6AQ5	Beam Power Amplifier Tetrode	1.80
6AT6	Duplex-Diode High Mu-Triode	1.80
6AU6	RF Amplifier Pentode With Sharp Cutoff	2.20
6A8G	Pentagrid Converter	1.35
6BA6	Remote Cut-Off RF Amplifier Pentode	2.20
6BE6	Pentagrid Converter	2.20
6B4G	Power Triode	2.65
6B7	Duo-Diode Pentode Amplifier	1.80
6B8G	Duo-Diode Pentode Amplifier	1.80
6C6	RF Triple Grid Amplifier	1.35
6C8G	Twin Triodes Amplifier	2.20
6D6	Remote Cut-Off Triple Grid Amplifier	1.35
6D8G	Pentagrid Converter	2.20
6E5	Electron Ray Tube	1.50
6F5GT	High-Mu Triode Amplifier	1.35
6F6GT	Power Pentode	1.15
6F7	Triode Pentode Amplifier	2.20
6F8G	Twin Triode Amplifier	1.80
6G6G	Power Pentode	1.80
6H6GT	Twin Diode Rectifier	1.50
6J5GT	Triode Amplifier	1.25
6J7G	RF Triple Grid Amplifier	1.50
6J7GT	RF Triple Grid Amplifier	1.50
6J8G	Triode Heptode Converter	2.20
6K6GT	Power Pentode	1.35
6K7G	Remote Cut-Off Triple Grid Amplifier	1.50
6K7GT	Remote Cut-Off Triple Grid Amplifier	1.35
6K8GT	Triode Hexode Converter	1.80
6L5G	Triode Amplifier	1.50
6L6G	Beam Power Tube	2.65
6L7G	Pentagrid Mixer	2.20
6N7GT	Twin Power Triodes	2.20
6P5GT	Triode Amplifier	1.10
6Q7GT	Duo-Dide High-Mu Triode Amplifier	1.25
6R7GT	Duo-Diode Triode Amplifier	1.25

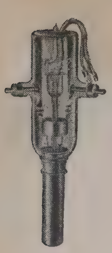
(Continued next page)

TUNG-SOL RADIO TUBES (con.)

Type No.	Description	List Price
6S7G	Remote Cut-Off Triple Grid Amplifier	$2.20
6S8GT	Triple Diode Triode	2.20
6SA7GT	Pentagrid Converter	1.50
6SC7GT	Twin Triode Amp.	1.80
6SD7GT	Semi-Remote Cut-Off Triple Grid Amplifier	1.80
6SF5GT	High-Mu Triode Amplifier	1.35
6SJ7GT	RF Triple Grid Amplifier	1.50
6SK7GT	Remote Cut-Off Triple Grid Amplifier	1.50
6SL7GT	Twin Triode Amplifier	2.20
6SN7GT	Twin Triode Amplifier	1.80
6SQ7GT	Duo-Diode High-Mu Triode Amplifier	1.50
6SS7GT	Remote Cut-Off Pentode Amplifier	1.35
6T7G	Duo-Diode High-Mu Triode Amplifier	1.80
6U5/6G5	Electron Ray Tube	1.80
6U7G	Remote Cut-Off Triple Grid Amplifier	1.35
6V6GT	Beam Power Tube	1.50
6X4	Full-Wave Rectifier	1.50
6X5GT	Full-Wave Rectifier	1.35
6Y6G	Beam Power Tube	2.20
6ZY5G	Full-Wave Rectifier	1.80
7A4 Loc	Triode Amplifier	1.80
7A5 Loc	Beam Power Tube	1.80
7A6 Loc	Twin Diode Rectifier	1.80
7A7 Loc	Remote Cut-Off Triple Grid Amplifier	1.80
7A8 Loc	Octode Converter	1.80
7B4 Loc	High-Mu Triode	1.80
7B5 Loc	Power Pentode	1.80
7B6 Loc	Duo-Diode High-Mu Triode Amplifier	1.80
7B7 Loc	Remote Cut-Off RF Triple Grid Amplifier	1.80
7B8 Loc	Pentagrid Converter	1.80
7C5 Loc	Beam Power Tube	1.80
7C6 Loc	Power Triode	1.80
7C7 Loc	RF Triple Grid Amplifier	1.80
7E6 Loc	Duo-Diode Triode Amplifier	1.80
7E7 Loc	Duo-Diode Pentode Amplifier	2.20
7F7 Loc	Twin Triodes Amplifier	2.20
7G7/1232 Loc	Triple Grid Amplifier	2.65
7H7 Loc	Semi-Remote Cut-Off Triple Grid Amplifier	2.65
7J7 Loc	Triode Heptode Converter	2.65
7N7 Loc	Twin Triode Amplifier	2.65
7L7 Loc	RF Triple Grid Amplifier	2.65
7Q7 Loc	Pentagrid Converter	1.80
7Y4 Loc	Duo-Diode Hugh-Mu Triode Amplifier	1.80
10	Full-Wave Rectifier	3.90
12A	Triode Amplifier	1.35
12A8GT	Pentagrid Converter	1.35
12AH7GT	Twin Triode Amplifier	2.20
12AT6	Duplex-Diode High-Mu Triode	2.20
12BA6	Remote Cut-Off RF Amplifier Pentode	2.20
12BE6	Pentagrid Converter	2.20
12J5GT	Triode Amplifier	1.35
12J7GT	RF Triple Grid Amplifier	1.50
12K7GT	Remote Cut-Off Triple Amplifier	1.35
12Q7GT	Duo-Diode High-Mu Triode Amplifier	1.25
12SA7GT	Pentagrid Converter	1.80
12SF5GT	High-Mu Triode Amplifier	1.50
12SJ7GT	RF Triple Grid Amplifier	1.50
12SK7GT	Remote Cut-Off Triple Grid Amplifier	1.50
12SL7GT	Twin Triode Amplifier	2.20
12SN7GT	Twin-Triode Amplifier	1.80
12SQ7GT	Duo-Diode High-Mu Triode Amplifier	1.50
12SR7GT	Duo-Diode Triode	1.80
12Z3	Half-Wave Rectifier	1.35
14A7/12B7 Loc	Remote Cut-Off Triple Grid Amplifier	2.65
14B6 Loc	Duo Diode-Triode Detector Amplifier	$2.20
14F7 Loc	Twin High-Mu Triode Amplifier	2.65
14H7 Loc	Semi-Remote Cut-Off Triple Grid	2.65
14J7 Loc	Triode Hexode Converter	2.65
14Q7 Loc	Pentagrid Converter	2.20
14R7 Loc	Duo-Diode Pentode	2.20
19	Twin Power Triodes	1.80
24	RF Tetrode Rectifier	1.25
25A6 Met	Power Pentode	2.65
25L6GT	Beam Power Tube	1.50
25Z5	Full-Wave Rectifier Voltage Doubler	1.35
25Z6GT	Full-Wave Rectifier Voltage Doubler	1.35
26	Triode Amplifier	1.05
27	Triode Amplifier	.95
30	Triode Amplifier	1.35
32	RF Tetrode Amplifier	1.80
32L7GT	Beam Power Tube Half-Wave Rectifier	2.65
33	Power Pentode	1.80
34	Remote Cut-Off Pentode Amplifier	1.80
35	Remote Cut-Off Tetrode Amplifier	1.35
35A5 Loc	Beam Power Tube	1.80
35L6GT	Beam Power Tube	1.35
35W4	Half-Wave High Vacuum Rectifier	1.35
35Z3 Loc	Half-Wave Rectifier	1.80
35Z4GT	Half-Wave Rectifier	1.10
35Z5GT	Half-Wave Tapped Heated Rectifier	1.15
36	RF Tetrode Amplifier	1.35
37	Triode Amplifier	1.15
38	Power Pentode	1.50
39/44	Remote Cut-Off Pentode Amplifier	1.35
41	Power Pentode	1.15
42	Power Pentode	1.15
43	Power Pentode	1.50
45	Power Triode	1.10
45Z3	Miniature Type Half-Way Rectifier	1.50
46	Dual Grid Power Tube	1.50
47	Power Pentode	1.50
50	Power Triode	3.20
50A5 Loc	Beam Power Amplifier Tetrode	2.65
50B5	Beam Power Amplifier	2.20
50L6GT	Beam Power Tube	1.50
50Y6GT	Full-Wave Rectifier Voltage Doubler	1.50
53	Twin Power Triodes	2.20
56	Triode Amplifier	1.10
57	RF Triple Grid Amplifier	1.25
58	Remote Cut-Off Triple Grid Amplifier	1.25
70L7GT	Beam Power Tube Half-Wave Rectifier	2.65
71A	Power Triode	1.25
75	Duo-Diode High-Mu Triode Amplifier	1.15
76	Triode Amplifier	1.25
77	RF Triple Grid Amplifier	1.25
78	Remote Cut-Off Triple Grid Amplifier	1.25
80	Full-Wave Rectifier	.95
81	Half-Wave Rectifier	2.65
82	Mercury Vapor Full-Wave Rectifier	1.80
83	Mercury Vapor Full-Wave Rectifier	1.80
84/6Z4	Full-Wave Rectifier	1.50
85	Duo-Diode Triode Amplifier	1.25
117L7/M7GT	Beam Power Amplifier, Half-Wave Rectifier	3.20
117P7GT	Beam Power Amplifier, Half-Wave Rectifier	3.20
117Z3	Miniature Half Wave Rectifier	2.20
117Z6GT	Full-Wave Rectifier Voltage Doubler	2.20
950	Power Pentode	2.65

TUNG-SOL RADIO DIAL LAMPS

Lamp No.	Volts	Amperes	Approx. Candle-Power	Bead Color	Base	Bulb Type	List Price
40	6-8	0.15	0.5	Brown	Miniature Screw	T-3 ¼	$0.09
41	2.5	0.5	0.5	White	Miniature Screw	T-3 ¼	.09
43	2.5	0.5	0.5	White	Miniature Bayonet	T-3 ¼	.09
44	6-8	0.25	0.8	Blue	Miniature Bayonet	T-3 ¼	.09
46	6-8	0.25	0.8	Blue	Miniature Screw	T-3 ¼	.09
47	6-8	0.15	0.5	Brown	Miniature Bayonet	T-3 ¼	.09
48	2.0	0.06	....	Pink	Miniature Screw	T-3 ¼	.15
49	2.0	0.06	....	Pink	Miniature Bayonet	T-3 ¼	.15
50	6-8	0.2	1.0	White	Miniature Screw	G-3 ½	.10
51	6-8	0.2	1.0	White	Miniature Bayonet	G-3 ½	.08
55	6-8	0.4	2.0	White	Miniature Bayonet	G-4 ½	.08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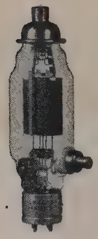
HF300

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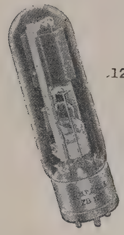
AMPEREX

HF200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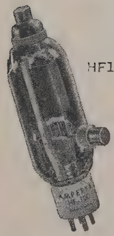

HF100

HF60

VC25
VC50

RADIATION COOLED TYPES

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
AB-150	$15.00	10.0	3.25
HF- 60	7.00	10.0	2.50
HF-100	12.50	10.0	2.50
HF-120	15.00	10.0	3.25
HF-125	17.50	10.0	3.25
HF-130	17.50	10.0	3.25
HF-140	15.00	10.0	3.25
HF-150	17.50	10.0	3.25
HF-175	19.00	10.0	4.00
HF-200	24.50	10.5	4.00
HF-201A	24.00	10.0	4.00
HF-250	27.50	10.5	4.00
HF-300	35.00	11.0	4.00
ZB-60	7.00	6.3	4.00
ZB-120	10.00	10.0	2.50
111H	12.50	10.0	2.50
203A	12.00	10.0	3.25
203H	17.50	10.0	3.25
204A	100.00	11.0	3.85
211	12.00	10.0	3.25
211C	17.50	10.0	3.25
211D	15.00	10.0	3.25
211H	17.50	10.0	3.25
212E, F	84.99	14.0	6.00
241B	90.25	14.0	6.00
242C	12.00	10.0	3.25
251A	194.45	10.0	16.00

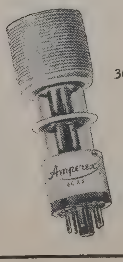
TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
261A	$17.50	10.0	3.25
270A	194.70	10.0	9.75
276A	15.00	10.0	3.25
279A	340.00	10.0	21.00
304B	12.50	7.5	3.25
308B	75.00	14.0	6.00
331	8.50	10.0	2.5
332	8.00	10.0	2.5
801A	3.00	7.5	1.25
803	21.00	10.0	5.0
805	10.00	10.0	3.25
807	2.30	6.3	0.9
810	12.50	10.0	4.50
811	3.50	6.3	4.0
812	3.50	6.3	4.0
813	14.50	10.0	5.0
830B	10.00	10.0	2.50
833A	45.00	10.0	10.00
834	12.50	7.5	3.25
838	12.00	10.0	3.25
841	3.80	7.5	1.25
845	12.00	10.0	3.25
849	120.00	11.0	5.00
849A	135.00	11.0	7.70
849H	135.00	10.0	11.50
851	210.00	11.0	15.50
852	25.00	10.0	3.25
8005	7.00	10.0	3.25

FULLY INTERCHANGEABLE: Type 203H with Amperex HF125, Type 211 C with Amperex HF130, Type 211H with Amperex HF150.

FORCED-AIR COOLED TYPES

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
220R*	$472.35	21.5	57.0
228R*	428.35	21.5	41.0
230R	75.00	7.5	20.0
3C22	72.00	6.3	2.0
889RA*	280.00	11.0	125.0
891R*	345.00	11.0▼	60.0

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
892R*	$345.00	11.0▼	60.0
893AR*	1050.00	10.0‡	61.0
8002R	137.50	16.0	38.0
HF3000§	300.00	21.5	40.5
ZB3200§	300.00	21.5	40.5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* Credits will be allowed for return of radiator and crate in good condition prepaid to factory in Brooklyn, N. Y, in accordance with this schedule.

$30.00	for	Type No.	889-RA
45.00	"	" Nos.	891-R, 892-R
50.00	"	" Nos.	220-R, 228-R
150.00	"	" No.	893-AR

▼Single or two-phase filament (two units); voltage is per unit.
‡Single-, three- or six-phase filament (three sections). Voltage is per section.
§All glass radiation and air-cooled transmitting tubes.

HELPFUL CHARTS AND LITERATURE FREE: Write for set of INTERCHANGEABILITY CHARTS, information at a glance, RAPID TUBE DATA REFERENCE TABLES, 8 pages of condensed information arranged for quick reference. Address your distributor of Amperex direct.

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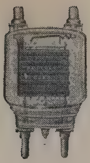
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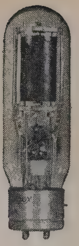
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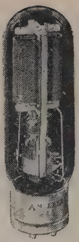
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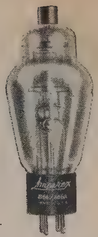
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ELECTRONIC TUBES

COMMUNICATION - RECTIFICATION - INDUSTRIAL
ELECTRO-MEDICAL - SPECIAL PURPOSE

869B

872A/872

WATER COOLED TYPES

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
207	$220.00	22.0	52.0
220C	397.35	21.5	41.0
228A	353.35	21.5	41.0
232C	626.50	20.0	72.0
233	475.00	24.0	70.0
342A	626.50	20.0	67.0
343A	397.50	21.5	57.5
846	220.00	11.0	51.0
858	375.00	22.0	52.0
859	400.00	11.0▼	71.0
889A	190.00	11.0	125.0
891	200.00	11.0▼	60.0
892	200.00	11.0▼	60.0
893A	570.00	10.0‡	61.0

▼Single or two-phase filament (two units); voltage is per unit.

‡ Single-, three- or six-phase filament (three sections). Voltage is per section.

MERCURY VAPOR RECTIFIERS

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
249B, C	$5.00	2.5	7.50
258B	9.85	2.5	7.50
266B, C	190.00	5.0	42.0
267B	23.00	5.0	6.75
315A	35.00	5.0	10.00
575A	28.00	5.0	10.00
673	28.00	5.0	10.00
816	1.25	2.5	2.00
857B	190.00	5.0	30.00
866A, 866	1.75	2.5	5.00
869B	120.00	5.0	20.00
872A, 872	7.50	5.0	6.75
8008	7.50	5.0	6.75

RADIATION COOLED HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
217C	$20.00	10	3.25
221A	15.00	5	10
404	190.00	20	35
836	6.00	2.5	5
1616	7.50	2.5	5.0
8020	18.00	5	6

WATER COOLED— HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
222A	$240.00	21.5	41.0
237A	435.00	20.0	61.0
562	300.00	22.0	52.0

889A

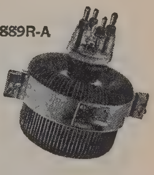
HIGH VACUUM CONDENSERS

TYPE NO.	CAPACITY	RATING	PRICE
VC50	50 uuf	30,000 Volts Peak	$18.75
VC25	25 uuf	30,000 Volts Peak	18.75

WATER JACKETS

TYPE NO.	Suitable for these Amperex types:
DW-1580	207, 891, 892.
DW-2000	220C, 222A, 232C, 233, 237A, 342A, 343A.
DW-2100	889A.
DW-2200	234.
DW-2500	858, 859, 562.
DW-2600	846
DW-2700	228A

NOTE: Amperex Water Jackets fit interchangeable tube types of other makers.

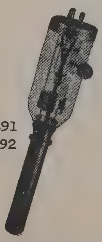

889R-A

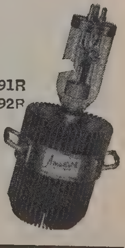
All prices quoted here are subject to change or withdrawal without notice.

AMPEREX

ELECTRONIC CORPORATION

25 Washington St., Brooklyn 1, N. Y


891
892


891R
892R

CETRON ELECTRONIC TUBES

Engineered and Manufactured by Continental Electric Co., Geneva, Ill.

CETRON PHOTOTUBES

CETRON phototubes are either of the gas-filled or of the vacuum type. With the gas-filled type, greater effective response is obtained, particularly in low impedance circuits, while the vacuum type is recommended where maximum stability is desired.

CETRON phototubes are selected as to their sensitivity and priced accordingly. Phototubes of the Super Class A/B are generally used for experimental purpose where very high sensitivities are required; Class C mostly for motion picture equipment; Class D for relay work, etc.

CETRON BLUE SENSITIVE TUBES

CETRON blue sensitive tubes comprise the most complete line of phototubes designed for sound reproduction work from dye recorded film.

Continental Electric also manufactures a complete line of special purpose phototubes such as: CE-5, CE-7, CE-8, CE-10, CE-15, CE-18, CE-20, CE-26, etc. We will be happy to work with you on design and development problems. Full data, prices, etc., will be forthcoming upon request.

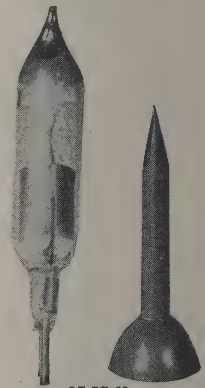
GAS-FILLED PHOTOTUBES

The rated sensitivity for Super Class A/B is 200 microamperes per lumen and up (average 300); Class C, 125-200 microamperes per lumen (average 160); Class D, 75-125 microamperes per lumen (average 100). These sensitivities are measured at recommended operation and test voltage as specified in our technical chart.

VACUUM PHOTOTUBES

The rated sensitivity for Super Class A/B is 30 microamperes per lumen and more (average 35); Class C, 22-30 microamperes per lumen (average 25); and Class D, 12-22 microamperes per lumen (average 16); all are measured at 250 Volts.

CE-1


CE-58-60

LIST PRICES

RED SENSITIVE TYPES, GAS-FILLED. RMA SPECTRAL RESPONSE S1.

Type	A/B	Class C	Class D	Replaces No.
CE-1	$6.20	$4.10	$2.60	868 918 PJ-23 WL-735
CE-2	8.50	5.50	3.30	WL-737
CE-3	8.50	5.50	3.30	WL-728 WE-3A
CE-4	8.50	5.50	3.30	—
CE-21	15.00	5.60	3.25	920
CE-22	8.50	4.00	2.40	924
CE-23	5.50	2.90	1.75	923
CE-25	10.00	4.20	2.50	927
CE 30	5.50	2.60	1.50	930
CE-36	10.00	4.20	2.50	—

RED SENSITIVE TYPES, VACUUM. RMA SPECTRAL RESPONSE S1.

Type	A/B	Class C	Class D	Replaces No.
CE-1V	$ 8.50	$3.50	$2.60	PJ-22
CE-2V	8.50	5.50	3.30	—
CE-4V	8.50	5.50	3.30	—
CE-11V	12.00	5.00	3.00	917
CE-13V*	12.00	5.00	3.00	—
CE-25V	10.00	6.00	3.50	—
CE-30V	5.50	2.80	1.85	925
CE-31V	12.00	5.00	3.00	919

BLUE SENSITIVE TYPES, GAS FILLED. RMA SPECTRAL RESPONSE S4.

CE 59Q	sensitivity 180 microamperes per lumen and up	$8.00
CE 59R	sensitivity 90-190 microamperes per lumen	3.00
CE 64Q	sensitivity 130 microamperes per lumen and up	8.00
CE 64R	sensitivity 65-130 microamperes per lumen	3.00
CE 74Q	sensitivity 160 microamperes per lumen and up	8.00
CE 74R	sensitivity 80-160 microamperes per lumen	4.50
CE 91Q	sensitivity 180 microamperes per lumen and up	8.00
CE 91R	sensitivity 90-180 microamperes per lumen (similar to 1P37)	2.50

BLUE SENSITIVE TYPES, VACUUM. RMA SPECTRAL RESPONSE S4.

CE 29Q	sensitivity 55 microamperes per lumen and up	$8.00
CE 29R	sensitivity 25-55 microamperes per lumen (similar to 929)	1.75
CE 34Q	sensitivity 36 microamperes per lumen and up	8.00
CE 34R	sensitivity 17-36 microamperes per lumen (similar to 934)	3.00
CE 61Q	sensitivity 55 microamperes per lumen and up	8.00
CE 61R	sensitivity 25-55 microamperes per lumen (similar to GL441)	4.50

CE-59

CE-25
CE-64

MINIATURE TYPES

CE 58 Red sensitive, gas filled. RMA Spectral response S1..

Class Q: Sensitivity 100 microamperes per lumen and up	$6.00
Class R: Sensitivity 50-100 microamperes per lumen	$4.00

CE 60 Blue sensitive, vacuum. RMA Spectral response S4.

Class Q: Sensitivity 18 microamperes per lumen and up	$6.00
Class R: Sensitivity 8-18 microamperes per lumen	$4.00

When ordering tubes state type and sensitivity desired; for instance, CE-1C.

CE-2

CETRON
CE-29
CE-29

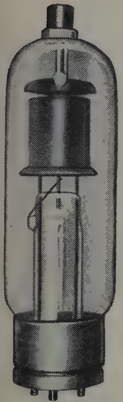
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CETRON ELECTRONIC TUBES

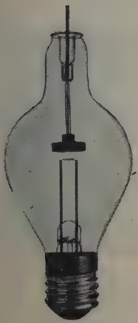
Engineered and Manufactured by Continental Electric Co., Geneva, Ill.

CETRON RECTIFIER and GRID CONTROL TUBES

CE-202



CE-872A



CE-226

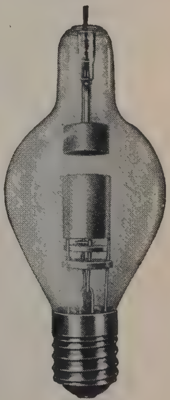
Type New No.	Old No.	Description	List Price	Data Sheet No.
CE-200	CR-200	2 amp. full wave mercury vapor 250 volts DC with standard 4 pin base	$ 7.75	111
CE-201		2 amp. full wave mercury vapor 250 volts DC with special 4 long pin base.	8.00	111
CE-202	—	15 amp. half wave mercury vapor 250 volts DC mogul Screw base	29.00	108
CE-203	—	15 amp. half wave mercury vapor 150 volts DC Mogul Screw base	10.50	104
CE-205	2-RA-5	5 amp. half wave mercury vapor 250 volts DC Mogul Screw base	12.60	105
CE-206	2-RA-6	6 amp half wave mercury vapor 90 volts DC Mogul Screw base	4.75	106
CE-212	—	2 amp. half wave gas filled 60 volts DC Medium Screw Base	4.00	120
CE-213	2-RA-3	2½ amp. half wave mercury vapor 600 volts DC standard 4 pin base	6.90	107
CE-215	2-RA-15	15 amp. half wave mercury vapor 75 volts DC Mogul Screw base	10.50	103
CE-220	CE-72	.020 amp. 20,000 half wave high vacuum, rect. tubes. Stand. 4 pin base	12.00	113
CE-221	4B25	6.4 amp. full wave gas filled 200 volts DC special 4 pin base	15.00	125
CE-224	4B24	2.5 amp. full wave gas filled 200 volts DC No. 412 4 pin base	9.60	124
CE-226	R-6-A	6 amp. half wave gas filled 90 volts DC Mogul Screw base	5.00	112
CE-230	3B24	.060 amp. 20,000 half wave high vacuum rect. med. 4 pin base	12.00	123
CE-235	R-15-A	15. amp. half wave gas filled 60 volts DC Mogul Screw base	10.00	109
CE-866A/866	VT-46A	.25 amp. half wave mercury vapor 10,000 peak inverse med. 4 pin base	1.50	129
CE-872A	VT-42A	1.25 amp. half wave mercury vapor 10,000 peak inverse jumbo 4 pin base	7.50	117
CE-8008	—	1.25 amp. half wave mercury vapor 12,000 peak inverse No. 4310 4 pin ind. base	7.50	128
CE-303	3C31	1 amp. grid control tube, gas filled standard 4 pin base	12.35	114
CE-304	—	12.5 amp. grid control mercury vapor 125 amp. peak current No. 4310 4 pin ind. base	59.00	119
CE-305	—	2 amp. grid control tube, gas filled, standard 4 pin base	16.40	116
CE-306	C6J	6 amp. grid control tube, gas filled, 77 amp. peak current, 4 pin base No. 412	25.00	118
CE-308	—	6 amp. grid control tube, gas filled, 40 amp. peak current, 4 pin base No. 412	25.00	122
CE-309	FG17	.5 amp. grid control tube mercury vapor 5000 peak inverse med. 4 pin base	6.50	126
CE-310	—	.64 amp. shield grid gas filled 1250 peak inverse med. 4 pin base	9.85	131
CE-311	3C23	1.50 amp. grid control tube mercury and gas filled 1000 peak inverse med. 4 pin base	11.00	127
CE-393A	—	1.50 amp. grid control tube mercury and gas filled 1250 peak inverse med. octal base	11.00	127

Engineering bulletins giving detailed specifications on all tubes listed here are available and may be had upon request. The extensive engineering and manufacturing facilities which we have, make possible the development and production of many types of special tubes. If you have a problem involving the use of any CETRON tubes you are invited to consult with us. We are also prepared to make special tubes to your specifications.

WARRANTY

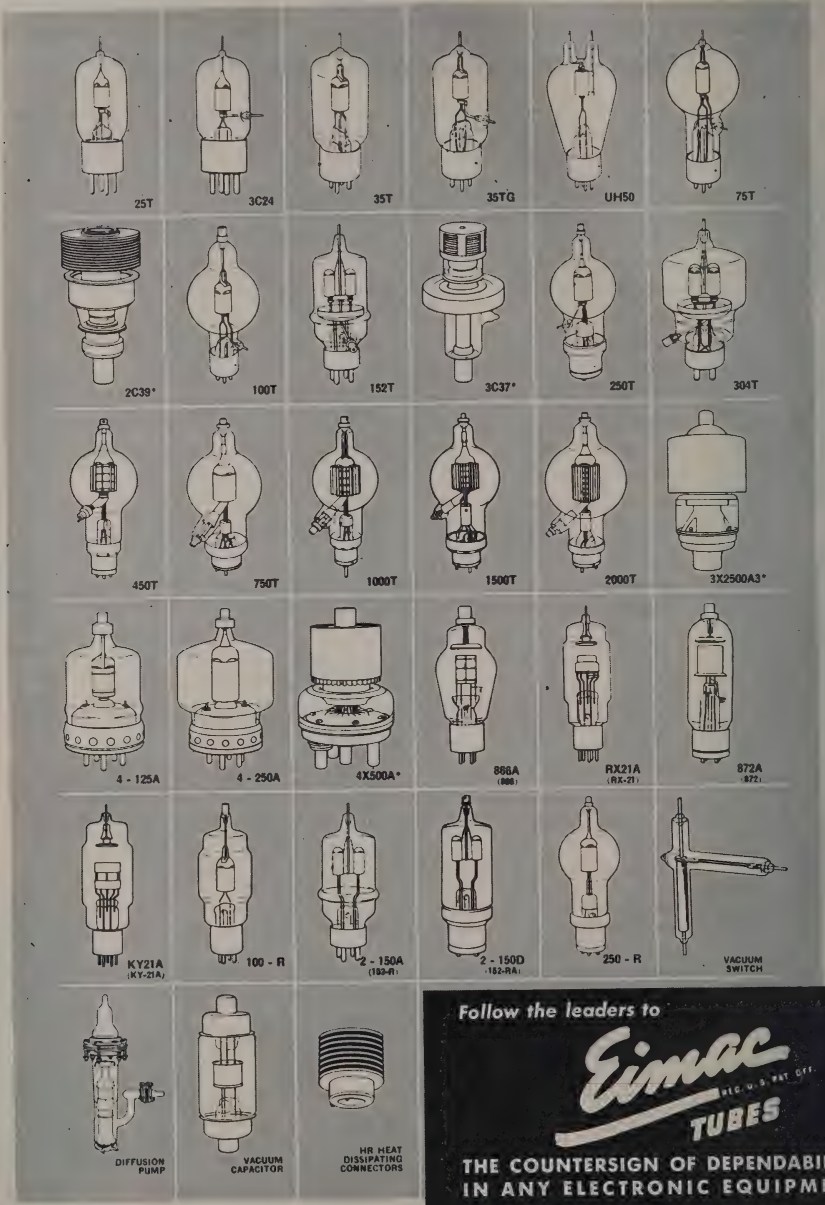
We guarantee all products manufactured by us to be free from all material and manufacturing defects and to give satisfactory service when operated in accordance with instructions indicated for their use.

Continental Electric Co.



CE-203

For over a decade, Eimac tubes have led the field in *performance*—the acid test of electronic equipment. Ultra-modern Eimac tubes provide maximum power and efficiency for today's equipment, and are ready and waiting for the needs of tomorrow. These pages contain basic data on many Eimac products. Refer to reverse side of sheet for brief technical data on Eimac products illustrated. Complete information is yours for the asking. Write today!


25T
3C24
35T
35TG
UH50
75T
2C39*
100T
152T
3C37*
250T
304T
450T
750T
1000T
1500T
2000T
3X2500A3*
4 - 125A
4 - 250A
4X500A*
866A (866)
RX21A (RX-21)
872A (872)
KY21A (KY-21A)
100 - R
2 - 150A (152-R)
2 - 150D (152-RA)
250 - R
VACUUM SWITCH
DIFFUSION PUMP
VACUUM CAPACITOR
HR HEAT DISSIPATING CONNECTORS

Follow the leaders to

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TUBES

THE COUNTERSIGN OF DEPENDABILITY IN ANY ELECTRONIC EQUIPMENT

EITEL-McCULLOUGH, INC., 1379 San Mateo Avenue, San Bruno, California

Export Agents: Frazar and Hansen, 301 Clay Street, San Francisco 11, California, U. S. A.

Net

EIMAC TRANSMITTING TUBES

	EIMAC TUBE TYPES	ELECTRICAL							MECHANICAL				MAX. RATINGS						TUBE PRICE	RECOMMENDED HR. HEAT DISSIPATING CONNECTORS	
		FIL. VOLTS	FIL. AMPS.	AMP. FACTOR	GRID-PLATE, UUF	INPUT, UUF	OUTPUT, UUF	TRANSCONDUCTANCE, UMHOS	BASE	BASING	MAX. LENGTH, INCHES	MAX. DIAMETER INCHES	PL. VOLTAGE	PL. CURRENT, MA.	SCREEN VOLTAGE	SCREEN DISSIPATION	GRID DISSIPATION, WATTS	PL. DISSIPATION WATTS		PLATE	GRID
TRIODES	25T	6.3	3.0	29	1.6	2.4	0.4	2500	M8-071	3G	4.38	1.43	2000	75	...	..	7	25	$ 6.00	HR-1	...
	3C24	6.3	3.0	25	1.6	1.8	0 2	2500	M8-071	3G	4.38	1.43	2000	75	.	.	8	25	6.00	HR-1	HR-1
	35T	5.0	4.0	30	1.9	4 0	0.2	2850	M8-078	3G	5 5	1 81	2000	150	..	..	15	50	7.00	HR-3	..
	35TG	5 0	4.0	30	1.9	1.9	0.2	2850	M8-078	2M	5 75	1 81	2000	150	.	..	15	50	8.00	HR-3	HR-3
	UH50	7.5	3.25	13	2.4	2.2	0.4	....	M8-078	2M	7 0	2.69	1250	125	...	..	13	50	15.00	HR-2	HR-2
	75TH	5.0	6.5	20	2.3	3.5	0.25	4150	M8-078	2M	7 25	2 81	3000	225	...		16	75	10.50	HR-3	HR-2
	75TL	5 0	6.5	11	2.3	2.2	0.4	3350	M8-078	2M	7 25	2.81	3000	225	. .	..	13	75	10.50	HR-3	HR-2
	2C39*	6.3	1.1	.	1.95	6.5	0.30	21,000	......	.	2.75	1.26	1000	100†	.	.	3	100	30.00	...	...
	100TH	5.0	6.2	40	2.0	2 9	0.4	5500	M8-078	2M	7 75	3 19	3000	225	...	..	20	100	15.00	HR-6	HR-2
	100TL	5.0	6.5	12	2 3	2.0	0.4	2300	M8-078	2M	7 75	3.19	3000	225	...	.	15	100	15.00	HR-6	HR-2
	152TH	5 or 10	13 or 6.5	20	4.7	7.0	0.5	8300	5000B	4BC	7.63	2.56	3000	450	..	..	30	150	24.00	HR-5	HR-6
	152TL	5 or 10	13 or 6.5	11	5 0	4 8	0.8	7150	5000B	4BC	7 63	2.56	3000	500	...	..	25	150	24.00	HR-5	HR-6
	3C37*	6.3	2.4	..	3.50	4.25	0.60	8000	......	...	3.10	1.50	1000	..			. .	150	45.00	. .	...
	250TH	5 0	10.5	37	2.9	5.0	0.7	6650	5001B	2N	10.13	3.81	4000	350	...	..	40	250	27.50	HR-6	HR-3
	250TL	5 0	10.5	13	3.5	3.0	0.5	2650	5001B	2N	10.13	3.81	4000	350	...	..	35	250	27.50	HR-6	HR-3
	304TH	5 or 10	26 or 13	20	9.4	14.0	1.0	16,700	5000B	4BC	7.63	3.56	3000	900	...	..	60	300	50.00	HR-7	HR-6
	304TL	5 or 10	26 or 13	11	10.0	10.0	1.5	16,700	5000B	4BC	7.63	3.56	3000	1000	...	..	50	300	50.00	HR-7	HR-6
	450TH	7 5	12.0	38	4.7	8.1	0.8	6650	5002B	4AQ	12.63	5.13	6000	500	...		80	450	70.00	HR-8	HR-8
	450TL	7.5	12.0	19	5.0	6.6	0.9	6060	5002B	4AQ	12.63	5.13	6000	500	..	..	65	450	70.00	HR-8	HR-8
	750TL	7.5	21.0	15	4.5	6.0	0.8	3500	5003B	4BD	17.0	7.13	6000	1000	. .	..	100	750	150.00	HR-8	HR-8
	1000T	7.5	16 0	30	4.0	6.0	0.6	9050	5004B	4AQ	12.63	5.13	6000	750	...	..	80	1000	125.00	HR-9	HR-9
	1500T	7.5	26.0	24	7.0	9.0	1.3	10,000	5005B	4BD	17.0	7.13	6000	1250	..	.	125	1500	200.00	HR-8	HR-9
	2000T	10.0	26.0	20	9.0	13.0	1.5	11,000	5006B	4BD	17.75	8.13	6000	1750	...	..	150	2000	250.00	HR-8	HR-9
	3X2500A3*	7.5	48	20	20	48	1.2	20,000	......	...	9.0	4.25	5000	2000	..	..	125	2500	165.00	...	. .
TETRODES	4-125A	5.0	6.2	6.2	0.03	10.3	3.0	2450	5008B	...	5.69	2.72	3000	225	400	30	5	125	25.00	HR-6	...
	4-250A	5.0	14.5	..	0.06	12.7	4.5	4000	5008B	...	6.38	3.56	4000	350	600	50	5	250	36.00	HR-6	...
	4X500A*	5.0	12.2	..	0.05	11.1	3.75	5200	......	...	4.32	2.57	4000	300	450	30	5	500	85.00	...	...

*External Anode requiring forced-aircooling.
†Cathode Current.

EIMAC RECTIFIERS

	MERCURY VAPOR RECTIFIERS				HIGH VACUUM RECTIFIERS			
	866A (866)	RX21A (RX-21)	872A (872)	KY21A (KY-21) (Grid Control)	100-R	2-150A (152-R)	2-150D (152-RA)	250-R
1. Filament Voltage........	2.5	2.5	5.0	2.5	5 0	5.0	5.0	5.0
2. Filament Current..........	5.0 amperes	10 amperes	7.5 amperes	10 amperes	6.5	13.0	13.0	10.5
3. Peak Inverse Voltage......	10,000	11,000	10,000	11,000	40,000	30,000	30,000	60,000
4. Peak Plate Current........	1.0 amperes	3 amperes	5.0 amperes	3 amperes	....	....	....	....
5. Average Plate Current.....	.25 amperes	.75 amperes	1.25 amperes	.75 amperes	.100 amperes	.150 amperes	.150 amperes	.250 amperes
Price............	$1 .75	$8.00	$7.50	$10.00	$13.50	$15 00	$15.00	$20.00

EIMAC VACUUM CAPACITORS

Type.......	VC6-20	VC12-20	VC25-20	VC50-20	VC6-32	VC12-32	VC25-32	VC50-32
Capacity....	6-mmfd	12-mmfd	25-mmfd	50-mmfd	6-mmfd	12-mmfd	25-mmfd	50-mmfd
Rating...... RF Peak	20-KV	20-KV	20-KV	20-KV	32-KV	32-KV	32-KV	32-KV
Price.......	$12 00	$13.50	$16.50	$20.00	$14.00	$16.00	$19.00	$22.50

HEAT DISSIPATING CONNECTORS

Type	Hole Dia.	Price	HR-5	.125	$ .80
HR-1	.052	$ .60	HR-6	.360	.80
HR-2	.0625	.60	HR-7	.125	1.60
HR-3	.070	.60	HR-8	.570	1.60
HR-4	.1015	.80	HR-9	.570	3.00

EIMAC DIFFUSION PUMP

HV-1 Diffusion Pump..	PRICE ON APPLICATION
An air-cooled vacuum pump of the oil-diffusion type. Capable of reaching an ultimate vacuum of 4×10^{-7} mm. of mercury when used with a suitable mechanical forepump. Speed (without baffle) approximately 67 liters/second at 4×10^{-4} to 4×10^{-6} mm.	
Eimac Pump Oil..	

EIMAC VACUUM SWITCHES

TYPE	GENERAL DATA	PRICE
VS-2...	Single pole double throw switch within a high vacuum adaptable for high voltage switching. Contact spacing .015". Switch will handle R-f potentials as high as 20 Kv. In DC switching will handle approximately 1.5 Amps at 5 Kv.	$12.00
VS-1...	Same as above except for slightly smaller glass tubulation.	$12.00

utline illustrations of many Eimac performance
aders appear on the reverse side of this sheet,
d black and white prints of each are available
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TUBES

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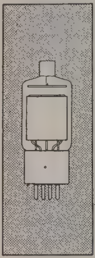
XENON GAS-FILLED

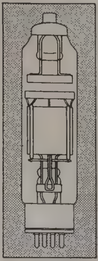
· GRID CONTROL RECTIFIERS ·



GRID CONTROL RECTIFIER
EL C1B

Filament Volts	2.5
Filament Amperes	6.3
D.C. Output (Amps.)	1.0
Peak Anode Current	8.0
Peak Forward Volts	450
Peak Inverse Volts	700

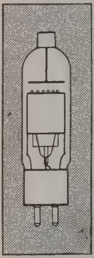
PRICE, $7.50



GRID CONTROL RECTIFIER
EL C6C

Filament Volts	2.5
Filament Amperes	24.0
D.C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	2000
Peak Inverse Volts	4000

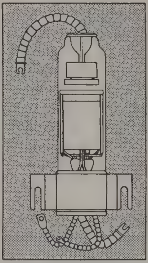
PRICE, $37.80



GRID CONTROL RECTIFIER
EL C3J

Filament Volts	2.5
Filament Amperes	9.0
D.C. Output (Amps.)	2.5
Peak Anode Current	30.0
Peak Forward Volts	750
Peak Inverse Volts	1250

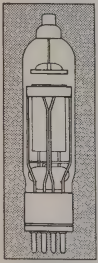
PRICE, $14.20



GRID CONTROL RECTIFIER
EL C16J

Filament Volts	2.5
Filament Amperes	31.0
D.C. Output (Amps.)	12.0
Peak Anode Current	100.0
Peak Forward Volts	1000
Peak Inverse Volts	1250

PRICE, $38.80



GRID CONTROL RECTIFIER
EL C6J

Filament Volts	2.5
Filament Amperes	21.0
D.C. Output (Amps.)	6.4
Peak Anode Current	77.0
Peak Forward Volts	750
Peak Inverse Volts	1250

PRICE, $21.50

SINCE 1928

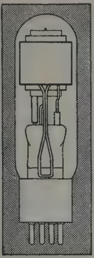
Electrons, Inc. has concentrated on continuous, systematic research in the development of hot-cathode, gaseous-discharge Rectifier and Control Rectifier Tubes, which would satisfy the demand for power tubes of outstanding reliability. The combination of xenon gas, tantalum anodes and tough cathode coatings has resulted in EL Rectifier Tubes of long and dependable life. Our engineering staff is always available to help solve problems arising from new and unusual applications of gaseous rectifier or grid control (Thyratron) tubes.

EL Rectifier TUBES

ELECTRONS, INC. **NEWARK, N. J.**

XENON GAS-FILLED

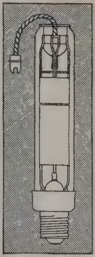
•RECTIFIERS•



FULL WAVE RECTIFIER
EL 1C

Filament Volts	2.5
Filament Amperes	6.0
D.C. Output (Amps.)	1.0
Peak Anode Current	4.0
A.C. Volts/Anode	250
Peak Inverse Volts	725

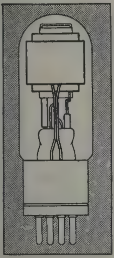
PRICE, $5.70



HALF WAVE RECTIFIER
EL 16B

Filament Volts	2.5
Filament Amperes	30-45
D.C. Output (Amps.)	16.0
Peak Anode Current	96.0
A.C. Volts/Anode	220
Peak Inverse Volts	620

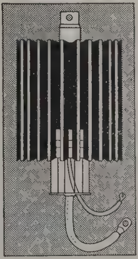
PRICE, $22.50



FULL WAVE RECTIFIER
EL 3C

Filament Volts	2.5
Filament Amperes	11.5
D.C. Output (Amps.)	2.5
Peak Anode Current	10.0
A.C. Volts/Anode	250
Peak Inverse Volts	725

PRICE, $8.25

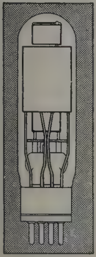


HALF WAVE RECTIFIER
EL 60B

Filament Volts (Heater type)	115
Heater Amperes	1.3
D.C. Output (Amps.)	50
Peak Anode Current	300
Peak Inverse Volts	1250

Metal Envelope, Convection Air Cooled

PRICE, $94.00



FULL WAVE RECTIFIER
EL 6C

Filament Volts	2.5
Filament Amperes	17.0
D.C. Output (Amps.)	6.4
Peak Anode Current	25.6
A.C. Volts/Anode	250
Peak Inverse Volts	725

PRICE, $12.60

AVAILABILITY

EL Rectifier Tubes are now available in large or small quantities at the lowest prices. Whether your power requirements are measured in fractional amperes or hundreds of horsepower, EL Rectifiers offer you a stable and dependable source of supply. Electrons, Incorporated, as always before, stand back of every tube purchased, assuring complete satisfaction in performance and reliability.

EL *Rectifier* TUBES

ELECTRONS, INC. **NEWARK, N. J.**

CHATHAM TUBES

Tubes listed on this page can be supplied direct from stock. Many other types are also available for immediate delivery. Write for catalog today. CHATHAM also designs, develops and manufactures special tubes to exact customer specification. Inquiries regarding this service are invited.

CHATHAM 866-A RECTIFIER

A rugged half wave Mercury Vapor rectifier to withstand high peak inverse voltages. Heavy duty filament. Fil. 2.5 volts, 5.0 amp. . . . Peak inverse anode voltage 10,000 volts, .25 amp. average anode current.

CHATHAM 394-A THYRATRON

A Mercury Vapor and Argon filled thyratron for grid controlled rectifier service . . . Amb. Temp. range of —40° C to +80° C, Heater 2.5 volts, 3.2 amp. . . . Peak inverse anode voltage 1250 volts, 640 ma. average anode current.

CHATHAM 2051 THYRATRON

An Argon filled shield grid thyratron for grid controlled rectifier service. Permits use of high resistance in grid current. Heater 6.3 volts, 0.6 amp. . . Peak inverse plate voltage 700 volts. 75 ma. average plate current.

CHATHAM 2050 THYRATRON

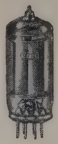
A Xenon filled shield grid thyratron for grid controlled rectifier service. Permits use of high resistance in grid current. Heater 6.3 volts, 0.6 amp. . . . Peak inverse plate voltage 1300 volts, average anode current 100 MA.

CHATHAM 884 THYRATRON

An Argon filled thyratron for use as a sweep circuit oscillator in cathode ray tube circuits. Stable oscillator. Heater 6.3 volts, 0.6 amp. . . . Peak forward plate voltage 300 volts, 75 ma. average plate current.

CHATHAM 4B32 RECTIFIER

A rugged half wave Xenon filled rectifier. Operates in any position throughout an ambient temperature range of —75° C to + 90° C Fil. 5 volts, 7.5 amp. . . . Inverse peak anode voltage 10,000 volts, 1.25 amp. average anode current.



CHATHAM 2D21 THYRATRON

A Xenon filled shield grid thyratron for grid controlled rectifier service. Permits use of high resistance in the grid circuit. Heater 6.3 volts .6 amp. . . . Inverse peak plate voltage 1300 volts, 100 ma. average plate current.

CHATHAM 2A4G THYRATRON

An Argon filled thyratron for grid controlled rectifier service . . . Quick heating time . . . High peak currents. Fil. 2.5 volts, 2.5 amp. . . . Peak inverse plate voltage 200 volts, 100 ma. average, plate current 1.25 amp. peak plate current.

CHATHAM 872-A RECTIFIER

A half wave Mercury Vapor rectifier to withstand high peak inverse voltages. Heavy duty filament. Fil. 5 volts, 7.5 amp. . . . Peak inverse anode voltage 10,000 volts, 1.25 amp. average anode current.

CHATHAM 885 THYRATRON

An Argon filled thyratron for use as a sweep circuit oscillator in cathode ray tube circuits. Stable oscillator. Heater 2.5 volts, 1.4 amp. . . . Peak forward plate voltage 300 volts, 75 ma. average plate current.

CHATHAM 17 THYRATRON

A Mercury Vapor thyratron for grid controlled rectifier and general application . . . rugged filamentary cathode. Fil. 2.5 volts, 5.0 amp . . . Peak inverse anode voltage 5,000 volts, 0.5 amp. average anode current.

CHATHAM 3B28 RECTIFIER

This rugged half wave Xenon filled rectifier will operate in any position and throughout an ambient temperature range of —75° C to +90° C. Fil. 2.5 volts, 5.0 amp. . . . Inverse peak anode voltage 10,000 volts, .25 amp. average anode current.

CHATHAM 1Z2 RECTIFIER

A small bulb high voltage vacuum rectifier. Low cathode heating power and low dielectric losses make tube suitable for radio frequency supply circuits. Fil. 1.5 volts, .290 amp. . . . Inverse peak plate voltage 20,000 volts, 2 ma. average plate current, 10 ma. peak plate current.

CHATHAM ELECTRONICS

475 WASHINGTON STREET, NEWARK 2, NEW JERSEY

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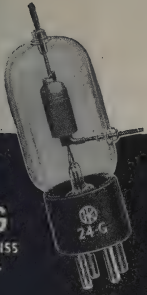
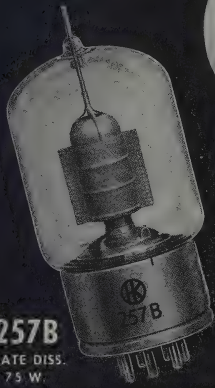
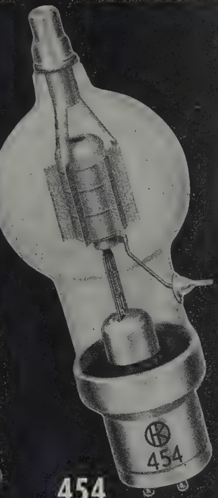
GAMMATRON TUBES


24G
PLATE DISS
25 W.


257B
PLATE DISS.
75 W.


454
PLATE DISS.
250 W.

This complete line, covering a power range of 50 to 5,000 watts, embodies 19 years of pioneering and experience in the design and manufacture of tantalum tubes.

Special plate, grid, and filament design, and new metal-to-glass seals, give Gammatrons remarkable VHF performance. Other features: ability to withstand high plate voltages, complete protection against tube failure due to overloading, and long, efficient operating life.

The Gammatron engineers responsible for these developments will be glad to help you with your special problems.

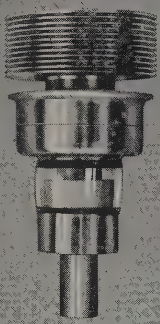
HEINTZ AND KAUFMAN LTD.
SOUTH SAN FRANCISCO CALIFORNIA U.S.A.

TYPE NO.	24	24G	54	254	257B*	354C	354E	454L	454H	654	854L	854H	1054L	1554	3054
MAX. POWER OUTPUT: Class 'C' R. F.	90	90	250	400	300	600	600	900	900	1400	1800	1800	3000	3600	5300
PLATE DISSIPATION: Watts	25	25	50	100	75	150	150	250	250	300	450	450	750	1000	1500
AVER. AMPLIFICATION FACTOR	25	25	27	25	—	14	35	13.5	27	22	16	30	13.5	12.5	19
MAXIMUM RATINGS: Plate Volts	2000	2000	3000	4000	4000	4000	4000	5000	5000	4000	6000	6000	6000	5000	5000
Plate M. A.	75	75	150	225	150	300	300	375	375	600	600	600	1000	1000	2000
Grid M. A.	25	25	30	40	25	60	85	60	85	100	80	110	150	250	500
MAX. FREQUENCY, Mc.: Power Amplifier	250	300	200	175	150	50	50	150	150	50	100	100	75	30	30
INTERELECTRODE CAP. Cg-p u.u.f.	1.3	1.6	1.8	2.7	0.08	3.3	3.3	3.2	3.5	5.4	5.2	4.7	5.3	11.5	13.1
Cg-f u.u.f.	2.1	1.8	2.0	2.5	10.5 in	4.4	4.6	3.9	4.1	6.6	6.7	8.8	7.9	15.2	23.0
Cp-f u.u.f.	0.2	0.2	0.2	0.4	4.7 out	0.7	0.5	0.7	0.6	0.8	0.9	0.7	1.2	1.2	2.0
FILAMENT: Volts	6.3	6.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.5	7.5	7.5	7.5	11.0	14.0
Amperes	3.0	3.0	5.0	7.5	7.5	10.0	10.0	10.0	10.0	15.0	12.0	12.0	20.0	22.5	45.0
PHYSICAL: Max. Height, Inches	4⅜	4⅜	5⅝	7¼	6 3/16	9 3/16	9 3/16	10⅛	10⅛	10 11/16	12⅝	12⅝	17	19	30½
Max. Diameter, Inches	1 7/16	1 7/16	2 1/16	2 11/16	2 11/16	3 7/16	3 7/16	3 13/16	3 13/16	3 13/16	5⅛	5⅛	7⅛	6⅛	9⅛
Weight, Oz.	1¼	1¼	2½	5	5½	8½	8½	8	8	12	15	15	36	54	200
Base	Small UX	Small UX	Std. UX	Std. 50 Watt	Giant 7 Pin	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Johnson #214	HK 255	HK 255

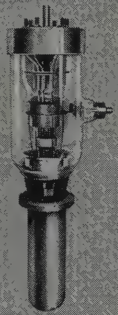
*Beam Pentode

WRITE FOR FULL DATA ON ALL **GAMMATRONS**

MACHLETT ELECTRON TUBES FOR ALL RADIO TRANSMITTING AND INDUSTRIAL PURPOSES


2C-39

ML-891R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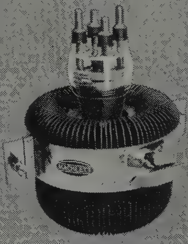

ML-889RA

ML-889A

MACHLETT LABORATORIES, Inc., the world's largest manufacturer of X-ray tubes, brings to radio and industrial uses its 49 years of electron tube experience.

The production techniques required for the successful manufacture of X-ray tubes are very similar to those used in producing high-power oscillators, amplifiers, and rectifiers. The chief differences in X-ray tube production are those due to the exceptionally stringent electrical and mechanical requirements. X-ray plate voltages may go as high as one million volts dc, while the necessity of controlling the electron stream within narrow limits requires the maintenance of the closest dimensional tolerances. The skills and techniques necessary to meet these conditions are both new and valuable in transmitting and industrial tubes. Some of the techniques are:

The use of heavy Kovar sections for glass seals to provide maximum mechanical ruggedness

High-voltage exhaust to give complete outgassing and freedom from arc-over

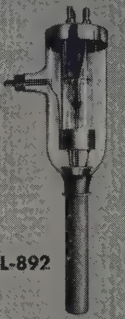
Surgically-clean internal parts, assembled in air-conditioned departments to prevent introduction into the tube of particles that would shorten its life

During the war, Machlett employed these and other techniques in producing large quantities of highly-specialized electron tubes for radar, communication, and for the atomic bomb project. Thus this organization is well-versed in the requirements of modern high-frequency, high-power tubes.

The Machlett background of almost 50 years of continuous electron tube production, modern, laboratory-like manufacturing facilities, and up-to-the-minute experience assures the user that he will receive tubes thoroughly engineered, mechanically rugged, and characterized by trouble-free operation and long life.

For complete information, write our nearest representative, or to the factory at Springdale, Connecticut.

MACHLETT LABORATORIES, INC., Springdale, Connecticut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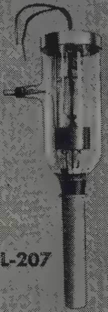

ML-207

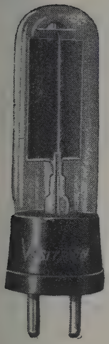
ML-880

MACHLETT

APPLIES TO RADIO AND INDUSTRIAL USES
ITS 49 YEARS OF ELECTRON TUBE EXPERIENCE

RAULAND VISITRON PHOTOTUBES

Visitron Phototubes are used the world over in Sound-on-Film equipment and in industrial and commercial controls. Visitron phototubes represent the best in high sensitivity and long life, resulting from long experience and the most advanced manufacturing techniques of the present day. Visitron phototubes are supplied in two types, gas-filled and vacuum, with sensitivities in the infra-red ("A" type), blue ("B" type) and ultra-violet ("C" type) regions of the spectrum.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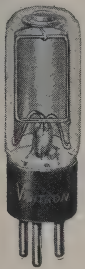
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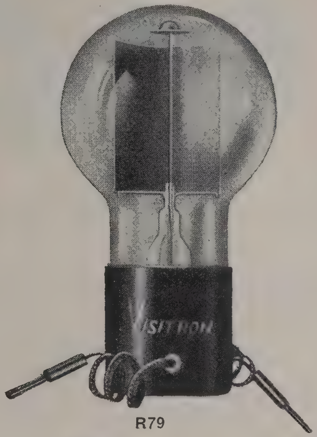
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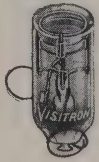
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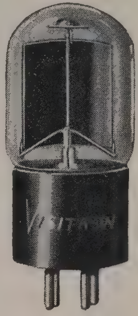
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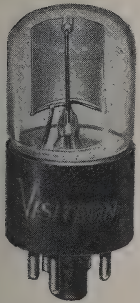
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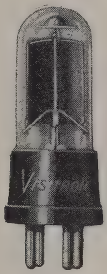
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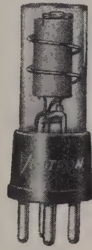
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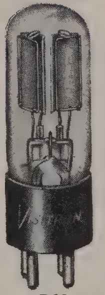

R60

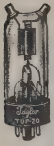
CHART OF DIMENSIONS OF VISITRON PHOTOTUBES

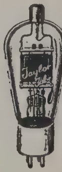
	R50	R51	R58	R59	R60	R64	R71	R79	R85
OVERALL HEIGHT—From base to top of bulb (not including prongs)	1.125″	2.0″	2.5″	3.125″	3.875″	2.0″	2.781″	4.25″	2.75″
DIAMETER OF BULB	.625″	.687″	.875″	1.00″	1.125″	1.125″	1.50″	2.312″	.882″
HEIGHT OF SENSITIVE PLATE	End View Plate	.843″	1.00″	1.375″	1.250″	.750″	1.25″	1.625″	1.00″
EFFECTIVE WIDTH OF PLATE	.500″	.500″	.625″	.625″	Dual Plate .031 ea.	.625″	1.000″	1.125″	.500″
DISTANCE—From bottom of base to center of Sensitive Plate	End View Plate	1.343″	1.750″	2.093″	2.250″	1.500″	1.781″	1.625″	2.000″
TYPE OF BASE	None	3 Pin	4 Pin	4 Pin	4 Pin	5 Pin Octal	4 Pin	External Leads	4 Pin

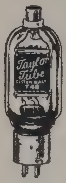
All of the above types available as "A" type for sensitivity in red-infra-red region, (example R71A). Types R51, R59 and R71 are also supplied in "B" type (blue) (example R51B) and "C" type (ultra-violet) (example R59C) sensitivity. Types R59 and R71 are also supplied with anode caps (add letter "T") (example R59TA, R71TB).

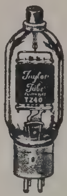
Taylor CUSTOM BUILT Tubes

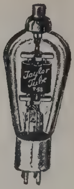
2312-18 WABANSIA AVENUE, CHICAGO 47, ILLINOIS

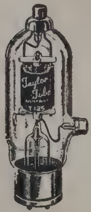

Taylor
TUF-20

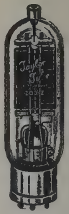

Taylor Tube


Taylor Tube
CUSTOM BUILT
T40


Taylor Tube
TZ40


Taylor Tube
T55


Taylor Tube
T125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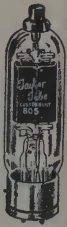
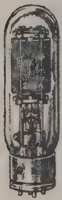
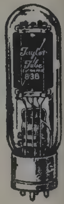
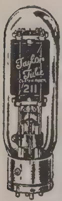

Taylor Tube
CUSTOM BUILT
805




Taylor Tube
838

TAYLOR TUBE DISTRIBUTORS ARE AUTHORIZED TO REPRESENT THE FACTORY AS SALES AGENTS IN SOLICITING AND HANDLING BUSINESS WITH ELECTRONIC EQUIPMENT MANUFACTURERS.

TRIODES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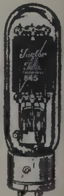
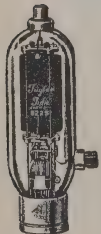
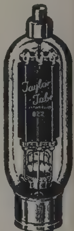
211


Taylor Tube
845

Type	Filament Volts	Filament Amps	Max. Plate Dissipation Watts	Max. Plate D.C. Volts	Max. Plate D.C. M.A.	Max. Grid Drive Watts	Amp. Factor	Base	Size L.	Size D.	Max. Mg. For 100% Input	Price
TUF-20	6.3	2.75	20	750	100	6.0	10	OCTAL	3.75	1.5	250	$5.50
T-20	7.5	1.75	20	750	85	3.5	20	4 P.MED.	6.0	2.37	60	2.75
TZ-20	7.5	1.75	20	750	85	3.5	62	4 P.MED	6.0	2.37	60	2.75
T-40	7.5	3.0	40	1500	150	9.0	25	4 P.MED.	6.25	2.5	60	3.95
TZ-40	7.5	3.0	40	1500	150	9.0	62	4 P.MED.	6.25	2.5	60	3.95
T-55	7.5	3.0	55	1500	165	7.0	20	4 P.MED.	7.0	2.62	125	6.50
T-60	10.0	3.0	60	1500	150	9.0	15	4 P.MED.	6.75	2.5	60	7.00
TW-75	7.5	4.15	75	2000	175	13.0	20	4 P.MED.	6.25	3.25	125	9.00
T-100	10.0	3.0	75	1500	150	9.0	23	4 P.MED.	7.62	2.67	60	12.50
T-125	10.0	4.5	125	2500	250	12.5	25	4 P.JUM.	8.25	3.0	60	13.50
TW-150	10.0	4.1	150	3000	200	17.0	35	4 P.JUM.	8.75	3.87	60	16.00
T-200	10.0	5.75	200	2500	350	20.0	17	4 P.JUM.	9.5	3.75	30	21.50
203A	10.0	3.25	100	1250	175	10.0	25	4 P.JUM.	7.5	2.32	20	12.00
HD203A	10.0	4.0	150	1750	250	15.0	25	4 P.JUM.	9.5	2.5	20	14.50
HD203C	10.0	4.0	150	1750	250	15.0	25	4 P.JUM.	9.5	2.5	20	14.50
203Z	10.0	3.25	75	1250	175	10.0	85	4 P.JUM.	8.25	2.32	20	9.00
211	10.0	3.25	100	1250	175	10.0	12	4 P.JUM.	7.5	2.32	20	12.00
211C	10.0	3.25	100	1250	175	10.0	12	4 P.JUM.	7.5	2.32	20	12.50
HD211C	10.0	4.0	150	1750	175	15.0	12	4 P.JUM.	9.5	2.5	20	14.50
T-300	10-11	6.0	300	3000	300	18.0	23	4 P.JUM.	12.0	4.87	30	30.00
805	10.0	3.25	125	1750	210	10.0	45	4 P.JUM.	8.5	2.32	30	10.00
810	10.0	4.5	125	2250	275	15.0	36	4 P.JUM.	8.75	3.0	30	12.50
814	10.0	4.0	200	2500	300	17.0	12	4 P.JUM.	9.0	2.62	30	18.50
822	10.0	4.0	200	2500	300	17.0	30	4 P.JUM.	9.0	2.62	30	18.50
822-S	10.0	4.0	200	2500	300	17.0	30	4 P.JUM.	9.0	3.0	30	21.50
833A	10.0	10.0	400	4000	500	40.0	35	SPEC.	8.62	4.62	75	50.00
838	10.0	3.25	100	1250	175	10.0	45	4 P.JUM.	7.87	2.32	20	12.00
845	10.0	3.25	100	1230	175	10.0	5	4 P.JUM.	7.5	2.32	20	12.00


Taylor Tube
822


Taylor Tube
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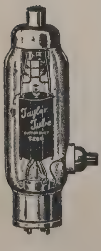
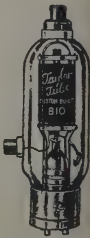
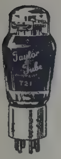

Taylor Tube
CUSTOM BUILT


Taylor Tube
CUSTOM BUILT
810

"More Watts per Dollar"

Taylor CUSTOM BUILT Tubes

2312-18 WABANSIA AVENUE, CHICAGO 47, ILLINOIS

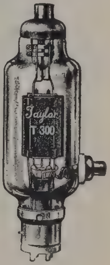

Taylor Tube
T21

Taylor
TB-35

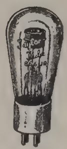
Taylor Tube
813

Taylor Tube

Taylor
CUSTOM BUILT
833A


Taylor
T 300

Taylor Tube
CUSTOM BUILT
TT-17



TETRODES AND PENTODES

Type	Filament Volts	Filament Amps	Max. Plate Dissipation Watts	Max. Plate D.C. Volts	Max. Plate D.C. M.A.	Max. Grid Drive Watts	Amp. Factor	Base	Size L.	Size D.	Max. Mg. For 100% Input	Price
T-21	6.3	0.9	21	400	95	0.4	138	6 PIN	5.37	2.06	60	$1.95
TB-35	6.3	3.0	35	1500	125	5.0	65	4 P.MED.	4.87	1.56	250	10.00
282-A	10.0	3.0	75	1000	100	8.0	100	4 P.MED.	6.75	2.25	50	22.50
803	10.0	5.0	125	2000	160	4.0		5 P.JUM.	9.37	2.56	20	21.00
813	10.0	5.0	100	2000	180	1.5		7 P.JUM.	7.5	2.56	30	14.50

Taylor Tube
CUSTOM BUILT
873

HALF WAVE RECTIFIERS AND *CONTROL TUBES

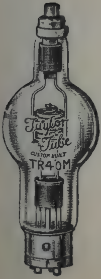
Type	Filament Volts	Filament Amps	Anode Volts Peak Inverse	Anode Amps. Peak	Anode Amps. Average	Base	Price
866 JR	2.5	2.5	5000	.5	.125	4 P.Med.	$1.25
866A	2.5	5.0	10000	1.0	.250	4 P.MED.	1.75
249B	2.5	7.5	10000	1.5	.375	4 P.MED.	5.00
872A	5.0	6.75	10000	5.0	1.25	4 P.JUM.	7.50
8008	5.0	6.75	10000	5.0	1.25	SPEC.	7.50
875A	5.0	10.0	15000	6.0	1.5	4 P.JUM.	30.00
*TT-17	2.5	5.0	2500	2.0	0.5	4 P.MED.	6.50
*873	5.0	6.75	3000	10.0	2.5	4 P.JUM.	17.25

Taylor Tube
T2A

TRIODES — CLASS B AUDIO

(Ratings for 2 Tubes)

Type	Max. Plate Volts	Max. Plate Curr.	Zero Sig. Plate Curr.	Max. Sig. Drive Power Watts	Bias Volts	Plate To Plate Load Ohms	Power Output Watts
TZ-20	800	136	20	1.8	0	12,000	70
	1000	280	35	5.5	0	7,350	175
TZ-40	1250	280	32	6.0	—4.5	10,000	225
	1500	250	28	6.0	—9	12,000	250
838	1000	320	70	7.0	0	6,900	200
	1250	320	100	7.5	0	9,000	260
203Z	1000	350	36	6.5	0	6,200	230
	1250	350	30	6.75	—4.5	8,000	300
805	1250	400	102	6.0	0	6,700	300
	1500	400	48	7.0	—16	8,200	370
810	1500	500	52	12.	—30	6,600	510
822	2000	500	50	7.2	—45	9,500	720
	2500	500	50	7.4	—57.5	12,000	900
	3000	450	50	8.0	—67.5	16,000	1000

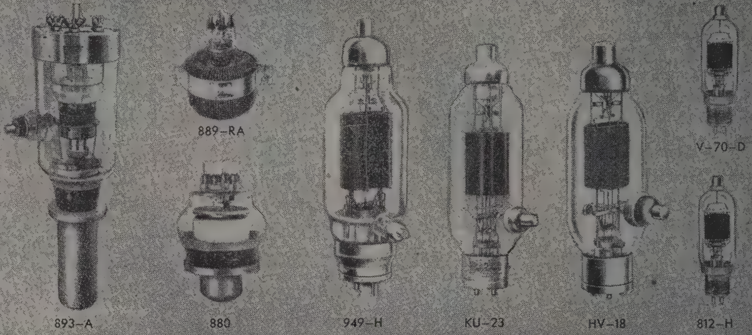

Taylor Tube
CUSTOM BUILT
TR40M

Taylor Tube

Ask for the Taylor Tubes Manual

UNITED

TRANSMITTING & POWER TUBES



A *Amateur*
B *Broadcasting*
C *Commercial*
D *Diathermy*
E *Electric Welding*
F *Film-Sound*
G *Government*
Army, Navy & Aviation
H *High Frequency Heating*
I *Industrial Electronics*
. . . and so on throughout the "alphabet" of boundless electronic application

United Electronics Company is a pioneer in the field of high-frequency heating. Many popular makes of induction heating generators use UNITED tubes for the r-f power source. This is likewise true in machines

Step by step UNITED has progressed with this important industrial electronic development, designing specialized power tubes in close collaboration with the research of equipment manufacturers.

OSCILLATORS—AMPLIFIERS—MODULATORS

UNITED Type	Net Price	Plate Diss.	Filament Volts	Filament Amps	Max. Volts	Plate Amps	Purpose	Dimensions in Inches
HV-12 (814-T)	$18.50	200	10.0	4.0	2500	.210	R-f Amp.—Osc.	9½ x 2⅝
HV-18 (200-460)	24.50	200	10.0	3.85	2500	.210	R-f Amp—H-f Osc.—Class B Mod.	9⅞ x 9 1/16
KU-23 (300)	30.00	200	11.0	4.0	3000	.275	A-f & R-f Amp.—Osc.—Mod.	10¼ x 3
HV-27 (822)	18.50	200	10.0	4.0	2500	.210	R-f Amp.—Osc.—Mod.	9½ x 2⅝
V-70-D (T-55)	6.90	85	7.5	3.25	1750	.200	R-f Amp.—Osc.—Mod.	7¼ x 2
203-A (303-A)	12.00	100	10.0	3.25	1250	.175	R-f Amp.—Osc.—Mod.	7⅞ x 2 5/16
204-A (304-A)	85.00	250	11.0	3.85	3000	.275	R-f Amp.—Osc.—Mod.	14⅜ x 4 1/16
207	220.00	7.5	22.0	52.0	15,000	2.0	Osc. R-f Amp.—Class B Mod.	20¼ x 6½
211 (311)	12.00	100	10.0	3.95	1250	.175	R-f & A-f Amp.—Osc.—Mod.	7⅞ x 2 5/16
242-B (342-B)	12.00	85	10.0	3.25	1250	.085	A-f Amp.—Class A Mod.	7⅞ x 2 5/16
261-A (361-A)	16.00	100	10.0	3.25	1250	.175	A-f & R-f Amp.—Osc.—Mod.	7⅞ x 9 5/16
276-A (376-A)	16.00	100	10.0	3.25	1250	.175	A-f & R-f Amp.—Osc.—Mod.	7⅞ x 2 5/16
284-D (384-D)	15.00	100	10.0	3.25	1250	.175	A-f & R-f Amp.—Osc.—Mod.	7⅞ x 2 5/16
805 (905)	10.00	125	10.0	3.25	1500	.210	R-f Amp.—Osc.—Mod.	8½ x 2 5/16
812-H (812)	6.90	85	6.3	4.0	1750	.200	R-f Amp.—Osc.	6 7/16 x 2 1/16
813	18.00	100	10.0	5.0	2000	.180	R-f (Beam) Amp.	7½ x 2 9/16
830 (930)	10.00	40	10.0	2.0	750	.110	R-f Amp.—Osc.—Class B Mod.	5⅞ x 2 1/16
830-B (930-B)	10.00	60	10.0	2.0	1000	.150	R-f Amp.—Osc.—Class B Mod.	6⅝ x 9⅛
833-A	62.50	450	10.0	10.0	4000	.500	R-f Amp.—Osc.—Class B Mod.	8⅝ x 4 9/32
834 (304-B)	12.00	50	7.5	3.25	1250	.100	H-f Osc.—Amp.—Mod.	6⅞ x 2 11/16
838 (938)	12.00	100	10.0	3.25	1250	.175	A-f R-f Amp.—Zero Bias Mod.	7⅞ x 2 5/16
845 (945)	12.00	75	10.0	3.25	1250	.095	A-f Amp.—Class A Mod.	7⅞ x 2 5/16
846	220.00	2.5kw	11.0	51.0	7500	.500	R-f Amp.—Osc.	9½ x 3⅜
849 (949)	120.00	400	11.0	5.0	3000	.350	A-f & R-f Amp.—Osc.—Mod.	14⅜ x 4⅛
860	18.75	100	10.0	3.25	3000	.150	R-f Amp.—Osc.—Mod.	8¾ x 4¼
880	440.00	15kw	12.6	320.0	10,500	5.0	R-f & A-f Amp.—Osc.—Mod.	11½ x 7
889-A	190.00	5kw	11.0	125.0	8,500	2.0	R-f Amp.—Class B Mod.	10⅝ x 3⅝
889-RA	280.00	5kw	11.0	125.0	8,500	2.0	R-f Amp.—Class B Mod.	11¾ x 5 7/16
891	200.00	7.5kw	11.0	60.0	12,000	2.0	R-f Power Amp.—Mod.	20⅝ x 6½
891-R	345.00	3.5kw	11.0	60.0	10,000	2.0	R-f Power Amp.—Mod.	22⅝ x 6½
892	200.00	10.0kw	11.0	60.0	15,000	2.0	R-f Power Amp.—Class B Mod.	20⅝ x 6½
892-R	345.00	4kw	11.0	60.0	12,500	2.0	R-f Power Amp.—Class B Mod.	22⅝ x 6½
893-A	570.00	60kw	10.0	61.0	20,000	4.0	R-f Amp.—Osc.—Class B Mod.	25⅝ x 6⅜
949-H (849-H)	135.00	500	11.0	7.7	4,000	2.0	R-f Amp.—H-F Osc.	14⅜ x 4 1/16

RECTIFIERS

UNITED Type	*	Net Price	Filament Volts	Filament Amps	Max. Peak Inv. Voltage	Max. Peak Plate Curr. Amp.	Average Plate Curr. Amp.	Dimensions In Inches
Z-225	M	$1.95	2.5	5.0	10,000	1.0	.250	5½ x 1¾
371-B	V	12.10	5.0	10.3	25,000	1.5	.300	8¾ x 2¼
872-A (972-A)	M	7.50	5.0	6.75	10,000	5.0	1.25	8½ x 2 5/16
872 (972)	M	7.50	5.0	10.0	7,500	5.0	1.25	8½ x 2 5/16
866-A (966) (966-A)	M	1.75	2.5	5.0	10,000	1.0	.250	6⅝ x 2 7/16
878 (978)	V	11.00	2.5	5.0	20,000	.020	.005	7⅝ x 1 13/16
967 (FG17)	M	6.50	2.5	5.0	Grid Controlled	type—Request	Data Sheet	6⅝ x 2 7/16
973 (FG27)	M	17.25	5.0	6.75	Grid Controlled	type—Request	Data Sheet	8½ x 2 5/16
UX-973	M	17.25	5.0	6.75	Grid Controlled	type—Request	Data Sheet	9⅛ x 2 5/16
975-A (375-A)	M	27.50	5.0	10.0	15,000	6.0	1.50	11 1/16 x 3 1/16
975-T	M	27.50	5.0	10.0	15,000	6.0	1.60	11 1/16 x 3 1/16

NOTE: All ratings given are for continuous service. Higher ratings are permissable for intermittent operation. Detailed data will be furnished upon request. *Forced Air Cooling CAS. M—Mercury Vapor. V—High Vacuum.

UNITED ELECTRONICS COMPANY, 42 SPRING STREET, NEWARK 2, N. J.

UNITED

DIATHERMY OSCILLATOR TUBES

A *Amateur*

B *Broadcasting*

C *Commercial*

D *Diathermy*

E *Electric Welding*

F *Film-Sound*

G *Government* *Army, Navy & Aviation*

H *High Frequency Heating*

I *Industrial Electronics*

. . . and so on throughout the "alphabet" of boundless electronic application

United radio-therapy oscillators and rectifiers are used by the majority of short-wave generator manufacturers. UNITED has worked hand in hand with leading therapy instrument designers to develop better tubes.

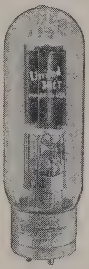
These tubes are specifically designed for heavy duty use in these self-excited oscillator circuits, in which general purpose tubes cannot properly be applied.

Accurate replacement of tubes can most readily be made by selecting the proper UNITED types from the tables below.

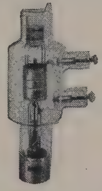
RENEWAL TUBE INDEX FOR STANDARD MACHINES

(If machine is not listed, replace tube in accordance with guide at bottom of this page)

Manufacturer	Model	United Tubes
Adlanco	Portable	2 type 311T
Barr	SW15	2 type 311CT
Beck Lee	1205 & 1206	2 type 311CT
Bristow	FP-35 & FP-12	2 type 311CT
Bropar	NP	2 type 311CT, 2 type 966
Birtcher	Challenger, models 900, 960, 970, 980, and 990	2 type 311CT, 2 type 956
"	Crusader #500 (Serial numbers over 63401)	2 type CV11
"	Viking #550	2 type CV11
"	Surgical #3000	2 type CV11
Burdick	Triplex	2 type HV18
"	Magnitherm	2 type FV20
"	SWD50	2 type 311T
"	SWD 5	2 type 952
Cameron	Cauteradio	1 type 930
De Forest	Models K, A, B, C, E, L, R250, R300, D300, LR300	2 type 311CT, 2 type 966
"	Models NE, D400, R400, LL, M Console and Bi-Wave	2 type HV18, 2 type 966
"	Thermodyne	1 type FV20, 2 type 966
Denmark	SWF	2 type 311CT
"	ENT	2 type 303-U
"	HFP	2 type HV12
Falconer	Portable 6	2 type 311CT
Fischer of Glendale	#106C	2 type 311CH
"	#114A	2 type HV18
"	Portable	2 type 311CT, 2 type 966
"	Clinic	2 type 311CT, 2 type 956
"	Console	2 type 311CT,
Fischer of Glendale	Console	2 type 856A
"	F-99	2 type 311CT
"	102A	2 type 311CT
High Tension	RF1 and RF5	2 type 311T
International		2 type 311CT
MacIntosh	Brevatherm	2 type HV12
Mooradian	Model C	2 type 311T
Nassau	All models	2 type 303U
Rose	CW1, CW2, CW3	2 type 311T,
"	CW4, CW5	2 type HV18
"	CW6	2 type 311T
"	CX1	2 type HV18
"	CX2	2 type HV18, 2 type 966
"	C-U	2 type 311T
"	Tube-Gap Surgical	2 type 311T
Sanitex	S1	1 type HV27
"	S2	2 type 311CT
"	S3	2 type FV20, 2 type 966
"	S4	2 type FV20, 2 type 956
"	S10	2 type 311CT
Scherco	Portable 100	2 type 311T
"	Portable 200	2 type 311T
"	2000	2 type 311T 2 type 956
Terma	T-2 B	2 type 311CT
"	R-4	2 type C11CT, 2 type 956
"	R-6	2 type FV20, 2 type 956
"	R-7	2 type HV18, 2 type 966
"	P-14	1 type HV27
Thermo-o-ray	SP-300	1 type 311CH
"	T-100	2 type 311T
"	C-500	2 type 311CH
"	CH-100	–2 type 311CH –2 type 966
"	HF-200	2 type HV18


311–CT

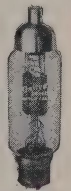
HV–12


GR–1

UXCV–11

311–CH

CV–11


UE–468

TECHNICAL BULLETIN "D" DESCRIBING ABOVE AND OTHER DIATHERMY TUBES SENT UPON REQUEST

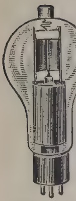
NET PRICES

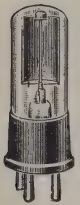
Type	Net Price	Type	Net Price	Type	Net Price	Type	Net Price
468	$24.75	311-CH	18.00	HV-12	18.50	830	10.00
GR-1	180.00	FV-20	17.50	HV-27	13.50	303-U	18.00
311-T	16.00	HV-18	24.50	CV or UXCV-11	10.00	866-A	1.75
311-CT	16.00	852	29.00				

UNITED ELECTRONICS COMPANY, 42 SPRING STREET, NEWARK 2, N. J.

WESTINGHOUSE ELECTRONIC TUBES

PHOTOTUBES


WL-767
WL-773
WL-775

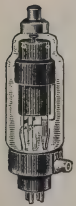

SR-50
SR-53

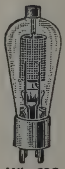
Type Number	Spectral Ranges Au.	Vacuum or Gas	Cathode Surface	Sensitivity Mincoamperes per lumen	Anode Volts Max.	List Price‡	Data Sheet
1P29	4000–9000	Gas	S3	40	100	**$2.55**	
SR-50	4000–11000	Vac.	S1	15	500	**6.00**	
SR-53	4000–11000	Vac.	S1	25	500	**9.00**	86–055
SK-60	4000–11000	Gas	S1	60	90	**6.00**	86–059
SK-63	4000–11000	Gas	S1	125	90	**9.00**	
WL-734	4000–11000	Vac.	S1	15	500	**2.60**	86–070
WL-767	2000–3150	Vac.	Zirconium	—	500	**60.00**	
WL-773	2000–3675	Vac.	Therium	—	500	**60.00**	86–080
WL-775	2000–3000	Vac.	Tantalum	—	500	**60.00**	
WL-789	Below 2100	Vac.	Platinum	—	500	**90.00**	
WL-868	4000–11000	Gas	S1	90	90	**2.15**	
WL-917	4000–12000	Vac.	S2	20	500	**3.00**	
WL-918	4000–12000	Gas	S2	150	90	**2.60**	
WL-919	4000–12000	Vac.	S2	20	500	**3.00**	
WL-920	4000–11000	Gas	Caesium	75	90	**3.25**	
WL-921	4000–12000	Gas	S2	135	90	**1.75**	
WL-922	4000–12000	Vac.	S2	20	500	**1.80**	
WL-923	4000–12000	Gas	S2	135	90	**1.75**	
WL-924	4000–11000	Gas	S1	55	90	**2.25**	
WL-925	4000–11000	Vac.	S1	15	250	**1.85**	
WL-926	4000–9000	Vac.	S3	6.5	500	**2.50**	
WL-927	4000–11000	Gas	S1	125	90	**2.50**	
WL-928	4000–11000	Gas	S1	65	90	**2.75**	
WL-929	3000–6300	Vac.	S4	45	250	**1.75**	
WL-930	4000–12000	Gas	S2	135	90	**1.50**	
WL-931A	3000–6300	(Multiplier)	S4	*	1250	**9.25**	

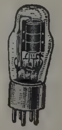
* Sensitivity 1.5 amps. per lumen at 75 volts per stage; 10 amps. per lumen at 100 volts per stage.
‡ Prices subject to change without notice.

THYRATRONS

GRID CONTROLLED GAS OR MERCURY VAPOR RECTIFIERS


KU-676


WL-629


KU-627

Type Number	Filament		Anode		Amp. Average	Gas	Control	List Price‡	Data Sheet
	Volts	Amps.	Volts Peak Inverse	Amp. Peak					
WL-17	2.5	5	5000	2.0	0.5	Hg	Neg.	**$6.50**	
WL-3C23	2.5	7.0	1250	6.0	1.0	Hg	Neg.	**11.00**	
WL-33	5.0	4.5	1000	15.0	2.5	Hg	Pos.	**17.00**	
WL-41	5.0	20.0	10000	75.0	12.5	Hg	Neg.	**150.00**	::
WL-57	5.0	4.5	1000	15.0	2.5	Hg	Neg.	**16.00**	
WL-81A	2.5	5.0	500	2.0	0.5	Inert	Neg.	**13.25**	
WL-105	5.0	10.0	2500	40.0	6.4	Hg	Neg.	**40.00**	
WL-172	5.0	10.0	2000	40.0	6.4	Hg	Neg.	**38.50**	
WL-414	5.0	20.0	2000	100.0	12.5	Hg	Neg.	**90.00**	86–405
WL-502A	6.3	0.6	1300	.5	0.1	Inert	Neg.	**1.80**	
KU-610	2.5	6.5	500	0.4	0.1	Inert	Pos.	**21.00**	86–410
KU-618*	Cold	Cath.	800	0.1	0.015	Inert	Pos.	**12.50**	86–415
KU-627	2.5	6.0	2500	2.5	0.64	Hg	Neg.	**13.00**	86–420
KU-628	5.0	11.5	2500	8.0	2.0	Hg	Neg.	**26.00**	86–421
WL-629	2.5	2.6	350	0.2	0.04	Inert	Neg.	**5.50**	86–422
WL-632B	5.0	5.0	1500	30.0	2.5	Hg	Neg.	**19.25**	86–425
KU-636	2.5	7.5	350	0.4	0.1	Inert	Neg.	**18.00**	86–429
WL-672	5.0	6.0	1500	30.0	2.5	Hg	Neg.	**23.00**	86–433
KU-676	5.0	10.0	2500	40.0	6.4	Hg	Neg.	**40.00**	86–437
WL-677	5.0	10.0	10000	15.0	4.0	Hg	Neg.	**40.00**	86–438
WL-678	5.0	7.5	15000	6.0	1.6	Hg	Neg.	**40.00**	86–439
WL 884	6.3	0.6	350	0.3	0.075	Inert	Neg.	**1.70**	::
WL 885	2.5	1.5	350	0.3	0.075	Inert	Neg.	**1.80**	::
WL-2050	6.3	0.6	1300	1.0	0.1	Inert	Neg.	**1.70**	86–448

* Grid Glow Tube.
‡ Prices subject to change without notice.
:: For Data Sheet refer to Tube Type Number.

UNITED

DIATHERMY OSCILLATOR TUBES

A *Amateur*

B *Broadcasting*

C *Commercial*

D *Diathermy*

E *Electric Welding*

F *Film-Sound*

G *Government*
Army, Navy & Aviation

H *High Frequency Heating*

I *Industrial Electronics*

... and so on throughout the "alphabet" of boundless electronic application

United radio-therapy oscillators and rectifiers are used by the majority of short-wave generator manufacturers. UNITED has worked hand in hand with leading therapy instrument designers to develop better tubes.

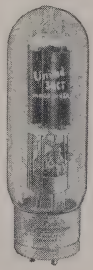
These tubes are specifically designed for heavy duty use in these self-excited oscillator circuits, in which general purpose tubes cannot properly be applied.

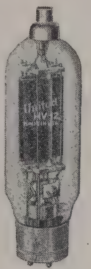
Accurate replacement of tubes can most readily be made by selecting the proper UNITED types from the tables below.

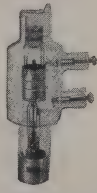
RENEWAL TUBE INDEX FOR STANDARD MACHINES

(If machine is not listed, replace tube in accordance with guide at bottom of this page)

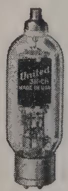
Manufacturer	Model	United Tubes
Adlanco	Portable	2 type 311T
Barr	SW15	2 type 311CT
Beck Lee	1205 & 1206	2 type 311CT
Bristow	FP-35 & FP-12	2 type 311CT
Bropar	NP	2 type 311CT, 2 type 966
Birtcher	Challenger, models 900, 960, 970, 980, and 990	2 type 311CT, 2 type 956
"	Crusader #500 (Serial numbers over 63401)	2 type CV11
"	Viking #550	2 type CV11
"	Surgical #3000	2 type CV11
Burdick	Triplex	2 type HV18
"	Magnitherm	2 type FV20
"	SWD50	2 type 311T
"	SWD 5	2 type 952
Cameron	Cauteradio	1 type 930
De Forest	Models K, A, B, C, E, L, R250, R300, D300, LR300	2 type 311CT, 2 type 966
"	Models NE, D400, R400, LL, M Console and Bi-Wave	2 type HV18, 2 type 966
"	Thermodyne	1 type FV20, 2 type 966
Denmark	SWF	2 type 311CT
"	ENT	2 type 303-U
"	HFP	2 type HV12
Falconer	Portable 6	2 type 311CT
Fischer of Glendale	#106C	2 type 311CH
"	#114A	2 type HV18
"	Portable	2 type 311CT, 2 type 966
"	Clinic	2 type 311CT, 2 type 956
"	Console	2 type 311CT,
Fischer of Glendale	Console	2 type 856A
"	F-99	2 type 311CT
"	102A	2 type 311CT
High Tension	RF1 and RF5	2 type 311T
International		2 type 311CT
MacIntosh	Brevatherm	2 type HV12
Mooradian	Model C	2 type 311T
Nassau	All models	2 type 303U
Rose	CW1, CW2, CW3	2 type 311T,
"	CW4, CW5]	2 type HV18
"	CW6	2 type 311T
"	CX1	2 type HV18
"	CX2	2 type HV18, 2 type 966
"	C-U	2 type 311T
"	Tube-Gap Surgical,	2 type 311T
Sanitex	S1	1 type HV27
"	S2	2 type 311CT
"	S3	2 type FV20, 2 type 966
"	S4	2 type FV20, 2 type 956
"	S10	2 type 311CT
Scherco	Portable 100	2 type 311T
"	Portable 200	2 type 311T
"	2000	2 type 311T 2 type 956
Terma	T-2 B	2 type 311CT
"	R-4	2 type C11CT, 2 type 956
"	R-6	2 type FV20, 2 type 966
"	R-7	2 type HV18, 2 type 966
"	P-14	1 type HV27
Thermo-o-ray	SP-300	1 type 311CH
"	T-100	2 type 311T
"	C-500	2 type 311CH
"	CH-100	–2 type 311CH –2 type 966
"	HF-200	2 type HV18


311–CT

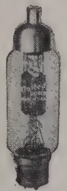

HV–12


GR–1

UXCV–11


311–CH

CV–11


UE–468

TECHNICAL BULLETIN "D" DESCRIBING ABOVE AND OTHER DIATHERMY TUBES SENT UPON REQUEST

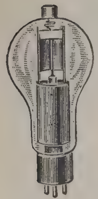
NET PRICES

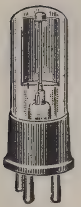
Type	Net Price	Type	Net Price	Type	Net Price	Type	Net Price
468	$24.75	311-CH	18.00	HV-12	18.50	830	10.00
GR-1	180.00	FV-20	17.50	HV-27	13.50	303-U	18.00
311-T	16.00	HV-18	24.50	CV or UXCV-11	10.00	866-A	1.75
311-CT	16.00	852	29.00				

UNITED ELECTRONICS COMPANY, 42 SPRING STREET, NEWARK 2, N. J.

WESTINGHOUSE ELECTRONIC TUBES

PHOTOTUBES


WL-767
WL-773
WL-775

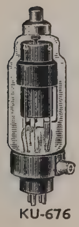

SR-50
SR-53

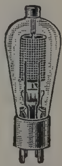
Type Number	Spectral Ranges Au.	Vacuum or Gas	Cathode Surface	Sensitivity Mincoamperes per lumen	Anode Volts Max.	List Price‡	Data Sheet
1P29	4000–9000	Gas	S3	40	100	**$2.55**	
SR-50	4000–11000	Vac.	S1	15	500	**6.00**	86–055 86–059
SR-53	4000–11000	Vac.	S1	25	500	**9.00**	
SK-60	4000–11000	Gas	S1	60	90	**6.00**	
SK-63	4000–11000	Gas	S1	125	90	**9.00**	
WL-734	4000–11000	Vac.	S1	15	500	**2.60**	86–070
WL-767	2000–3150	Vac.	Zirconium	—	500	**60.00**	86–080
WL-773	2000–3675	Vac.	Therium	—	500	**60.00**	
WL-775	2000–3000	Vac.	Tantalum	—	500	**60.00**	
WL-789	Below 2100	Vac.	Platinum	—	500	**90.00**	
WL-868	4000–11000	Gas	S1	90	90	**2.15**	
WL-917	4000–12000	Vac.	S2	20	500	**3.00**	
WL-918	4000–12000	Gas	S2	150	90	**2.60**	
WL-919	4000–12000	Vac.	S2	20	500	**3.00**	
WL-920	4000–11000	Gas	Caesium	75	90	**3.25**	
WL-921	4000–12000	Gas	S2	135	90	**1.75**	
WL-922	4000–12000	Vac.	S2	20	500	**1.80**	
WL-923	4000–12000	Gas	S2	135	90	**1.75**	
WL-924	4000–11000	Gas	S1	55	90	**2.25**	
WL-925	4000–11000	Vac.	S1	15	250	**1.85**	
WL-926	4000–9000	Vac.	S3	6.5	500	**2.50**	
WL-927	4000–11000	Gas	S1	125	90	**2.50**	
WL-928	4000–11000	Gas	S1	65	90	**2.75**	
WL-929	3000–6300	Vac.	S4	45	250	**1.75**	
WL-930	4000–12000	Gas	S2	135	90	**1.50**	
WL-931A	3000–6300	(Multiplier)	S4	*	1250	**9.25**	

* Sensitivity 1.5 amps. per lumen at 75 volts per stage; 10 amps. per lumen at 100 volts per stage.
‡ Prices subject to change without notice.

THYRATRONS

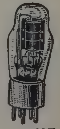
GRID CONTROLLED GAS OR MERCURY VAPOR RECTIFIERS


KU-676


WL-629

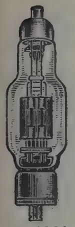
Type Number	Filament		Anode		Amp. Average	Gas	Control	List Price‡	Data Sheet
	Volts	Amps.	Volts Peak Inverse	Amp. Peak					
WL-17	2.5	5	5000	2.0	0.5	Hg	Neg.	**$6.50**	::
WL-3C23	2.5	7.0	1250	6.0	1.0	Hg	Neg.	**11.00**	
WL-33	5.0	4.5	1000	15.0	2.5	Hg	Pos.	**17.00**	
WL-41	5.0	20.0	10000	75.0	12.5	Hg	Neg.	**150.00**	
WL-57	5.0	4.5	1000	15.0	2.5	Hg	Neg.	**16.00**	
WL-81A	2.5	5.0	500	2.0	0.5	Inert	Neg.	**13.25**	
WL-105	5.0	10.0	2500	40.0	6.4	Hg	Neg.	**40.00**	
WL-172	5.0	10.0	2000	40.0	6.4	Hg	Neg.	**38.50**	
WL-414	5.0	20.0	2000	100.0	12.5	Hg	Neg.	**90.00**	86–405
WL-502A	6.3	0.6	1300	.5	0.1	Inert	Neg.	**1.80**	
KU-610	2.5	6.5	500	0.4	0.1	Inert	Pos.	**21.00**	86–410
KU-618*	Cold	Cath.	800	0.1	0.015	Inert	Pos.	**12.50**	86–415
KU-627	2.5	6.0	2500	2.5	0.64	Hg	Neg.	**13.00**	86–420
KU-628	5.0	11.5	2500	8.0	2.0	Hg	Neg.	**26.00**	86–421
WL-629	2.5	2.6	350	0.2	0.04	Inert	Neg.	**5.50**	86–422
WL-632B	5.0	5.0	1500	30.0	2.5	Hg	Neg.	**19.25**	86–425
KU-636	2.5	7.5	350	0.4	0.1	Inert	Neg.	**18.00**	86–429
WL-672	5.0	6.0	1500	30.0	2.5	Hg	Neg.	**23.00**	86–433
KU-676	5.0	10.0	2500	40.0	6.4	Hg	Neg.	**40.00**	86–437
WL-677	5.0	10.0	10000	15.0	4.0	Hg	Neg.	**40.00**	86–438
WL-678	5.0	7.5	15000	6.0	1.6	Hg	Neg.	**40.00**	86–439
WL 884	6.3	0.6	350	0.3	0.075	Inert	Neg.	**1.70**	::
WL 885	2.5	1.5	350	0.3	0.075	Inert	Neg.	**1.80**	::
WL-2050	6.3	0.6	1300	1.0	0.1	Inert	Neg.	**1.70**	86–448

* Grid Glow Tube.
‡ Prices subject to change without notice.
:: For Data Sheet refer to Tube Type Number.


KU-627

WESTINGHOUSE ELECTRONIC TUBES

PLIOTRONS — Modulators, Amplifiers, Oscillators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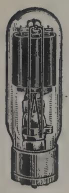
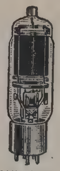
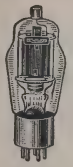
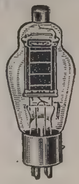
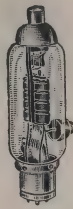
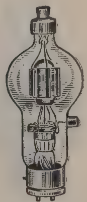

WL-211


WL-803


WL-807

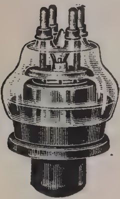

WL-809

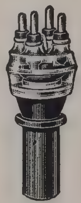

WL-460


WL-806

Type Number	Filaments		Plate DC** Volts	DC** MA	Dissipation Watts**	Output Watts Class C	Amplification Factor	Max. MC for 100% Input	List Price‡	Data Sheet
	Volts	Amps.								
WL-195	10.0	3.25	3000	150	125	325	12	15	**$29.00**	86–110
WL-196	10.0	3.25	3000	150	125	325	35	15	**29.00**	86–111
WL-203A	10.0	3.25	1250	175	100	120	25	15	**12.00**	86–115
WL-204A	11.0	3.85	2500	275	250	450	23	3	**100.00**	86–116
WL-207	22.0	52.00	15000	2000	10000	20000	20	1.6	**220.00**	86–119
WL-211	10.0	3.25	1250	175	100	130	12	15	**12.00**	86–122
WL-285	10.0	3.25	1350	200	100	170	12	20	**16.50**	: :
WL-460	10.0	3.85	3000	200	150	400	18	30	**29.00**	86–130
WL-463	11.0	5.0	2500	275	200	550	22	30	**41.00**	86–133
WL-468	10.0	3.85	2500	200	150	400	18	6	**27.00**	86–138
WL-473	6.0	60.0	5000	1400	2500	3900	22	60	**125.00**	86–143
WL-477R	5.0	23.0	3000	.....	700	1000	240	120	**120.00**	: :
WL-478R	5.0	70.0	5000	....	2500	3000	240	120	**250.00**	: :
WL-479R	5.0	206.0	6000	.....	6000	7500	240	120	**350.00**	: :
RH-507	2.0	0.06	9	.6	.....	.....	0.8	.....	**29.00**	86–150
WL-801A	7.5	1.25	600	70	20	25	8	60	**3.00**	: :
WL-802	6.3	0.9	600	60	10	15	.....	30	**4.25**	86–165
WL-803	10.0	5.0	2000	175	125	225	.....	20	**21.00**	86–166
WL-805	10.0	3.25	1500	210	125	215	50	30	**10.00**	86–168
WL-806	5.0	9.5	3000	200	150	450	12.6	30	**30.00**	86–169
WL-807	6.3	0.9	600	100	25	40	.....	60	**2.30**	86–170
WL-808	7.5	4	1500	150	50	150	47	30	**8.50**	: :
WL-809	6.3	2.5	750	100	25	55	50	60	**3.50**	86–172
WL-810	10.0	4.5	2000	250	125	375	36	30	**12.50**	86–173
WL-811	6.3	4.0	1250	125	40	115	160	60	**3.50**	86–174
WL-812	6.3	4.0	1250	125	40	115	29	60	**3.50**	86–175
WL-813	10.0	5.0	2000	180	100	260	.....	30	**14.50**	86–176
WL-814	10.0	3.25	1250	150	50	130	.....	30	**14.00**	86–177
WL-815	6.3	1.6	400	150	20	44	.....	150	**6.25**	86–178
WL-826	7.5	4	1000	65	60	25	31	250	**9.25**	: :
WL-828	10.0	3.25	1250	160	70	150	.....	30	**12.50**	86–185
WL-829B	6.3*	1.125*	750	240	40	87	.....	200	**14.75**	: :
WL-832A	6.3*	.8*	750	90	15	26	.....	200	**10.60**	: :
WL-853	10.0	10.0	4000	500	400	1440	35	20	**62.50**	86–188
WL-837	12.6	0.7	500	80	12	20	.....	20	**4.15**	86–190
WL-838	10.0	3.25	1250	175	100	130	54	30	**12.00**	86–191
WL-845	10.0	3.25	1250	120	100	57	5.3	.....	**12.00**	86–195
WL-849	11.0	5.0	2500	350	400	560	19	3	**120.00**	86–199
WL-851	11.0	15.5	2500	1000	750	1750	20.5	3	**210.00**	86–201
WL-860	10.0	3.25	3000	150	100	200	.....	30	**30.00**	86–205
WL-861	11.0	10.0	3500	350	400	800	.....	20	**155.00**	86–206
WL-880	12.6	320.0	10500	6000	20000	45000	20	25	**440.00**	86–210
WL-889A	11.0	125.0	8500	2000	5000	11000	21	50	**190.00**	86–215
WL-889RA	11.0	125.0	8500	2000	5000	11000	21	25	**280.00**	86–216
WL-891	22***	60	12000	2000	6000	12000	8	1.6	**200.00**	86–218
WL-891R	22***	60	10000	2000	4000	11000	8	1.6	**345.00**	86–219
WL-892	22***	60	15000	2000	10000	20000	50	1.6	**200.00**	86–220
WL-892R	22***	60	12500	2000	4000	14000	50	1.6	**345.00**	86–221
WL-893A	20†	183	20000	4000	20000	50000	36	5	**570.00**	86–222
WL-893AR	20†	183	20000	4000	20000	50000	36	5	**1050.00**	86–223

(PLIOTRONS continued on next page)


WL-880

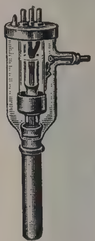

WL-889

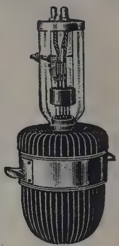
PLIOTRONS—Cont'd

MODULATORS

AMPLIFIERS

OSCILLATORS

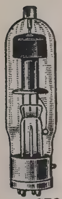

WL-891, 892


WL-892R

Type Number	Filaments		Plate DC** Volts	DC MA*	Dissipation Watts**	Output Watts Class C	Amplification Factor	Max. MC for 100% Input	**List Price‡**	Data Sheet
	Volts	Amps.								
WL-895	19	138	17000	9000	40000	100000	37	6	**$825.00**	86–225
WL-895R	19	138	17000	9000	20000	90000	37	6	**1125.00**	86–226
WL-1623	6.3	2.5	750	100	25	55	20	60	**3.50**	: :
WL-8000	10.0	4.5	2000	250	125	375	16.5	30	**13.25**	: :
WL-8003	10.0	3.25	1350	250	100	250	12	30	**11.25**	: :
WL-8005	10.0	3.25	1250	200	75	170	20	60	**7.00**	: :
WL-8025A	6.3	1.92	1000	80	40	35	18	500	**9.25**	: :

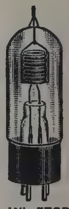
* Per unit, heater can be arranged to operate from either a 6.3 or 12.6 volt supply.
** Max. ratings (CCS)—RF Amplifier and OCS Class C.
*** Two filament strands in series with large post at neutral junction; operate in series or two phases.
† Six filament strands, connected each post to floating neutral, 61 amperes per strand.
†† Three filament strands connected from black posts to neutral center post.
R Indicates air-cooled radiator.
‡ Prices subject to change without notice.
: : For data sheet refer to tube type number.

KENOTRONS — Vacuum Rectifiers


WL-872A

Number	Filament		Anode		Amp. Average	Type of Cooling	**List Price‡**	Data Sheet
	Volts	Amperes	Volts Peak Inverse	Amp. Peak				
WL-456	11.0	20	140000	0.50	0.06	Air	**$95.00**	86–305
WL-579B	2.5	6	20000	0.27	0.025	Air	**12.00**	86–315
RO-585	5.0	1.1	1500	0.011	0.003	Air	**15.00**	86–320
WL-608	10.0	10	60000	0.20	0.06	Oil	**145.00**	86–325
WL-612	10.0	50	150000	0.75	0.24	Air	**235.00**	86–329
WL-613	11.0	10	140000	0.20	0.06	Air	**180.00**	86–330
WL-616	20.0	24.5	150000	1.00	0.25	Air	**190.00**	86–333
WL-660	10.0	10	230000	0.10	0.03	Air	**240.00**	86–338
WL-836	2.5	5	5000	1.0	0.25	Air	**6.00**	: :
WL-8020	5.0	6	40000	0.75	0.1	Air	**18.00**	: :

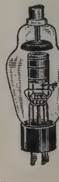
‡ Prices subject to change without notice.
: : For Data sheet refer to Tube Type Number.

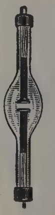

WL-579B

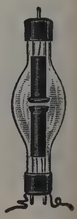
PHANOTRONS — Gas and Mercury Vapor Rectifiers

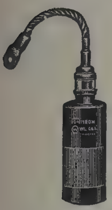
Number	Filament		Anode		Amp. Average	Type of Cooling	**List Price‡**	Data Sheet
	Volts	Amperes	Volts Peak Inverse	Amp. Peak				
WL-32	5.0	4.5	1000	15	2.5	Convection	**$11.00**	: :
WL-104	5.0	10.0	3000	40	6.4	Convection	**30.00**	: :
WL-575A	5.0	10.0	15000	6	1.5	Convection	**28.00**	: :
WL-670A	2.5	24	1000	9.5	6.0	Air	**15.00**	86–355
WL-816	2.5	2	5000	.5	.125	Air	**1.25**	: :
WL-857B	5.0	30	22000	40	10.0	Forced Air	**190.00**	86–360
WL-866A/866	2.5	5	10000	1	0.25	Air	**1.75**	86–365
WL-869B	5.0	18	20000	10	2.5	Forced Air	**120.00**	86–368
WL-872A/872	5.0	7.5	10000	5	1.25	Air	**7.50**	86–371

‡ Prices subject to change without notice.
: : For Data Sheet refer to Tube Type Number.

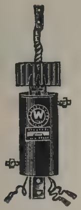

WL-866A /866


WL-660


WL-456



WL-681/686

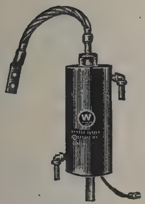


WL-653B

IGNITRONS

WELDER CONTROL SERVICE

Type Number	Size	RMS Volts Range	Max. KVA Demand and Corresponding Average Current		Max. Aver. Current and Corresponding KVA Demand		Type Cooling	List Price‡	Data Sheet
			KVA	Amps	KVA	Amps			
WL-651/656	C	200–600	1200	75.6	400	140	Water	**$95.00**	86–460
WL-652/657	B	200–600	600	30.2	200	56	Water	**65.00**	86–461
WL-653B		2400	2400	135.0	1105	207	Water	**290.00**	86–462
WL-654/659		Replacement only						**65.00**	: :
WL-655/658	D	200–600	2400	192.0	800	355	Water	**210.00**	86–464
WL-679		2400	1200	75.0	600	113	Water	**150.00**	86–474
WL-681/686	A	200–600	300	12.1	100	22.4	Clamp	**38.00**	86–476
WL-682		Replacement only						**33.00**	



WL-651/656

IGNITRONS

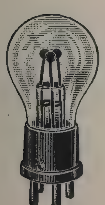
POWER RECTIFICATION SERVICE

Type Number	D-C Output Voltage	Max. Average Amps Per Tube			Type Cooling	List Price‡	Data Sheet
		Continuous	2-Hour Overload	1 Min. Overload			
WL-653B	300	200	300	400	Water	**$290.00**	86–462
	600	150	225	300	Water		: :
WL-679	300	100	150	200	Water	**150.00**	86–474
	600	75	112.5	150	Water	**150.00**	: :

‡ Prices subject to change without notice.
: : For Data Sheet refer to Tube Type Number.

MISCELLANEOUS

Type Number	Use	Volts, RMS		Current		List Price‡	Data Sheet
		Breakdown	Maximum Operating	Maximum 2 Sec.	Maximum 10 Min.		
KX-642	Protector	300–500	230	50 Amps.	7 Amps.	**$12.00**	86–960



KX-642

Type Number	Use	Cathode	D-C Anode Volts Min	D-C Operating Current Ma	D-C Operating Volts	Regulation Volts (5-40 Ma)	List Price‡	Data Sheet
OA3/VR75	Voltage Regulator	Cold	105	5–40	75	5	**$1.00**	: :
OC3/VR105	Voltage Regulator	Cold	133	5–40	105	2	**.90**	: :
OD3/VR150	Voltage Regulator	Cold	185	5–40	150	4	**.75**	: :

‡ Prices subject to change without notice.
: : For Data Sheet refer to Tube Type Number.

GENERAL ELECTRONICS INC.

TRANSMITTING • THYRATRONS
RECTIFIERS • DIATHERMY
ELECTRON TUBES

General Electronics electron tubes have been designed by a well known electronic engineer, who was an early pioneer in the development of the tube industry.

Many induction heating applications and diathermy oscillators and rectifiers have been designed by General Electronics, which means that we are constantly designing tubes for special applications in these various fields.

Inquiries are invited on types not listed, which may be required for special applications.

Type	Description	List Price
DR-17	Half-wave, mercury-vapor, grid-control rectifier, Thyratron	$ 6.00
DR-24G	High Frequency transmitting triode	6.00
DR-3B27	Half-wave, high-vacuum rectifier	10.00
DR-100TH	Transmitting triode	15.00
DR-123C	R-F Power amplifier, oscillator, modulator	15.00
DR-200	Power amplifier, oscillator, Class B modulator	21.50
DR-207	WATER-COOLED, triode, amplifier, oscillator	220.00
DR-211	R-F power amplifier, oscillator, triode	10.00
DR-300	Power amplifier, oscillator, Class B modulator	29.50
DR-371B	Half-wave, high-vacuum rectifier	20.00
DR-400	Power amplifier, oscillator, Class B modulator	60.00
DR-575A	Half-wave, mercury-vapor rectifier	27.50
DR-576A	Grid controlled mercury vapor rectifier, Thyratron	45.00
DR-801A	Triode amplifier	2.50
DR-805	Triode amplifier	10.00
DR-807	Pentode amplifier	1.95
DR-808	Transmitting triode	7.75
DR-811	Transmitting triode—high MU	3.50
DR-812	Transmitting triode—medium MU	3.50
DR-813	Beam power amplifier	14.50

Type	Description	List Price
DR-829B	Push-pull R-F beam power amplifier	$14.75
DR-832A	Push-pull R-F beam power amplifier	10.60
DR-833A	Triode, amplifier, oscillator	45.00
DR-836	High vacuum half-wave rectifier	6.00
DR-837	R-F power amplifier pentode transmitter	2.80
DR-838	Triode amplifier	10.50
DR-849A	R-F, A-F power amplifier, oscillator, modulator	120.00
DR-851	Air-cooled triode, A-F, R-F power amplifier	160.00
DR-857B	Diode gas rectifier	160.00
DR-866A	Half-wave, mercury-vapor rectifier	1.75
DR-869B	High-voltage, high-wave, mercury-vapor rectifier	100.00
DR-872A	Half-wave, mercury-vapor rectifier	7.50
DR-873	Half-wave, mercury-vapor, grid-control rectifier, Thyratron	15.00
DR-892	R-F power amplifier, modulator, triode—WATER-COOLED	200.00
DR-1613	Pentode amplifier	1.55
DR-1616	Diode vacuum rectifier	5.75
DR-1625	Pentode amplifier	2.25
DR-1626	Triode amplifier	1.60
DR-8008	Half-wave, mercury-vapor rectifier	6.75
DR-8020	High-vacuum, half-wave rectifier	15.00
VR-105	Voltage regulator	1.20
VR-150	Voltage regulator	1.20

All tubes licensed under the patents of Radio Corporation of America

Electron Tubes with LONG LIFE AND PRECISION CONSTRUCTION

(Agent for War Assets Administration Acting under Contract No. S1A-2-53 to sell GOVERNMENT SURPLUS ELECTRON TUBES)

GENERAL ELECTRONICS, INC. • New York 23, N. Y., U. S. A.

ALTEC

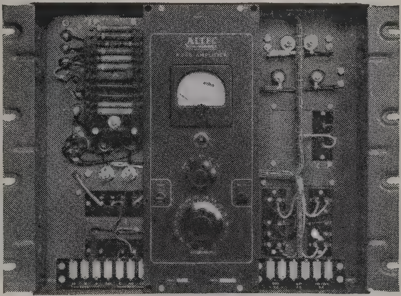
LANSING CORPORATION

SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.

Altec Lansing A-126, A-127 and A-255 series beam power amplifiers have been designed for the most exacting demand of high quality audio frequency power. Particularly, they are adaptable for broadcasting wired music studio equipment, premium quality public address and music distribution use, and for disc recording where particular stress is placed on having full power available at all frequencies up to 10,000 cycles for orthacoustic pre-emphasized recording and where outside-inside high frequency equalization is used.

These amplifiers will deliver POWER within 1 db of rating from 40 to 10,000 cycles thus assuring against intermodulation distortion; when operating 3 db below rating their frequency response is uniform within 1 db from 20 to 20,000 cycles, more than adequately spanning the FCC requirements for FM transmission. Input transformers have 90 db of shielding to allow operation near high external magnetic fields without danger of hum pickup.


A-255 AMPLIFIER

These beam power amplifiers, finished in blue-grey baked enamel, are assembled on relay rack panels of recess pan construction making them adaptable for either rack or cabinet mounting. The front mat is readily removed exposing all wiring, terminals and components for quick servicing. A plate meter permits speedily checking the current of each vacuum tube, and a screw driver adjustment is provided for balancing the output tubes for optimum operation.

The A-126 amplifier has a built in equalizer with terminals which can be strapped to provide either low or high frequency boost or droop to compensate for pick-up deficiencies, transmission line losses and auditorium acoustics.

SPECIFICATIONS

	A-126	A-127	A-255
GAIN	90 db (all models) fixed attenuation in steps of 4, 8 and 12db.	A-127 Max. 66 db for 100,000 ohm input. A-127 A-B Max. 66 db for all impedances without fixed pad. A gain control of 40 db range in steps of 2 db is provided on the input	65 db 500 ohm input. An additional input terminal is available which provides a bridging input of approximately 20,000 ohms. The gain on this tap is 37 db. A gain control of 40 db range in 2 db steps is provided on the input.
FREQUENCY RANGE	20–20,000 cycles within 1 db. Without equalization	20–20,000 cycles within 1 db.	20–20,000 cycles within 1 db.
POWER OUTPUT	15 watts with not more than 8% intermodulation or 2% total harmonics.	15 watts with not more than 8% intermodulation or 2% total harmonics.	40 watts with not more than 8% intermodulation or 2% total harmonics. When strapped for reduced plate voltage power output 30 watts.
NOISE LEVEL	−27 dbm (ref. .001 watt)	−42 dbm (ref. .001 watt)	−28 dbm (ref. .001 watt)
INPUT INPEDANCE	30, 250 or 500/600 ohms (all models)	A–127—Grid input 100,000 ohms. A-127 A-B 600/500 300/250 36/30 ohms.	600/500 300/250 36/30 ohms (all models).
OUTPUT INPEDANCE	10 or 20 ohms. A-126 A 14, 56, 125, 220, 500 ohms. *A-126 B 500, 750, 2000, 3000 ohms.	A-127 and A-127 A, 10 or 20 ohms. *A-127 B, 3000, 2000, 750, 500 ohms.	A-255, 10 or 20 ohms. *A-255 A, 3000, 2000, 750, or 500 ohms.
POWER SUPPLY	105, 117, or 130 volts, 50-60 cycles—110 watts. Separately fused.	105, 117, or 130 volts, 50-60 cycles—110 watts. Separately fused.	105, 117, or 130 volts, 50-60 cycles—200 watts. Separately fused.
EXTERNAL SUPPLY	Provision is made to furnish 6.3 volts A.C. at 2 amps for pre-amplifier filaments and 340 volts at 8 milliamps for plate supply	Delivers for external use 6.3 volts A.C. at 2.5 amp. and 350 volts D.C. for plate supply for one pre-amplifier.	Delivers 6.3 volts A.C. for filament and 350 volts D.C. for plate supply for one pre-amplifier.
P. E. C. SUPPLY	Provides regulated and separately filtered current of 1 milliamp at 85 volts.		
TUBES	2—6J7, 1—6J5, 2—6L6G, 1—OC3, 1—5U4G.	1—6J7, 2—6L6G, 1—6J5, 1—5U4G.	1—6SJ7, 1—6V6, 2—807, 1—5R4GY or 1—5U4G.
PANEL EQUIPMENT	Plate Current Meter, Selector switch, A.C. fuse, A.C. switch, Pilot light.	Plate Current Meter, Selector Switch, Attenuator switch, A.C. fuse, A.C. switch, Pilot light.	Plate Current Meter, Selector Switch, Attenuator Switch, A.C. Fuse, A.C. Switch, Pilot light.
DIMENSIONS	12¼″ high, 19″ wide, 9¼″ deep.	8¾″ high, 19″ wide, 7″ deep.	14″ high, 19″ wide, 8½″ deep.
WEIGHT	39 pounds.	18 pounds.	55 pounds.
LIST PRICE INCL. VACUUM TUBES	$264.00.	A-127—$198.00. A-127 A, and A-127 B—$230.00.	$354.00.

* Particularly suitable for driving A-287W 250 watt Class B amplifier provided by ouput transformer with tertiary winding for feed back voltage.

ALTEC

LANSING CORPORATION

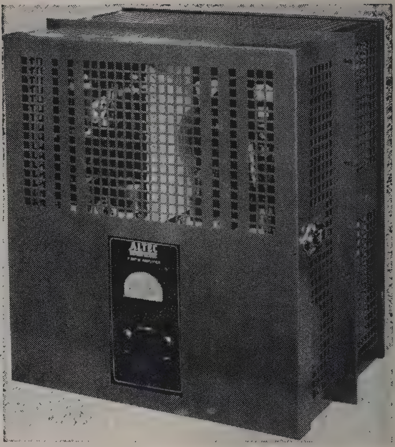
SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.

The Altec Lansing A-287 series of amplifiers are available for use where very high audio power is required. They are of the single stage push pull type with self contained power supplies and, in general, are constructed on the same lines as the A-126, A-127 and A-255 series amplifiers. Since these are strictly power amplifiers, having only 12 to 15 db gain, they must be operated from a driver amplifier such as one of the Altec Lansing A-126, A-127 or A-255 series.

These amplifiers, which are finished in blue-grey baked enamel and designed for rack mounting, are ideally suited for large auditoriums, electric organs, church chimes, skating rinks, sports fields and large industrial public address applications where audio power up to ¼ kilowatt is desired in one package.

A-422A PRE AMPLIFIER



A-287 F OR W AMPLIFIER

The Altec Lansing A-422-A is single stage and the A-420 is a two stage fixed gain low level pre amplifier designed to operate into the Altec Lansing A-126, A-127 and A-255 series of amplifiers from which they obtain their filament and plate supplies. They are intended as pre amplifiers for microphone, phonograph pick-ups and other low level signals. Input transformers have 90 db of magnetic shielding so as to permit hum free operation when mounted on racks in close proximity to power equipment having high stray magnetic fields. These amplifiers, which are finished in blue-grey baked enamel are assembled on a relay rack panel of recess construction so that they can be readily mounted on a rack or in a cabinet.

SPECIFICATIONS

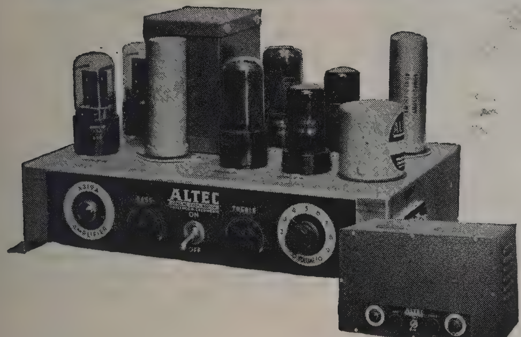
	A-287F	A-287W	A-420	A-422A
GAIN	15 db from all input impedances.	Approximately 12 db from 3,000 ohm impedance driver.	Normal 42 db. High 49 db.	24 db for all input impedances.
FREQUENCY RANGE	20–20,000 cycles within 1 db.	100–10,000 cycles within 1 db.	20–20,000 cycles within 1 db.	20–10,000 cycles within 1 db.
POWER OUTPUT	75 watts with less than 8% Intermodulation (2% total harmonics). When strapped for reduced plate voltage power output 50 watts.	250 watts (5% total Harmonics) Class B.	−2 dbm (.001 watt ref.)	−4 dbm (.001 watt ref.)
NOISE LEVEL	−22 dbm (.001 watt ref.)	−20 dbm (.001 watt ref.)	−77 dbm (.001 watt ref.)	−82 dbm (.001 watt ref.)
IMPEDANCE	Input 14, 56, 125, 220 and 500 ohms. The internal output impedance of the amplifier is 18, 9, 4.5 and 2.25 ohms depending upon the tap used. These impedances are intended to work into loads of 24/48, 12/24, 6/12, and 3/6 ohms. Maximum power is obtained when the amplifier works into 36, 18, 9 and 4.5 ohms.	Input—Use driver amplifier having minimum undistorted output of 15 watts and having an output impedance of 3,000 ohms with center tap. Output—Taps to work into loads from 2.25–40 ohms.	Input—30/36, 250/300, 500/600 ohms. Output—600/500, 300/250, 150/125, 75/62.5 ohms.	Input—30/36, 250/300, 500/600 ohms. Output—600/500, 300/250, 150/125, 75/62.5 ohms.
POWER SUPPLY	105–117–130 volts—50–60 cycles—400 watts. Internally fused.	105–117–130 volts—50–60 cycles—700 watts. Internally fused.	Requires 6.3 volts at 0.6 amp.—325 volts D.C. at 6 ma.	Requires 6.3 volts at 0.3 amp.—250–350 volts D.C. at 4 ma.
WEIGHT	141 pounds.	141 pounds.	12 pounds.	9 pounds.
AMPLIFIER TUBES	2—845 or 284.	2—805.	2—6J7.	1—6J5.
RECTIFIER TUBES	2—866A.	2—866A.		
PANEL EQUIPMENT	Plate Current Meter, Push Button Selector Switches, Fil-plate Switch.	Plate Current Meter, Push Button Selector Switches, Fil-Plate Switch.		
DIMENSIONS	19¼″ high, 19″ wide, 12½″ deep.	19¼″ high, 19″ wide, 12½″ deep.	3½″ high, 19″ wide, 7″ deep.	3½″ high, 19″ wide, 7″ deep.
LIST PRICE INCLUDING VACUUM TUBES	$715.00.	$822.00.	$142.00.	$126.00.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

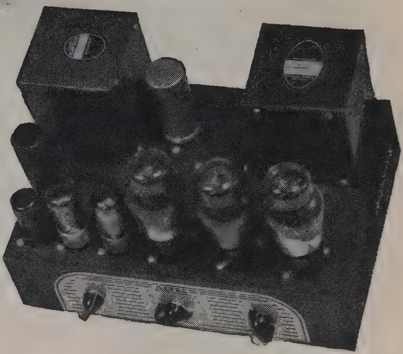
ALTEC
LANSING CORPORATION

SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.



A-319 AMPLIFIER



A-323 AMPLIFIER

The Altec Lansing type A-319 Amplifiers are compact, light weight, high quality, low price, AC-DC amplifiers, designed primarily for use in commercial wired music systems, home phonographs and music systems, terminal amplifier for paging systems, dance studios, etc.

The A-319A Amplifier which comes in the 10479 metal wall cabinet has a balanced bridging input transformer with 5,000 ohms input designed to bridge across 250-500-600 ohm lines without requiring isolating transformers.

The A-319B Amplifier has a high impedance input for crystal pickup use. The 10479 cabinet must be purchased separately with this amplifier if required.

The amplifier chassis and cabinet are isolated from the power supply and may be grounded.

Both the A-319A and A-319B Amplifiers have an adjustable low frequency "BASS" boost. The A-319A has an adjustable high frequency "TREBLE" boost to compensate for line losses. The A-319B has an adjustable high frequency droop to eliminate needle scratch. Inverse feedback from push pull output stage to input stage keeps distortion to a minimum. The feedback is taken from a tertiary winding on the output transformer thus leaving the output ungrounded.

The Altec Lansing A-323 series portable 15 watt amplifier is designed specifically to provide a high quality driver for top quality loudspeakers such as the Altec Lansing Multicell Diacone and Duplex from high quality FM and AM radio tuners, and from phonograph pick-ups. They have the same high power handling capacity and fine frequency response as the professional rack mounted type A-126 and A-127.

The amplifiers, which have a gray crackle finish, are of conventional chassis construction and can be provided with a carrying cover which must be ordered as a separate item. In addition to being externally fused these amplifiers are provided with a screw driver adjustable base boost of maximum 6 db at 55 cycles, a continuously variable volume control, an A.C. power switch and two input circuits which can be selected by means of a switch.

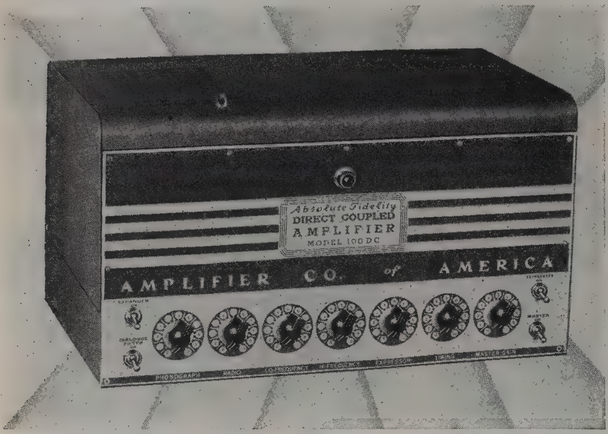
SPECIFICATIONS

	A-319	A-323
GAIN	A-319A 50 db bridging 600 ohm line A-319B 57 db from 250,000 ohm line	A-323; 104 db in high gain position, 74 bd gain low gain position A-323A; 94 db high gain position – 74 db low gain position.
GAIN CONTROL	Continuous variable.	Continuous variable.
FREQUENCY RANGE	40 to 15,000 cycles within 1 db with bass and treble control on 0.	20–20,000 cycles within 1 db.
POWER OUTPUT	4 watts.	15 watts – 8% intermodulation or 2% total harmonics.
NOISE LEVEL	– 20 dbm (.001 watt ref.)	A-323 – 20 dbm (.001 watt ref.) high gain position. A-323 – 37 dbm (.001 watt ref.) low gain position.
INPUT IMPEDANCE	A-319A balanced bridging input transformer with 5,000 ohms input to bridge across 250-500-600 ohm lines. A-319B high impedance input for crystal pick-up use.	A-323;500,000 ohms – high and low gain position. A-323A; 30, 250 and 500 ohms on high gain input – 500,000 ohms on low gain input.
OUTPUT IMPEDANCE	8 to 15 ohms (all models).	10-20 ohms (all models).
POWER SUPPLY	105–125 volts A.C. or D.C.	110–125 volts, 50–65 cycles, 110 watts.
TUBES	1—6SJ7, 1—6J5, 2—25L6, 2—25Z6.	3—6SJ7, 2—6L6G, 1—5U4G.
DIMENSIONS	A-319A 7¼″ x 11⅝″ x 6¼″. A-319B 6″ x 11″ x 5½″.	9″ x 12″, 9″ high including dust cover; 8″ high without dust cover, including tubes.
WEIGHT	A-319A 11 lbs. A-319B 5½ lbs.	12 lbs.
LIST PRICE	A-319A $85.00 (less vacuum tubes) A-319B $75.00 (less vacuum tubes)	A-323—$118.00 including vacuum tubes. A-323A $158.00 including vacuum tubes.
		A carrying case Code No. 10349 is available for either of these amplifiers at an additional price of $10.00.

FREQUENCY MODULATION and AMPLITUDE MODULATION

Push-Pull Direct-Coupled Class "A"

DE LUXE AMPLIFIER



*Absolute Fidelity**

MODEL ACA-100DC

Developed for all amplifier applications requiring a wide pass-band and low inherent amplitude and cross-modulation distortion. Particularly adapted for studio monitoring, record evaluation, microphone and speaker measurements, as well as absolute-fidelity amplification of FM and AM radio programs and all types of recording.

SPECIFICATIONS

TUBES REQUIRED:	2-12SC7, 2-12SK7, 2-6SC7, 2-6SJ7, 2-6L6G, 1-5U4G, 1-BBR
OVERALL GAIN:	Phono-Radio; 96 DB
NO. OF STAGES:	Five
RATED POWER OUTPUT:	23 Watts
HARMONICS AT RATED OUTPUT:	Less than 1%
HARMONICS AT ½ RATED POWER:	0.5%
NOMINAL POWER OUTPUT:	35 Watts
HARMONICS AT NOMINAL POWER OUTPUT:	Less than 5%
PEAK POWER OUTPUT:	39 Watts
HUM AND NOISE LEVEL:	—40 VU
MUSICAL RANGE ± 1 DB:	10 Octaves
NORMAL RESPONSE ± 1 DB:	20 to 20,000 Cycles
CONTROLS:	Radio, Phono, High Frequency, Low Frequency, Expander-Suppressor, Timing, Master Gain Control
HIGH FREQUENCY CONTROL RANGE:	From +13 db to —8 db at 10,000 Cycles
LOW FREQUENCY CONTROL RANGE:	From +14 db to —8 db at 100 Cycles
DIALOGUE FILTER RANGE:	—10 db at 50 Cycles
EXPANSION RATIO:	Adjustable up to 10 db
EXPANDER TIMING CONTROL:	Adjustable from 0.05 to 0.5 seconds
SCRATCH SUPPRESSOR:	Non-Frequency Discriminating
SCRATCH REDUCTION:	10 db
DYNAMIC RANGE:	83 db
INPUT CHANNELS:	Two
INPUT IMPEDANCES:	500,000 Ohms
MINIMUM INPUT SIGNAL:	Phono or Radio Input; 0.02 Volts
OUTPUT TERMINALS:	4/8/16/500 Ohms
BETWEEN TERMNALS:	1/2/6/10/12/83/100/125/150/166 Ohms
LINE VOLTAGE:	105/120 Volts 50/60 Cycles
POWER CONSUMPTION:	150 Watts
SWITCHES:	Expander, Dialogue Filter, Scratch Suppressor, On-Off
DIMENSIONS:	17" x 10" x 10"
NET WEIGHT:	40 Lbs.
SHIPPING WEIGHT:	55 Lbs.
MODEL NO.:	ACA-100 DC
GUARANTEE:	Five Years
LIST PRICE:	$312.00
NET PRICE:	$187.20
MATCHED SET OF TUBES. NET PRICE	$12.07

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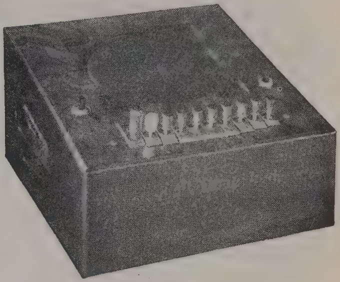
AMPLIFIER CORP. of AMERICA
396 Broadway New York 13, N. Y.

Bank's INTER-COMMUNICATION
SYSTEMS FOR ALL REQUIREMENTS

MODEL 8 PB

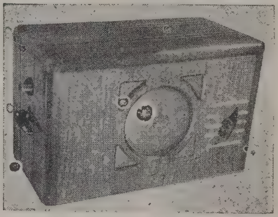
MODEL 8 PB is the only truly two-way loud speaker system on the American market. This model is available from four stations to 90 wherein any station or combination of stations can be called individually or simultaneously. This executive system employs the "anti-snooping" feature which permits management to call and receive replies from any predetermined combination of stations but prevents any unwanted station from listening in. This model is the last word in tomorrow's high speed world.



MODEL 8 PB
Size 11" x 11" x 5" High

MODEL 1137

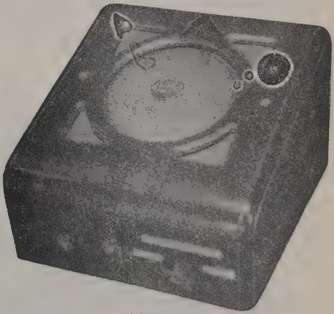
Famous for its long life and crystal clear tone quality, Model 1137 was developed more than ten years ago. Hundreds of special systems were installed and careful analysis made and from these records the the new Model 1137 is offered. Available from 4 to 10 stations. Beautiful design and ease of operation make this the most outstanding apparatus of its kind. Sit at your desk, select any department and speak to a busy employee . . . even though the called party is several dozen feet away from his two-way loud speaker. This model is a replacement for systems not incorporating full two-way control.



MODEL 1137
Size 12" x 7" x 8" High

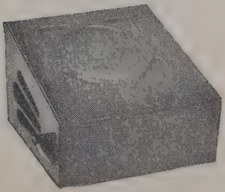
MODEL 320

This unit provides a low cost, high quality utility type two-way loud speaker system for general application. Economical in operation and initial cost, this equipment will operate long after many of its competitors have failed. Model 320 is made for use with up to 1000 feet of line and is available from 1 to 10 stations. A less expensive way to have more executive time, this model is your assurance of the utmost in performance, materials and workmanship.



MODEL 320
Size 8" x 8" x 5" High

Banks . . The oldest name in the two-way inter-communication field, hold basic patents on two-way loud speak inter-communication devices. There is no substitute for experience gained over a period of many years. Behind the product which you are buying, whether it be DuoVox, TeleVox or TeleMarine, is the most superb design which will meet your exacting requirements, year in, year out, for twenty-four hours a day. If it's Banks . . . it's instantaneous.

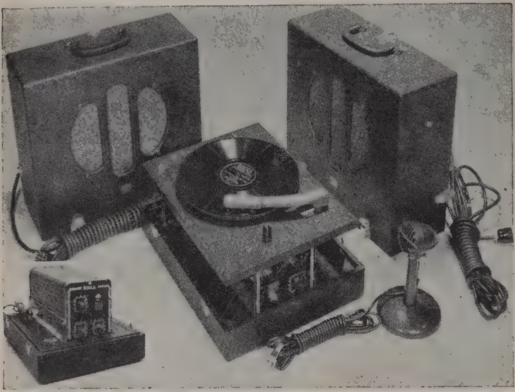


Interchangeable
REMOTE STATION

BANK'S MANUFACTURING COMPANY

1105 W. LAWRENCE AVENUE, CHICAGO 40, ILL.

VERSATILE PUBLIC ADDRESS SYSTEMS
By
BELL SOUND SYSTEMS, Inc.



- 10-WATT POWER OUTPUT
- THREE INPUT CHANNELS
- SELF-CONTAINED PHONO UNIT
- INVERSE FEEDBACK STABILIZER
- PORTABLE — EASY TO OPERATE

• SPECIFICATIONS •

1—10-Watt Amplifier with Tubes
2—10" Heavy Duty Speakers
1—Complete Phono Assembly for 12" records
1—Microphone Input
1—Musical Instrument Jack
1—Tone Control
2—Separate Volume Controls
1—Crystal "Mike" with Stand
1—3 pc. Portable Carrying Case, with all necessary cables, plugs and connectors.

The "BAND-MASTER"

MODEL PA-3710-P

10-WATT PORTABLE PHONO P.A. SYSTEM

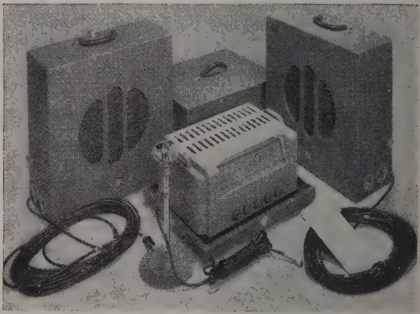
The neatest **"package of sound"** ever offered in the low price field. The Band-Master has input facilities for a microphone (furnished), a record-player (included) and a musical instrument. Designed flexibility supplies individual or combined usage even to simultaneous mixing of all three inputs. Ample tone and volume controls, beam power push-pull output, inverse feedback circuit, fine quality phono assembly and typical Bell rugged construction throughout assures the Band-Master a long and eventful life. Phono assembly is protected from harm by being concealed (as illustrated inset) on the bottom side of amplifier base, yet is instantly available by reversing the base even while system is operating. Three close-fitted sections snap together in a jiffy to form one compact carrying case, all covered with durable Bell-gray simulated leather.

THE FAMOUS BELL "SCHOOLMASTER"

MODEL 2078

Compact portable system includes full 25 watt amplifier, dual speed turntable, professional Tone Arm, microphone with stand, Heavy-duty 12" Speaker and all necessary cables. Ideal for schools, sales agencies, lodges, small industrials, etc. Thousands of users acclaim it.

Bell amplifiers and intercommunication systems licensed under U. S. patents of American Telephone and Telegraph Companies and Western Electric Company, Inc.



The "OLD MASTER"

25-WATT PORTABLE P.A. SYSTEM

MODEL PA-3725

Built around the famous 7 Tube Bell 25-Watt amplifier which has won public acclaim, this system is now presented in its modern version. Two microphone and one phono inputs with individual volume controls, separate bass, and treble boost controls, adjustable speaker impedance matching switch, auxiliary A.C. output, two speaker receptacles and 7 foot power cord for 117 volt, 50-60 cycle A.C. connection facilitates complete operation flexibility. The amplifier carrying case and separate dual-speaker case are sturdily built of reinforced plywood, enhanced by beautiful Bell-gray simulated leather covering. Two heavy-duty 12" wide range speakers, a choice of microphones, a mike stand, kit of matched tubes and all necessary cables and connectors provide the package purchaser with the perfect basic system. Auxiliary Bell turn-table units are available to complement the system.

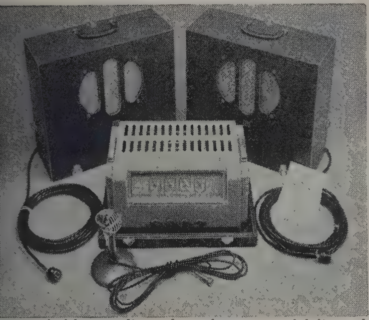
• SPECIFICATIONS •

1—Model 3725 Amplifier with Tubes
1—Model No. 14A Amplifier case
1—Model 50 Crystal Microphone or Model 62 or 63 Dynamic Microphone with 25' Microphone Cable and Connector
1—Model 20 Desk "Mike" Stand
1—Model 95 2 pc. Speaker Case
2—12" Heavy Duty Dynamic Speakers
2—Line Matching Transformers
2—50" Speaker Cables with plugs

AMPLIFIERS-MOBILE P.A. SYSTEMS-INTERCOMS
By
BELL SOUND SYSTEMS, Inc.

BELL SOUND SYSTEMS

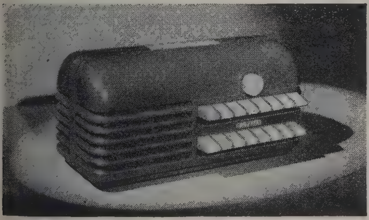
The "SPEECH - MASTER"
15-WATT PORTABLE PA SYSTEM
MODEL PA-3715E



Remarkable quality of performance, fidelity of tone, refined appearance, package-portability and simplified operation personify the "Speech-Master." Ingenious design permits the incorporation of such features as: Bell amplifier with undistorted 15-watt output, push-pull beam power output tubes, inverse feed back tha tcuts harmonic distortion, and three input channels with separate volume controls providing mixing of two microphones and a phono pickup. The beautiful grey and silver amplifier with its illuminated full view control panel is highlighted by distinctive red control knobs. The two 10-inch high quality dynamic speakers, amplifier, microphone and necessary cables are all housed in a compact three-piece carrying case. The Bell-gray of the simulated leather covered case complements the equipment tones to create a color harmony which will please the most exacting users. Add a Bell turntable unit for recorded music.

• SPECIFICATIONS •

1—Model 3715 Amplifier with Tubes
3—Input Channels
2—10" Heavy Duty Dynamic Speakers w/cables
1—Model 30 Crystal Microphone with Stand, 15' Cable and Connector
1—Model 15 3 pc. Portable Case.



NEW BELFONE "MAESTRO" LINE

The 1947 Belfone "Maestro" Series now being introduced to the market promises a new era in intercommunication systems. Entirely new from its very heart, the TESTALOK, to its newly styled exterior of ultra modern design, the new Belfone is a tribute to the engineer's skill. The beautiful cabinet is molded in two sections of Durez plastic, facilitating servicing of any part of the unit. The TESTALOK, a new feature of the series along with the new Bellswitch and new electronic circuit have elicited the highest praise from all who have tested its performance. The rounded body of the cabinet is of such design that the top cannot be used as a desk "catchall," which allows proper heat dissipation and prolongs the life of the entire unit. The Belfone "MAESTRO" unit will put a new interpretation on the business value of inter-office communication and will become an indispensable asset to every executive's desk.

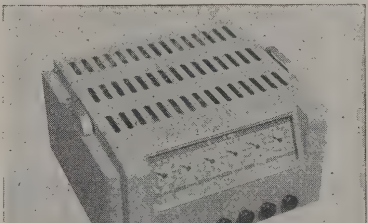
- 6 VOLT DC—110 VOLT AC
- NEW IMPROVED CIRCUIT
- TRUE RATED AT 28 WATTS
- HI-LO BOOST-CUT TONE CONTROLS
- QUICK POWER CONVERSION
- EXTERNAL INPUTS
  1. PHONO,
  2. MICRO
- PICKUP STAYS 'IN-THE-GROOVE'
- STANDBY ECONOMIZER
- 3 OIL-FILLED CAPACITORS
- CIRCUIT BREAKER PROTECTION ON D.C.

THE "MOTO-MASTER"
28-WATT MOBILE AMPLIFIER UNIT
MODEL 3728-M

Fourteen years of experience produced the new Bell Moto-Master. Ignoring fallacious peak wattages, Bell engineers guarantee 28 watts undistorted output and believe the Moto-Master will cover 99% of all mobile jobs. New from the base panel up, it incorporates all recent electrical and electronic advances blended with the same Bell "sound" engineering which made previous Bell Mobile units the leaders in their field. Mobile operators are acclaiming the new hinged-head pickup which by test will stay "in-the-groove" even when the 78 RPM turntable is tilted as much as 45 degrees. Its lower vertical inertia also laughs at car or road vibration. Furnished with tubes as pictured the Moto-Master can be used with all standard mikes, trumpets or horns.

THE "SOUND MASTER" 50 WATT AMPLIFIER
MODEL 3750

This unit offers "powerhouse" performance with sufficient wattage for the majority of installations. With inverse feedback and push-pull beam power output tubes, it develops an undistorted 50-watt output. Tone controls provide both boost and attenuation of high and low frequencies. Careful design has reduced both harmonic distortion and intermodulation distortion to very low levels. Tone controls permit exceptionally wide tone adjustment. Four input channels with separate volume controls allow three "mikes" and one phono to be simultaneously mixed in any combination. Tubes are furnished.

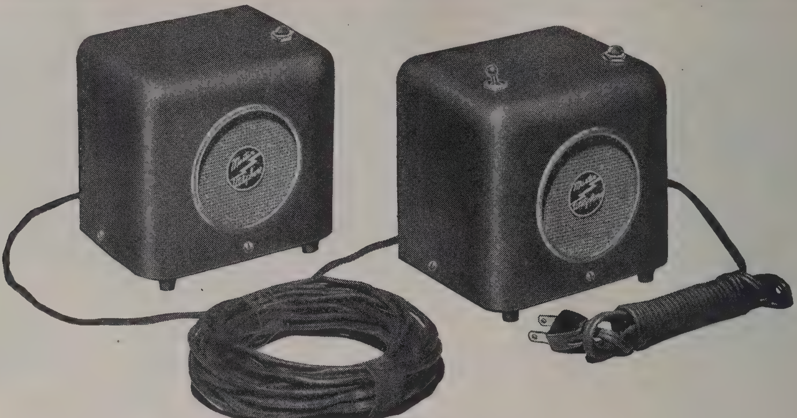


The ultra-modern housing for this expertly engineered unit is furnished in Bell-gray with red trim. The illuminated pointer dials are inclined at a convenient level. To facilitate servicing, the easily removed one piece top and back gives ready access to all components. A truly versatile, heavy-duty amplifier of Quality, Power and Tone Excellence. Available also for remote stand-by control (Model 3750R) and in system form (Models PA-3750 and PA-3750-R).

LOOK TO BELL FOR SOUND VALUES

Many other Bell Sound Units are available for every type and kind of use. The wide latitude covered by various types of Bell Sound Equipment is such that the wise purchaser of today will check Bell Equipment first. Write today for details on the complete line of Bell Sound Equipment.

E-L UTILIPHONE . . . practical, low-cost 2-station intercommunication system



FOR offices, factories, homes, schools and other places where 2-station intercommunication is needed E-L UTILIPHONE is ideal in point of low-cost and long-time satisfactory operation.

Incorporating an efficient 3-tube amplifier, Utiliphone works with regular 110 V. DC or AC. The "master" station plugs into the outlet, while the second station may be located anywhere within 500 feet.

Housed in an attractive walnut baked enamel finish cabinet this efficient system is supplied complete with 14A7, 50A5 and 35Y4 tubes and 50 feet of wire. No installation service is required.

LIST PRICE $29.95. 10% additional West of Rockies

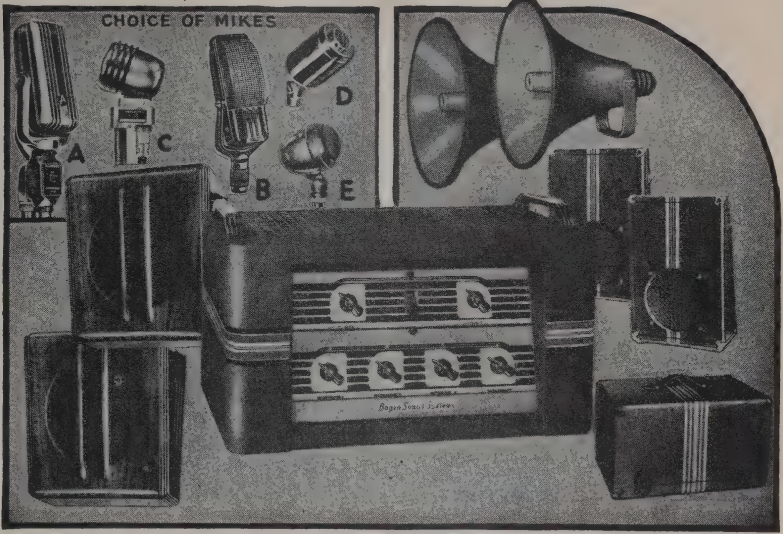
Electronic LABORATORIES, INC.
INDIANAPOLIS
VIBRATORS AND VIBRATOR POWER EQUIPMENT FOR LIGHTING, COMMUNICATIONS, ELECTRIC AND ELECTRONIC APPLICATIONS

OGEN EX35 De Luxe "*Streamliner*" Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

35
Watts

- **Exclusive New Triple Range Electronic Tone Corrector**
- **Controls Bass, Treble and Intermediate Tone Ranges**
- **Four Input Channels**
- **Three Microphones and Phono**
- **Remote Control Circuits built in for *all* inputs**
- **Illuminated Sloping Control Panels**
- **Push pull 6L6 Output**
- **Inverse Feedback and fixed bias**
- **Weatherproof Outdoor Trumpet Systems**



OMBINING every desirable feature of advanced sound en-
eering with new and exclusive Bogen developments, the EX35
reamliners" invite comparison with any equipment in their power
ige. Chief among the exclusive features of the new "Streamliners"
the BOGEN TRIPLE RANGE ELECTRONIC TONE CORRECTOR.
ceeding all previous standards of performance this new circuit
ers complete control of three tone ranges—Bass, Treble, and the
ddle register. Three separate tubes, each one acting as an elec-
nic audio channel, control and amplify the overall tone range.
unique dual control system permits the operator to create any
e range desired regardless of the acoustics of the installation.
e Electronic Tone Corrector differs completely from ordinary Bass
Treble controls or equalizers, and it has none of the objectionable
tures of compensators or tone controls such as power loss or
tortion. Other de luxe features of the new EX35 "Streamliners"
four Input Channels for three microphones and phono—Elec-
nic Mixing between all input channels—full range individual
in controls for all inputs and a low impedance model for instal-
ions where long microphone cables are required. The model
35 low impedance amplifier provides one low impedance input
annel. The other two microphone inputs and phono remain
gh impedance as in the model EX35 but if desired, additional low
pedance inputs can be obtained built-in at an additional cost.
remote control circuit is built-in on all "Streamliner" models
rmitting mixing and fading with Bogen wired or wireless remote
ntrols, of two microphones or one microphone and phono. Slop-
control panels, illuminated, insure greater visibility and ease
operation. For further convenience variable tapped outputs are
ailable at a terminal strip and two speaker sockets—the vari-
le taps permitting correct matching at both points. These and
ny other quality features contribute greatly toward making
new Bogen EX35 "Streamliner" amplifiers second to none.

OGEN DE LUXE MODEL EX35 "STREAMLINER"—Amplifier,
nplete with tubes.

LOW IMPEDANCE AMPLIFIER

E LUXE MODEL EL35 "STREAMLINER"— Amplifier, with
t microphone input channel equipped for low impedance opera-
n—tapped at 50, 200, and 500 ohms. Specify tap setting
sired when ordering. Model EL35 "Streamliner"
plifier, complete with tubes.

BOGEN EX35 "STREAMLINER" SOUND SYSTEMS

ODEL EX35F—Complete basic system includes: 1—EX35 am-
ier, 1—Kit of matched tubes, 2—Jensen PM12B heavy duty 12"
amic speakers each with 25' heavy rubber covered speaker
le and plugs and, choice of 1—(a) Amperite BH velocity micro-
one, (c) Amperite BAH dynamic, (d) American D8T dynamic,
Astatic T3 crystal. Each with 12½' cable and plugs.

FOR INDOOR INSTALLATIONS

MODEL EX35B—"STREAMLINER"—Complete system as above but with 2—WA12 de luxe walnut baffles.

FOR PORTABLE USE

MODEL EX35P—"STREAMLINER"—Complete system as above but with 1—Heavy duty No. 134X reinforced dual speaker case and one No. 133X de luxe amplifier case.

FOR OUTDOOR INSTALLATIONS

MODEL EX35T—"STREAMLINER"—Complete system includes: 1—Model EX35 amplifier, 1—Kit of matched tubes, 2—Bogen-University 4½' reflexed non-resonant weatherproof trumpets and two Bogen-University 25-watt PM dynamic trumpet units (not dynamic cone speakers), choice of 1—(a) Amperite BH velocity microphone, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 12½' cable and plugs.

MODEL SRC50—SR Remote Control, for use with any of above systems or amplifier. Complete with Model RC 50' cable and plugs.

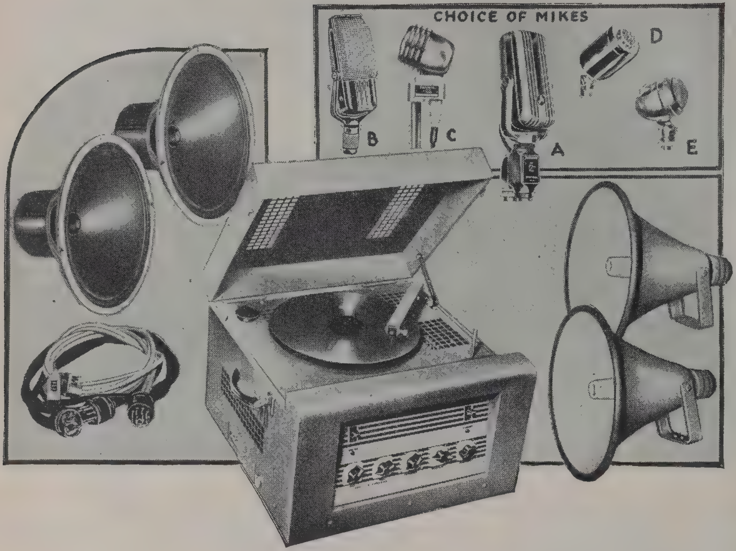
MODEL EX35 "STREAMLINER" SPECIFICATIONS

POWER OUTPUT: 35 watts undistorted (less than 5%)—peak power—50 watts.
INPUT CIRCUITS: Four input channels—three Microphone inputs, 1—Phono Input. All circuits may be mixed simultaneously.
INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL35 provides taps of 50, 200, 500 ohms). Phono input—high impedance —500,000 ohms.
OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.
OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.
GAIN: Microphone Inputs, 130 db. Phono Inputs, 90 db.
FREQUENCY RESPONSE: 30 to 14,000 cycles + or — 1 db. Tone corrector range—bass control—15 db. to + 13 db. at 30 cycles. Treble control—15 db. to + 12 db. at 10,000 cycles.
TONE CONTROL: Triple Range Electronic Tone Corrector; Intermediate Range, fixed, 1—Bass control, 1—Treble control.
CONTROL PANEL: Illuminated, mounting three microphone controls, one phono control, 2 electronic tone corrector controls and master AC power switch.
REMOTE CONTROL PROVISION: Built-in—provides complete mixing and fading of any two of the 4 available inputs from remote point.
TUBES: 4—6SF5, 2—6SL7GT, 1—6SJ7, 1—6F6G, 2—6L6G, 1—7Z4, 1—5U4G/5X4G.
POWER CONSUMPTION: 190 watts, 117 volts, 50-60 cycles A.C.
DIMENSIONS: 16½" x 8½" x 10¼".

PRICES ON REQUEST

BOGEN EX326 "DELUXE" MOBILE SYSTEMS

UNIVERSAL FOR 6 VOLTS DC AND 115 VOLTS AC OPERATION



FEATURES

- ★ 32 Watts
- ★ No Outside Power Packs
- ★ Constant Speed Motor
- ★ Electronic Tone Corrector
- ★ 3 Channel Input
- ★ Automatic Changeover from AC or DC
- ★ Standby Switch—for Battery Economy

MODEL EX326 UNIVERSAL MOBILE SYSTEM is recommended wherever the finest in sound is required.

- ★ Makes passenger car easily convertible for sound work.
- ★ Makes ideal portable unit for truck use.
- ★ Will amply cover all average requirements for indoor and outdoor use.

NO OUTSIDE POWER PACKS REQUIRED

The EX326 is completely self contained in one compact unit including amplifier, and phono assembly with its own hinged cover. A six volt D. C. and 115 volt A. C. power supply is built in. Changeover is automatic.

THREE INPUT CHANNELS

The EX326 allows mixing of two microphones and phono at the same time.

TRIPLE RANGE ELECTRONIC TONE CORRECTOR

An extremely important feature of the EX326 is the Bogen Triple Range Electronic Tone Corrector. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges, Bass, Treble and the Middle register. A unique dual control system permits the operator to create any tone range desired regardless of the acoustic condition of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizer, and it has none of the objectionable features of compensators or tone controls such as power loss or distortion.

STANDBY SWITCH

A switch located on the control panel cuts the B power but allows the tubes to remain heated, ready for instant return to operation. REMOTE STANDBY SWITCH is incorporated in special microphone handle—performs same function except at any distance awy from the amplifier. This standby switch on your Bogen amplifier means reducing battery consumption.

CONSTANT SPEED RIM DRIVE PHONO MOTOR

A rim drive motor insures smooth running operation, eliminating wows or waver on either 6 volt D. C. or 115 volt A. C.

An Astatic crystal pickup with a new type shock-proof arm is mounted on the phono assembly.

MODEL EX326–De Luxe Mobile Amplifier complete with phono assembly and tubes.

DE LUXE UNIVERSAL SOUND SYSTEMS

MODEL EX326F MOBILE DE LUXE SYSTEM—Complete with Model EX326 Universal mobile amplifier and tubes. Two heavy duty 12" Jensen PM dynamic speakers, each with 15' of cable and plugs and, choice of 1—(a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½' microphone cable and plugs.

OUTDOOR INSTALLATIONS

MODEL EX326T DE LUXE MOBILE SYSTEM–Complete with EX326 amplifier and tubes. Two high power University 3½' trumpets, each with 25 watt unit, choice of 1—(a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½' microphone cable and plugs.

MODEL AHG SPECIAL MICROPHONE HANDLE–With built-in remote control standby switch and complete with 25' remote control cable and plugs.

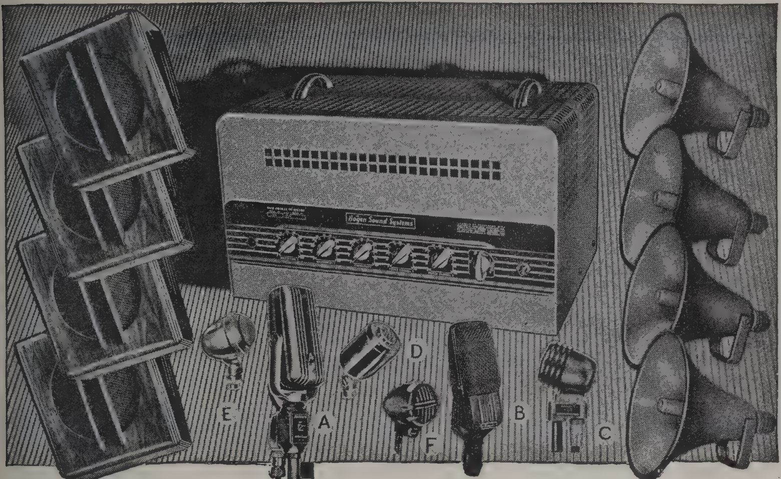
EX326 AMPLIFIER SPECIFICATIONS

OUTPUT: 32 watts.
OUTPUT IMPEDANCE: 4-8-15-250-500 ohms.
GAIN: 120 db. on microphone, 81 db. on phono.
INPUT: 3—2 microphone at 500,000 ohms, 1—phono 500,000 ohms.
FREQUENCY RESPONSE: ± 30—12000 cycles.
PROVISION FOR REMOTE CONTROL: Built in.
TUBES: 3—6SF5, 2—6SL7GT, 2—6L6G, 1—5U4G/5X4G.
CURRENT DRAIN: 6 volt D. C. 23.5 amps., 117 volt A. C. 120 watts.
DIMENSIONS: 16" long x 16" wide x 10¼" high.

PRICES ON REQUEST

BOGEN E75 HIGH POWER SYSTEMS

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



70

WATTS

- ★ Less than 4% distortion
- ★ Exclusive BOGEN dual construction
- ★ Two complete 35 watt power amplifiers
- ★ Separate power supply for each amplifier
- ★ Three input channel mixing
- ★ Two microphone and Phono input
- ★ Bass and treble tone compensator

THE NEW BOGEN E75 is a high powered amplifier retaining most of the outstanding features of the famous Bogen De Luxe EX70 Amplifier. It is designed for installations where high power and exceptional tone quality are desired—at an economical cost. Containing the exclusive Bogen Dual Amplifier circuit, the E75 offers the greatest value in sound equipment at a price range previously considered low for SINGLE OUTPUT Amplifiers.

GENERAL DESCRIPTION

The E75 is a dual unit consisting of two separate 35 watt power amplifiers, each with its own Driver Stage, Power Supply, Separate Fixed Bias Rectifiers, Inverse Feedback, and Separate Master Gain Controls.

DUAL POWER AMPLIFIERS

The E75 may be used as two separate 35 watt Power amplifiers—driven by preamplifier common to both—or the outputs of both amplifiers may be parlleled to deliver 70 watts. The tapped output transformer of each amplifier is connected to marked terminal strips. An external switch may be attached to obtain instant changeover from either output, in cases of emergency.

UNIVERSAL APPLICATION

This new low cost 70 watt amplifier is highly recommended for all high power installations such as Skating rinks, Athletic fields, Stadia, Dance halls, Airports, etc.

As an emergency feature the dual amplifier design of the E75 safeguards against complete breakdown. In the event of tube burn out, condenser or transformer failure, etc., half the power (35 watts) of the E75 is still available in the amplifier section not affected.

MULTIPLE MICROPHONE AND PHONO INPUTS

Two Microphones and Phono may be mixed simultaneously thru the three High Impedance inputs. Each input has its full range volume control. A LOW IMPEDANCE MODEL EL75 is available, at a slight additional cost, for installations where it is necessary to run very long microphone lines. This provides one Low Impedance Input for Mike—one high Impedance Input for mike and one Phono Input.

DUAL PROTECTIVE FUSES

Two fuses are located on the rear of the chassis, one for each power amplifier. A switch is also provided to obtain voltage for the preamplifier from either power supply.

BASS AND TREBLE TONE COMPENSATOR

A complete variation of the overall tone is made possible by the Bass and treble compensator, insuring better flexibility of the tone ranges than is possible to obtain thru the use of ordinary tone controls.

Auxiliary equipment to use with the E75 for indoor and outdoor installations has been carefully selected to insure the finest results for the purchaser of these splendid amplifiers.

BOGEN MODEL E75 AMPLIFIER—Complete with tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL75 AMPLIFIER—Same as above Model E75 but with first micro-input channel equipped for low impedance. Uses special high fidelity input transformer mounted right on chassis, humless, tapped at 50-200-500 ohms. Complete with tubes.

NOTE: If additional low impedance inputs are desired, refer to price sheet.

NOTE: If any systems are ordered less microphone refer to price sheet.

BOGEN E75 SYSTEMS

MODEL E75F BASIC SYSTEM — Complete E75 amplifier with tubes—Four Jensen 12" heavy duty PM12B speakers, 1—(f) Astatic JT30 Crystal Microphone. With 12½' microphone cable and plugs.

FOR INDOOR INSTALLATIONS

E75B SYSTEM—Complete system same as bove, but with 4 12 inch speakers mounted in De Luxe walnut baffles Model WA12.

FOR OUTDOOR INSTALLATIONS

E75T SYSTEM—Complete E75 amplifier and tubes—four 4½' University trumpets and 25 watt units. 1—(f) Astatic JT30 Crystal Microphone. Each with 12½' microphone cable and plugs.

CHOICE OF DE LUXE MICROPHONES other than listed above: (a) Amperite BH Velocity Microphone, (c) Amperite BAH Dynamic, (d) American D8T Dynamic, (e) Astatic T3 Crystal. Each with 12½' microphone cable and plugs. For extra cost refer to price sheet.

E75 AMPLIFIER SPECIFICATIONS

OUTPUT: 70 watts. (2-35 watt power amplifiers) less than 4% distortion.

OUTPUT IMPEDANCES: Each power amplifier tapped—4-8-15-500-1000 ohms, may be parallel to deliver 70 watts.

GAIN: Microphone 124 db, Phono 95 db.

INPUTS: 3-2 Microphones, 1 Phono—each 500,000 ohms. (In Model EL75, low impedance channel is tapped at 50-200-500 ohms.)

FREQUENCY RESPONSE: 30—14000 cycles—1 db.

TUBES: 2—6SF5, 2—6SL7GT, 2—6F6G, 2—7Z4, 4—6L6G, 2—5U4G/5X4G.

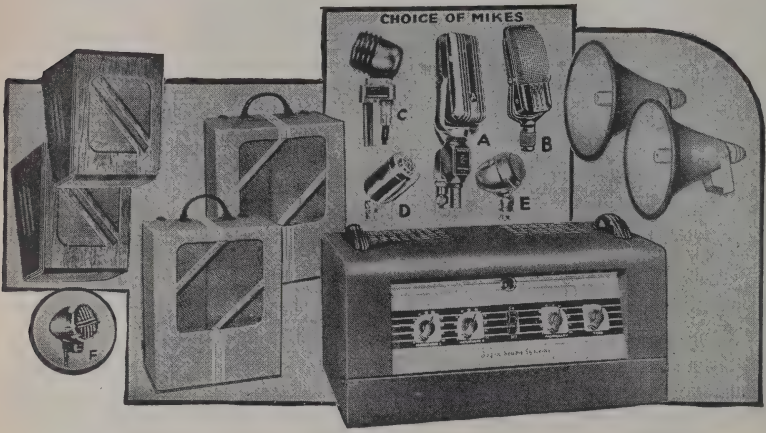
CONTROLS: (6) 2 Mike, 1 Phono, 2 Master Controls, 1—Bass and Treble Compensator.

CURRENT DRAIN: 290 watts at 117 volts—50-60 cycle. AC.

DIMENSIONS: 17⅛" long x 10" high x 12½" deep.

BOGEN E30 "TRAIL BLAZER" SOUND SYSTEMS

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



30 WATTS

- ★ Three Input Channels
- ★ Two Microphones and Phono
- ★ Electron Mixing on all channels
- ★ Full Range Controls
- ★ Treble and Bass Tone Compensator
- ★ Beam Power 6L6 Push Pull Outputs
- ★ Illuminated Sloping Control Panel
- ★ Outdoor Weatherproof Trumpet Systems

ESTABLISHING a new standard of quality, performance and features, the new Bogen E30 "Trail Blazer" amplifier and systems, leads the way in offering finer sound equipment at lower and more popular prices.

Available in both High and Low Impedance Models, the E30 "Trail Blazer" units are seven-tube high gain amplifiers using the popular 6L6 Beam Power Tubes in the output stage to insure maximum power output and excellent tone quality. Equipped with three input channels for two microphones and one phono the E30 amplifier permits wide flexibility of operation. Each input channel is individually controlled and all channels can be mixed and used simultaneously. All inputs are high impedance on the Model E30. The Model EL30 Low Impedance amplifier is provided with a low impedance microphone input channel which is extremely valuable for installations where long microphone cables are used. In addition, the EL30 amplifier includes a second high impedance microphone input and a separate phono input thereby permitting the use of both high and low impedance microphones. For complete variation of tone, a bass and treble compensator is built-in insuring better variation of tone ranges than the ordinary tone controls commonly used. An illuminated sloping panel, handsomely etched in bright modern colors matches the smart streamline chassis design. A variable impedance output strip and two built-in speaker sockets add greater convenience for speaker connection and matching. All component parts are selected materials of the finest quality and "Trail Blazer" amplifiers are engineered to give lasting and consistent service.

MODEL E30 "TRAILBLAZER"–Amplifier and tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL30—30-watt amplifier, same as above Model E30 "Trail Blazer" but with first microphone input channel equipped for low impedance. When ordering specify one of the following impedances: 50, 200, 500 ohms. Model EL30, complete with tubes.

BOGEN E30 "TRAIL BLAZER" SYSTEMS

MODEL E30F–Complete basic system, includes 1 Model E30 amplifier and tubes, 2—12" Jensen PM12C speakers each with 25' cable and plugs. 1—Astatic JT30 Crystal microphone, and 12½' cable and plugs.

FOR INDOOR INSTALLATIONS

MODEL E30B–Same as above, with 2—WA12 Walnut speaker baffles.

FOR PORTABLE USE

MODEL E30P—Same as E30F but with Model K30 portable carrying case for 2 speakers and amplifier.
Price ....

FOR OUTDOOR INSTALLATIONS

MODEL E30T–Complete system includes: 1—E30 amplifier and tubes, 2—Bogen-University 3½' reflexed non-resonant weatherproof trumpets each with swivel mounting brackets, 2—25-watt Bogen-University PM trumpet units (not dynamic cone speakers), 1—Astatic Crystal JT30 microphone, and 12½' of cable and plugs.

CHOICE OF MICROPHONES, other than those listed above: (a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 12½' cable and plugs. Ask for information on additional cost.

MODEL E30 "TRAILBLAZER" SPECIFICATIONS

POWER OUTPUT: 30 watts undistorted (less than 5 per cent), peak power, 40 watts.

INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.

INPUT IMPEDANCES: Microphone channels: High impedance 50,000 ohms. (Low impedance channels available in Model EL30 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 4, 8, 15, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—129 db.
Phono input—89 db.

FREQUENCY RESPONSE: 40 to 12,000 cycles + or — 1.5 db.

TONE CONTROL: 1—Bass, Treble compensator.

CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.

TUBES: 2—6SF5, 1—6SL7GT, 1—67N7GT, 2—6L6G, 1—5U4G/5X4G.

POWER CONSUMPTION: 130 watts, 117 volts, 50-60 cycles A.C.

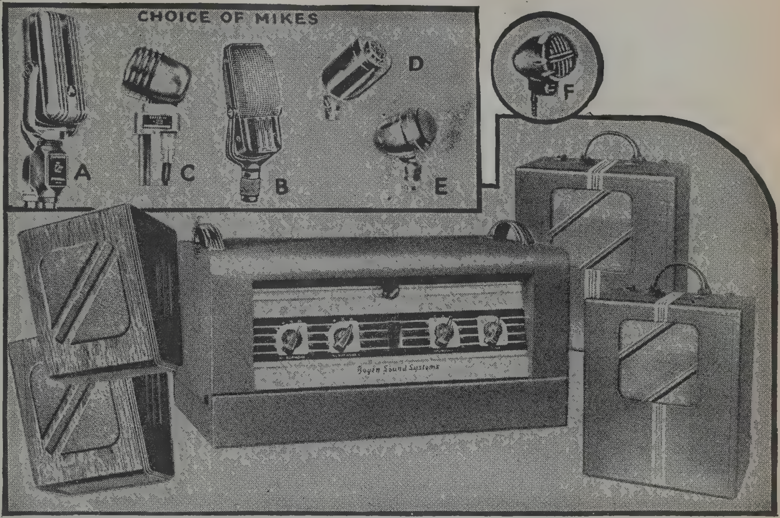
DIMENSIONS: 15" x 7¾" x 9¼".

BOGEN E14 "PACEMAKER" SOUND SYSTEMS

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

14 WATTS

- ★ **Multi-channel Inputs**
- ★ **Two Microphones and Phono**
- ★ **Full Range Electron Mixing on All Inputs**
- ★ **6L6 Beam Power Push Pull Outputs**
- ★ **Bass and Treble Tone Compensator**
- ★ **Variable Impedance Speaker Matching and Tapped Outputs**
- ★ **Illuminated Sloping Controls Panel**



THE new Model E14 "Pacemaker" Sound Systems set the pace for medium powered Public Address equipment in the popular price range.

No other amplifier or system incorporates all of the features, listed above, at these low prices. Most of these features have only been available in larger so-calld De Luxe units selling at much higher prices. The Bogen E14 "Pacemaker" is a 7-tube high gain amplifier providing three input channels for two microphones and phono. Each microphone input has its own separate input tube and full range individual gain control. Phono input is also provided with separate gain control and electronic mixing is effected between all three channels simultaneously. All input channels are high impedance and microphones, dynamic, crystal, volecity, or velotron. Low impedance inputs, an exclusive Bogen feature, are available on any or all inputs in the Model EL14 amplifier (described below). A bass and treble tone compensator is another De Luxe feature built in the Model E14 "Pacemaker." This is not an ordinary tone control but permits accentuation of the bass or treble ranges at will. A pair of 6L6 beam power output tubes in push-pull assure ample power with excellent quality. A beautifully etched, sloping control panel illuminated for greater visibility enhances the appearance of the new Bogen E14 "Pacemaker." For ease of connection, lock type shielded connectors are provided for the microphone inputs, terminal strips for phono inputs and a new variable output terminal strip tapped at 2, 4, 9, 250, and 500 ohms insures quick and easy speaker matching. For further convenience two speaker sockets are built-in. The new E14 "Pacemaker" establishes a new standard in the medium priced field.

MODEL E14—Amplifier and Tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL14—14 watt amplifier same as Model E14 "Pacemaker" above with first microphone input channel equipped for low impedance operation—tapped at 50, 200 and 500 ohms. Specify tap setting desired when ordering. MODEL EL14, complete with tubes.

BOGEN MODEL E14 SYSTEMS

MODEL E14F—Complete basic system consists of: 1—Bogen Model E14 "Pacemaker" amplifier, 1—Kit of matched tubes, 2—12" Jensen PM412C Dynamic speakers each with 25' of speaker cable and plug. Astatic JT30 Crystal microphone and 12½' of microphone cable fitted with lock type connectors.

FOR INDOOR INSTALLATIONS

MODEL E14B—Complete system. Same as E14F but with 2—WA12 Walnut speaker baffles.

FOR PORTABLE USE

MODEL E14P—Complete system. Same as E14F but with Model K14 Portable Carrying Cases for two speakers and amplifier.

CHOICE OF DE LUXE MICROPHONES other than listed above (a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½' cable and plugs. Ask for information on additional cost.

MODEL E14 AMPLIFIER SPECIFICATIONS

POWER OUTPUT: 14 watts undistorted (less than 5 per cent.), peak power, 25 watts.

INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL14 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 4, 8, 15, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs—125 db. Phono Inputs—85 db.

FREQUENCY RESPONSE: 40 to 12,000 cycles + or — 1.5 db.

TONE CONTROL: 1—Bass, Treble compensator.

CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.

TUBES: 2—6SF5, 1—6SN7GT, 1—6SL7GT, 2—6L6G, 1—5Y3GT/5Y4G.

POWER CONSUMPTION: 90 watts, 117 volts, 50-60 cycles A.C.

DIMENSIONS: 14" x 7¾" x 8".

BOGEN E1620 "UNIVERSAL" MOBILE SYSTEM

23 WATTS

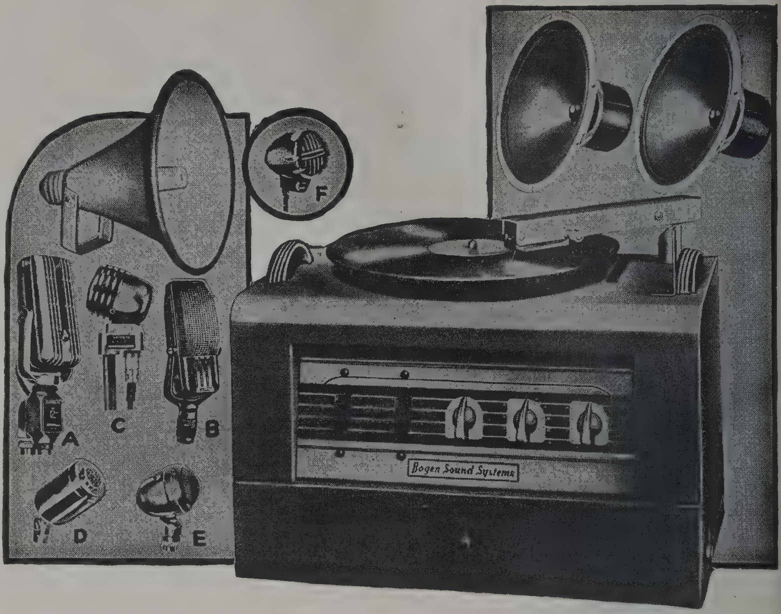
THE Improved new Bogen E1620 moble system answers a long felt need for an economical amplifier that may be easily converted to operation from six volt storage battery or 115 volt A.C. Changeover from 6 volt battery to 110 volt A. C. is automatic.

The E1620 amplifier comprises a single self-contained amplifier unit with its own power supply and phono assembly. Microphone and phono inputs may be mixed or faded thru two independent volume or gain controls. A Bass and Treble compensator control is built-in. The E-1620 features a sloping recessed four color panel.

The E1620 is furnished with a phono assembly comprising a single speed motor, powerized by a built in supply to eliminate any speed variation or waver on 6 V. D. C. and 110 V. A. C. The phono assembly is complete with Astatic crystal pickup.

Tapped output transformer—Speaker plug-in connections—Smart styling and fine performance makes this an amplifier that lends itself to a wide variety of uses.

MODEL E1620 AMPLIFIER—complete with phono assembly and tubes.



MODEL E1620F SYSTEM—Complete with E1620 amplifier and tubes. Two PM12C Jensen 12 inch dynamic speakers, Astatic JT30 crystal microphone with 12½' microphone cable and 15' speaker cable and plugs on each speaker.

MODEL E1620T SYSTEM—Complete with Model E1620 amplifier and tubes. One University 3½" high power trumpet and 25 watt unit. Astatic JT30 Crystal microphone with 12½' microphone cable and plugs.

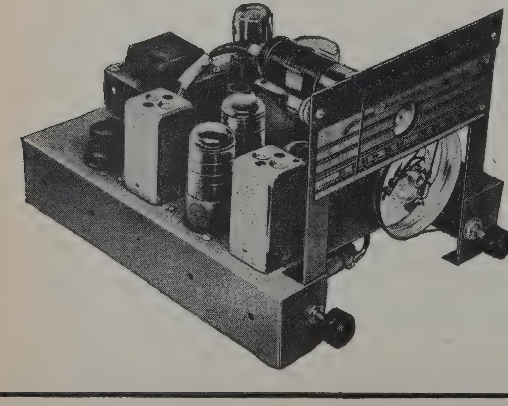
NOTE: Model E1620 Systems are available with choice of De Luxe Microphone at an extra cost: (a) Amperite BH Velocity, (b) Amperite BAH Dynamic, (c) American D8T Dynamic, (d) Astatic T8 Crystal microphone. Each with 12½' cable and plugs.

E1620 AMPLIFIER SPECIFICATIONS

OUTPUT:	AC:	DC:
	23 watts at 5%	19 watts at 5%
	22 watts at 3%	17 watts at 3%
	39 watts peak	30 watts peak

OUTPUT IMPEDANCES: 4-8-15-250-500 ohms, available at both terminal strip and sockets.
GAIN: Microphone 109 db. Phonograph 67 db.
INPUT: 2 — 1 microphone — 500,000 ohms. 1 phono — 500,000 ohms.
FREQUENCY RESPONSE: 30 — 14,000 cycles + or — 2½ db.
TUBES: 1-6SJ7, 1-6SL7GT, 2-6L6G, 2-6X5GT
CURRENT DRAIN: 6 volt d.c.—17½ amps. 117 volt a.c.—90 watts.
DIMENSIONS: 15½" long x 10" deep x 12½" high.

NEW BOGEN MODEL R-501 PUBLIC ADDRESS TUNER



The Bogen Model R-501 is a single band superheterodyne receiver, especially designed to provide standard broadcast reception for operation in public address and centralized sound systems. It incorporates a built-in power supply, simplifying connection to any existent system.

A stage of R.F. amplification provides sufficient selectivity and sensitivity to insure reliable and consistent reception of broadcast signals in the most congested areas. It represents a definite improvement in overall performance over previous tuners and the use of manual tuning insures foolproof operation.

FEATURES

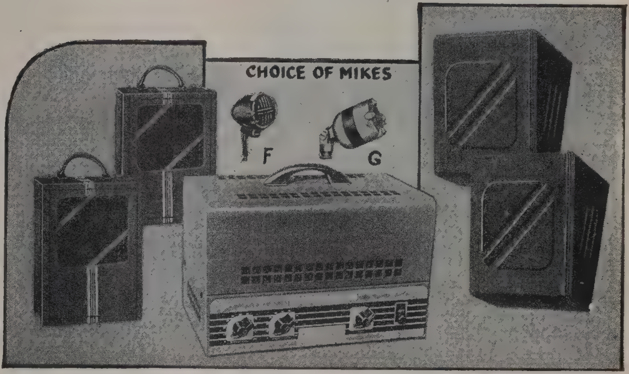
- ★ Superheterodyne Receiver
- ★ R.F. preselection
- ★ Single band-standard broadcast
- ★ Electron ray tuning indicator
- ★ Automatic volume control
- ★ Large full vision dial
- ★ Universal output
- ★ Built-in power supply

SPECIFICATIONS

Input Voltage: 117 volts
Power Frequency: 60 cycles
Range: 540 KC to 1680 KC
Intermediate Frequency: 456 KC
Tubes: 2-6SK7, 1-6SA7, 1-6H6, 1-6X5, 1-6U5
Output: High impedance or 200 ohm
Dimensions: 8¼" wide x 7" high x 10" deep

BOGEN E10 "DE LUXE ECONOMY" SYSTEM

10 Watts



THE improved Bogen EP10 system meets the demand for medium powered, two speaker sound systems at an economical price. Many features of the more expensive de luxe systems are incorporated in the EP10.

The amplifier is equipped with separate input channels for one microphone and one phono. These two channels each have their own full range gain control. Electronic mixing permits fading and mixing between both channels and also their use simultaneously. A high frequency tone control is provided. All controls and A. C. switch are mounted on an especially styled and colorful control panel.

The output circuit comprises a pair of 7C5 beam power tubes in push-pull amplification assuring excellent tone quality and volume. The output transformer is tapped at 4-8-15-250-500 ohms and connected to a speaker terminal strip. In addition two speaker sockets are built in and provide quick and easy means of connecting speakers.

The E10 amplifier may be used in many types of installations for hard of hearing aids, small paging systems, etc. The unit is ideal for speech modulation and may be used as a driver for medium powered transmitters.

The components used in making up the EP10 sound systems assure fidelity of reproduction, and dependable long life for continuous operation.

MODEL E10F "Economy" system comprises 1—E10 amplifier with tubes: 2—10" PM dynamic speakers. Each with 25' cable and plugs, and one Astatic Crystal microphone Model JT30 and 12½' cable.

FOR INDOOR INSTALLATIONS

MODEL E10B—Complete system same as above but with two WA10 Walnut Baffles.

FOR PORTABLE USE

MODEL E10P—Complete system same as E10F but with portable two section leatherette covered speaker baffle Model 10A for carrying amplifier and mounting the 2 speakers.

MODEL E10—Amplifier only, complete with tubes.

NOTE: If system is ordered less microphone refer to price shee

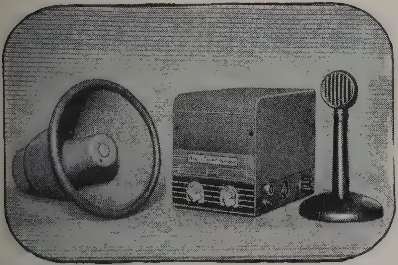
NOTE: If system is ordered less microphone refer to price sheet.

If system is ordered with (G) American D4T Dynamic, for extra cost refer to price sheet.

E10 AMPLIFIER SPECIFICATIONS

OUTPUT: 10 watts—less than 5% distortion.
OUTPUT IMPEDANCES: 4-8-15-250-500 ohms.
FREQUENCY RESPONSE: 65—9000 ± 2 db.
CONTROLS: Three—one microphone, one phono, one tone.
GAIN: Microphone 114 db., phono 75 db.
INPUTS: 1—microphone 500,000 ohm, 1—phono 500,000 ohm.
TUBES: Total 5; 2—6SC7, 2—6V6GT, 1—5Y3GT/5X4G.
CURRENT DRAIN: 88 watts at 117 v. A. C.
DIMENSIONS: 7" deep x 11" wide x 7-5/16" high.

BOGEN E66 "UNIVERSAL" MOBILE AMPLIFIER



MODEL E66F—System, complete, includes: 1-E66 Amplifier; 1-complete set of matched tubes; 1 Special Bogen University IBM trumpet; 1—Astatic JT30 Crystal microphone with 12½' of cable.

MODEL E66—Amplifier only with Tubes.

MODEL E66 SPECIFICATIONS

POWER OUTPUT: 8 watts (or + 31 db).
HUM: AC: — 45 db; DC: — 62 db.
INPUT CIRCUITS: 1 microphone input—Lock Type Screw on Connector; 1 Jack for Phonograph Input.
INPUT IMPEDANCE: High Impedance (500,000 ohms) for Microphone and Phonograph.
OUTPUT IMPEDANCE: 4, 8, 15 ohms available at 5-prong speaker socket.
POWER CONSUMPTION: 6.3 volt storage battery: 7 amperes; 117 volts AC: 50 watts.
GAIN: Overall gain: microphone input: 110 db; phonograph input: 75 db.
TUBE COMPLEMENT: 1—6SJ7, 1—6SL7, 1—6L6G, 1—6X5.
DIMENSIONS: 5¾" wide x 7⅜" deep x 6¾" high.

★ **Extremely Compact**

★ **Built to Police Specifications**

★ **Mounts Under Car Dashboard**

★ **6 Volt DC and 110 Volt AC Operation**

★ **Output Equals Ordinary 15-18 Watt Amplifiers**

The Bogen Model E66 is a radical departure in mobile amplifier construction, and has been designed in accordance with the specifications of Police Departments in some of the country's largest cities. Compact, inexpensive—yet highly efficient, it is intended for use in Police, safety, fire and emergency cars, and also as a public address system for outdoor gatherings. The Bogen Model E66 can be used on either a 6 volt storage battery or a 117 volts AC and the current drain is exceptionally low. It is modern in design, extremely simple to install and mounts directly under the dashboard. It takes as little space in a car and is as simple to operate as a radio or small heater.

The speaker, developed as a companion unit for the Model E66 is a special Bogen University reflex trumpet of the folded exponential type. It may be mounted easily in the motor compartment under the engine hood—or on a fender alongside the headlight. This speaker is so amazingly efficient that with it, the Bogen Model E66 delivers the equivalent results of a 15 watt system. 100% waterproof and of all metal construction, this specially designed speaker will stand considerable abuse and is a revelation in high efficiency reproduction. A special bracket is included for speaker mounting.

The microphone, a streamlined Astatic crystal with a handle and 7½ feet of cable, can be used by the driver without interfering with his normal driving operations.

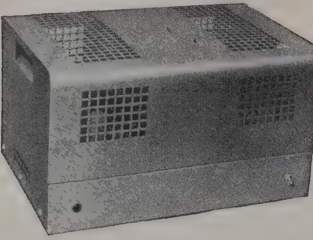
The Amplifier utilizes beam power output and incorporates a stand-by switch which reduces the current drain and keeps the Amplifier ready at all times for immediate use. A phonograph connection is provided and the unit is constructed so that tubes or vibrator may be removed without disturbing the amplifier mounting.

The usefulness of Police Cars is immeasurably increased when the compact, mobile E66 is added to the usual two way radio communication, making each police car an extremely effective traffic safety car.

BOGEN Booster and Pre-Amplifiers • Phono-Players

NEW 50 AND 125 WATT BOOSTER AMPLIFIERS

MODELS G050 and G0125



These new Bogen booster amplifiers are ideal for any sound system where undistorted high power is required.

Response is flat from 20-20,000 cps. within 1 db. Rated output is delivered at 60 and 15,000 cycles as well as 1000 cycles. Driving power is negligible—an input signal of only 5 volts will drive either booster to rated output. Additional outstanding features are transmitter type output tubes, multi-stage inverse feedback, provision for balanced line, zero level remote operation, constant voltage output taps for easy speaker matching, tube regulated screen supply in the GO125, oil-filled filter input condensers, safety interlock switch, terminal board mounted components and laced cable wiring.

SPECIFICATIONS

	G050	G0125
Power Output:	50 watts at 5%	125 watts at 5%
Input:	High impedance, 500,000 ohms	High impedance, 500,000 ohms
Output Impedances:	4, 8, 16 ohms. Two constant voltage taps, 63 & 125 V.	90 ohms. Two constant voltage taps, 70 & 140 V.
Gain:	48 db.	53 db.
RESPONSE:	20-20,000 cps within ±1 db.	20-20,000 cps within ±1 db.
Power Consumption:	200 watts, 117 V, 50-60 cycles AC.	400 watts, 117 V, 50-60 cycles AC.
Tubes:	1-6SL7; 1-6SN7; 2-807; 1-5R4GY; 1-5Y3	3-6SN7; 1-6SL7; 2-807; 15R4GY; 1-5Y3
Dimensions:	17-1/6" long, 11-1/2" deep, 9-3/8" high	17-1/6" long, 11-1/2" deep, 9-3/8" high

PHONOGRAPHS

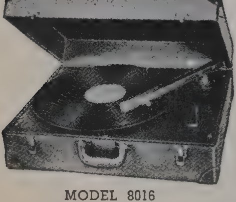
PORTABLE MODEL 8007

MODEL 8007

Complete with Green Flyer governor controlled motor, model AB8 crystal pickup, and 10" turntable. Self-contained in well constructed carrying case reinforced and covered with durable leatherette. Dimensions 15¾" x 13" x 7¼". For 110 volts, 60 cycles.

De-Luxe PORTABLE MODEL 8016 FOR 16" RECORDINGS

The DeLuxe Model 8016 supplies the demand for a unit capable of playing 16" professional transcription recordings as well as the Standard 10" and 12" records. Contains a heavy duty Green Flyer motor, dual speed for 78 and 33-1/3 R.P.M. Recordings. Equipped with a crystal pickup and special 12" arm. Complete with 12" turntable. Entire unit mounted in a fine leatherette carrying case strongly reinforced and finished with leather corners and gunmetal hardware. For 110 volts, 60 cycles. Dimensions: 21¾" x 17" x 7".



MODEL 8016

MODEL 8016L

Similar to Model 8016 but equipped with the new Model HP16 low pressure pickup with permanent sapphire stylus. Especially recommended for professional use.

MODEL MT16 TRANSCRIPTION PLAYER

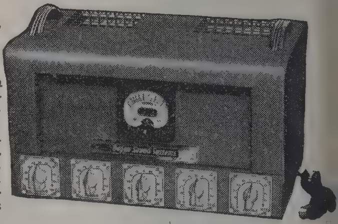
Identical with Model PH16 with addition of a microphone input stage.
TUBES USED: 1 - 6SJ7; 1 - 6SL7GT; 2 - 6V6GT; 1 - 5Y3GT.

4 CHANNEL MIXER-PREAMPLIFIERS

BUILT IN REMOTE CONTROL PROVISION FOR ALL CHANNELS ON EACH MODEL

MODEL HH

FOR ALL NORMAL P. A. APPLICATIONS



MODEL HLO, LLQ

This four position mixer and pre-amplifier will mix four high-impedance microphones into any high impedance amplifier. Each input channel has its own tube and gain control. A master volume control is provided for overall gain. The unit includes its own built in A. C. power supply. Will answer to a wide variety of uses such as mixing and fading microphones to recording equipment, also to increase the input channels of existing amplifiers. Compact and smartly styled.

SPECIFICATIONS: Input impedance 500,000 ohms on all inputs. Output impedance 500,000 ohms. For 110 volts A. C. operation.
TUBES: 5-6SF5, 1-6X5GT. SIZE: 14-1/16" x 8" x 7⅞" high.
MODEL HH complete with tubes without meter. Gain 60 D. B.

MODEL HLO FOR REMOTE LINE APPLICATIONS

Similar to Model HH, with four high impedance inputs, but equipped with a zero level output amplifier built-in with output transformer terminating in 50-125-200-500 ohms taps. A DB meter is provided on control panel to indicate output level and master gain control is built in. Ideal for use as a remote Pre-Amp on telephone lines or as a remote pre-amp operated for P. A. work at a distance from the main amplifiers. All input impedances—500,000 ohms. For 110 volts A. C. operation. SIZE: 14-1/16" long x 8" deep x 7⅞" high. TUBE KIT: 5-6SF5, 1-6SJ7, 1-6X5GT.
MODEL HLO with tubes and D. B. meter. Overall gain 76 D. B.

MODEL LLO FOR PROFESSIONAL BROADCAST USE

Built to conform to strictest requirements of broadcast equipment. Embodies four low impedance input channels, each with separate gain control. Each input is tapped at 50-125-200-500 ohms. A master gain control is included along with a built in DB level meter. Low impedance output of 50-125-200-500 ohms is available at zero level. Built in A. C. power supply is absolutely humless. Precision equipment combined with smart styling. SIZE: 14-1/16" long x 8" deep x 7⅞" high. TUBES USED: 5-6SF5, 1-6SJ7, 1-6X5GT.
MODEL LLO with tubes and meter. Overall gain 76 D. B.

MODEL HT16 TRANSCRIPTION PLAYER

This general purpose phono player with amplifier is designed to handle 16" transcription records along with the standard variety. The 12" turntable is driven by a special heavy duty General Industries dual speed motor for 33-1/3 and 78 RPM. Astatic Crystal pickup feeds the built in 7 watt high quality amplifier that is equipped with master gain and tone controls. 8" PM dynamic speaker mounted in cover of carrying case. Cover is removable and may be used at a distance from the main unit. Ideal as a portable record player to handle any size recordings. Operation is from 110 volt A. C. only.

DIMENSIONS:
19¾" x 19 x 10½".
Complete with tubes.

TUBE COMPLEMENT: 1-6SL7GT, 2-6V6GT, 1-5Y3GT.

MODEL HT16

PRICES ON REQUEST

BOGEN *Communo-Phones*

BOGEN TYPE "A" SYSTEMS

MODELS 4A, 12A, 219A

Master to Remote Station Communication

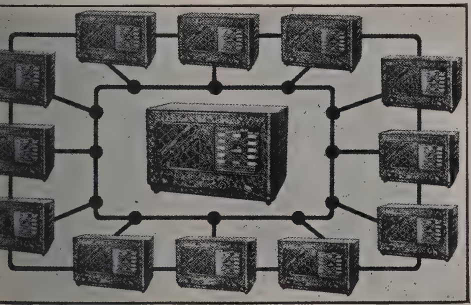
BOGEN Type "A" Communo-Phones provide instant communication between distant points. Systems consist of one Master and additional remote stations. Up to four remote stations may be added on the Model 4A, up to eleven remote stations on the Model 12A, and up to eighteen stations on the Model 219A. A Master can select any one remote station to speak with, or—with a 4A Master—all remote stations at once, thereby instantly locating any person in your organization. Persons called reply through the remote station nearest to them—they need not be close to the station—replies made from 20 to 30 feet away can be received by the Master station clearly and distinctly.

The Master station can be set to permit any remote station to call it, or remote stations can be obtained with call-in switches, either built-in or external, to permit remote stations to initiate a call to the Master at any itme.

Masters are equipped with an "on-off" switch, "press-to-talk" switch, and station selector. On the Model 4A a special arrangement permits closing out background noise levels from remote stations by a "silent" position on the Master station selector. A volume control on the Master permits adjustment of volume to any desired listening level.

Masters are finished in highly polished walnut bakelite to harmonize with any office surroundings.

TUBES USED: 1—12SJ7; 1—50L6GT; 1—35Z5GT



Model 6C—One Master only, for up to 6 stations, complete with tubes.

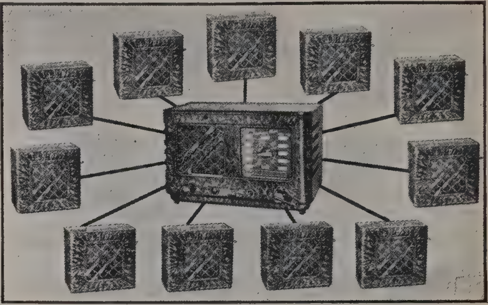
Model 6CE—Same as 6C, except with earphone for privacy of conversation.

Model 12C—One Master only, for up to 12 stations.

Model 12CE—Same as 12C, but with earphone.

Model 219C—One Master only, for up to 19 stations.

Model 219CE—Same as 219C, but with earphone.



Model 4A—One Master only, for up to 4 stations, complete with tubes.

Model 4AE—Same as 4A, but equipped with earphone for privacy of conversation.

Model AR—Remote station only, for all type "A" Masters.

Model RS—Same as AR, but with built-in call switch.

MODELS 12A and 219A

These models are for larger installations than the Model 4A. They are similar in all features except that they do not include the ALL STATION call position or the SILENT position.

Model 12A—One Master only, for up to 11 stations.

Model 12AE—Same as 12A, but with earphone for privacy of conversation.

Model 219A—One Master only, for up to 18 stations.

Model 219AE—Same as 219A, but with earphone.

NOTE:—Type "A" Systems require a 2-conductor cable between Master and each Remote station.

Systems using Remote stations with call switch require a 3-conductor cable between Master and each Remote station.

BOGEN TYPE "C" SYSTEMS

MULTIPLE MASTER SYSTEMS

(Model 6C Equipped with Paging Switch)

BOGEN Type "C" Intercommunication Systems have been designed to meet the requirements of Multiple Station installations where a number of executive stations are desired. Systems for up to six, twelve, or nineteen stations are available. Each station is a Master and can call any other Master independently. Two Masters can converse with each other at will and several pairs of Masters can converse at once without interference.

An extremely desirable feature of the Model 6C is the All-Station switch which permits any station to call or page all other stations in the system at one time. This feature is not available on Models 12C or 219C.

If private conversations are desired, earphone Masters are available for one or all the Masters. This type of arrangement works like an inter-office telephone system. An extremely important feature is that it is not necessary to use the "Press-to-Talk" switch on any Master equipped with earphone, when earphone is in use.

Each station is housed in a beautiful walnut finished bakelite cabinet and equipped with station selector, master volume control, talk-listen switch, on-off switch and pilot light that shows when system is on or off.

TUBES USED: 1—12SJ7, 1—50L6GT, 1—35Z5GT

CABLE NOTE:—Installation of Type "C" Systems requires a cable with one more conductor than the number of stations to be installed (i.e.) five stations require a six conductor cable, etc.

All "A" and "C" systems are designed for use on 115 volts, AC or DC.

FOR FURTHER INFORMATION AND LARGER SYSTEMS
ASK FOR COMPLETE INTERCOMMUNICATION AND PAGING SYSTEM CATALOG

PRICES ON REQUEST

EASTERN AMPLIFIERS

*U.S. Reg'n Applied For

We have been making amplifiers and associated equipment for many years and we have achieved a high degree of perfection in both the design and reproducing qualities of our products.

After years of arduous effort in the manufacture of highly specialized electronic equipment, we are now prepared to carry out a long cherished plan of making our high quality Eastern amplifiers and sound systems available to the trade.

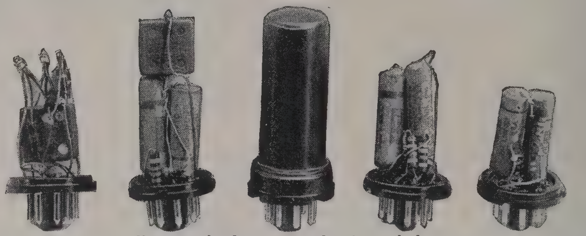
It is our desire to culminate the vast experience which our specialization has afforded us into presenting an entirely new concept of a high quality line of amplifiers and sound systems which incorporate the highest degree of electronic engineering as exemplified by the inherent 21-Star Features.

We believe you will find our claims fully substantiated.

EASTERN AMPLIFIER CORPORATION

THE EASTERN AMPLITUBE—A boon to the serviceman as well as to the user.

The radically-new Eastern AMPLITUBES epitomize the zenith in modern amplifier design. Each AMPLITUBE consists of all the resistor and tubular capacitor components comprising a particular inter-stage circuit. Each AMPLITUBE is encased in a metal shell and is terminated in an octal base. The individual parts are specially matched to each other for uniformity and highest accuracy. All units are coded for identification, so that they can readily be plugged into their sockets.



A complement of these AMPLITUBES, which plug into their respective sockets as easily as a set of radio tubes, provides all the inter-stage circuits for the complete amplifier. The practical benefits of this ultra-modern design include complete mechanical protection of the parts, controlled selection of the components, ease of service replacement without unsoldering a single wire, simplicity of wiring, the elimination of unsightly parts arrangement and an amplifier unexcelled for beauty and performance.

These amplitubes make it simple and fast when servicing problems come up in the field.

21 ★ STAR FEATURES

1. **Exclusive** EASTERN "AMPLITUBE" design. Each "AMPLITUBE" incorporates all inter-stage capacitor-resistor parts in one plug-in unit. Easy to insert—easy to replace.
2. Small, compact, "More Watts per Cubic Inch" assure you of maximum performance with minimum space.
3. **Exclusive** EASTERN "UNICABLE" construction. Every amplifier is wired with standard cable harness guaranteeing laboratory-performance from each production-assembled unit.
4. Master-coded cable wiring harness. All wires color-coded for easy identification.
5. **Exclusive** EASTERN modern functional design gives that "smooth", eye-appealing look that your customers will welcome.
6. Simple to service. All tubes and components readily accessible. Only four screws hold the cover, a few more screws for the base. Remove cover and base, and all parts and wiring are in view. No trailing wires.
7. Exclusive EASTERN "ROTO-VUE" dials instantly show position of each control setting.
8. Indirect panel illumination. Lights panel in dark places and shows when system is turned on.
9. **Exclusive** EASTERN recessed panel and carrying handles. Nothing to catch on to passers-by. Easy to place in confined space. No more broken knobs or handles.
10. Attractive, durable baked plastic enamel finish in beautiful two-tone effect. Abrasive-resistant and acid-resistant.
11. **Exclusive** EASTERN recessed, multi-vaned louvres for maximum cooling of tubes and parts.
12. True electronic mixing of input circuits to eliminate interaction between controls.
13. Exclusive EASTERN Direct Current heating of voltage amplifier tubes to minimize a.c. hum.
14. Extractor-type line fuse holder allows immediate replacement of fuse from front of panel.
15. Separable a.c. line cord with special built-in connector socket on back of chassis.
16. Additional a.c. line-outlet for phonograph connection. Supplied on most models.
17. Universal output impedances — 4-8-15-250-500 ohms allows proper matching impedance for any combination of speakers.
18. Not an inch of shielded wire or cable used — eliminates the attenuation of high frequencies due to shielding.
19. Fully licensed under Western Electric patents.
20. Easily adaptable to rack mounting.
21. Conservatively rated—ethically engineered.

EASTERN AMPLIFIERS

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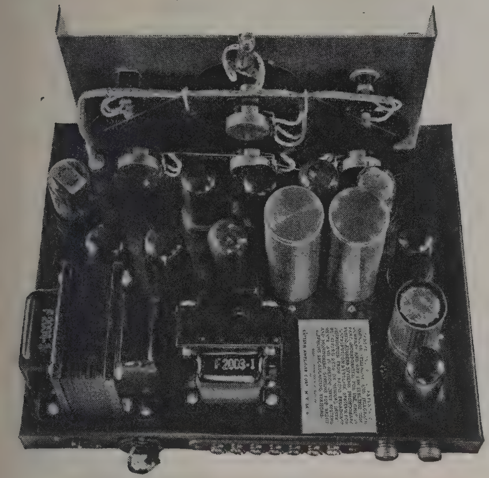
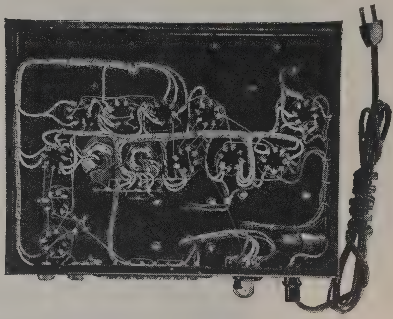


LOOK INSIDE AND BENEATH ANY EASTERN AMPLIFIER



THEN COMPARE!

MODEL	14-A	18-A	25-A	35-A	50-A
OUTPUT WATTS	14	18	25	35	50
% DISTORTION	3%	3%	4%	5%	5%
PEAK WATTS	25	30	39	58	78
TUBE COMPLEMENT	2-6V6GT 2-14F7 1-6SL7GT 1-6SN7GT 1-5Y3GT	2-6L6 2-14F7 2-6SL7GT 1-5U4G	2-6L6 2-14F7 2-6SL7GT 1-5U4G	2-6L6 2-14F7 2-6SL7GT 1-6SN7GT 1-6X5GT 1-5U4G	4-6L6 2-14F7 2-6SL7GT 1-5U4G
CLASS OUTPUT	AB1	A1	AB1	AB2	AB1
OUTPUT IMPEDANCE	4-8-15-250-500	4-8-15-250-500	4-8-15-250-500	4-8-15 250-500	4-8-15-250-500
MICROPHONE INPUT IMPED.	HI	HI	HI	HI	HI
PHONO INPUT IMPEDANCE	HI	HI	HI	HI	HI
NUMBER INPUTS	2-micro. 1-phono.	2-micro. 1-phono.	2-micro. 1-phono.	2-micro. 1-phono.	2-micro. 1-phono
CONTROLS	3-gain 1-hi-lo tone	3-gain 1-hi tone 1-lo tone	3-gain 1-hi-lo tone	3-gain 1-hi tone 1-lo tone	3-gain 1-hi tone 1-lo tone
HUM. (DB BELOW MAX. OUTPUT)	—75	—75	—75	—75	—75
MICROPHONE INPUT (DB)	—60	—60	—60	—60	—60
PHONOGRAPH INPUT (DB)	—20	—20	—20	—20	—20
GAIN—MICRO (DB)	127	128	129	131	132
GAIN—PHONO (DB)	83	84	85	87	88
FREQ. RESP. (± 2 DB)	50-12,000	50-12,000	40-12,000	40-12,000	40-12,000
DIMENSIONS W H D	12¾" 8½" 9¼"	13¾" 8½" 9¼"	14¼" 9½" 11¼"	14¾" 9½" 11¼"	16¾" 9½" 11¼"
CODEWORD	ANDOR	BOKAR	CEDAR	DEWAR	ELGAR

Specifications Subject to Change Without Notice.

EASTERN AMPLIFIERS

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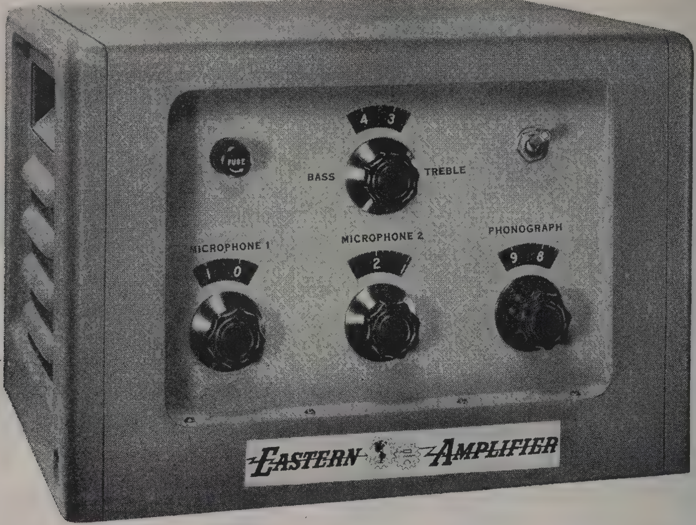


Model 14-A—14 Watts

LIST PRICE $100.00

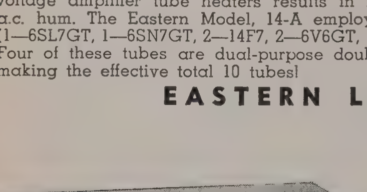
The "lead-off" amplifier in the Eastern 21-STAR FEATURE line delivers 14 watts of Class AB1 audio power (25 watts peak audio power) into a 4-8-15-250-or 500-ohm loudspeaker load. It is ideal for two-speaker public address systems. Two high-impedance microphone inputs are provided for crystal, dynamic or velocity microphones delivering as little as —60 DB. True electronic mixing provides operating stability because interaction between controls is eliminated. One high-impedance phonograph input is included for crystal or high-impedance dynamic pick-up delivering —20 DB or more. Single high-low tone control. Hum level, with all controls at maximum, is approximately 75 DB below rated output. Use of d.c. on the first two voltage amplifier tube heaters results in minimizing a.c. hum. The Eastern Model, 14-A employs 7 tubes (1—6SL7GT, 1—6SN7GT, 2—14F7, 2—6V6GT, 1—5Y3GT). Four of these tubes are dual-purpose double-triodes, making the effective total 10 tubes!

Model 25-A—25 Watts

LIST PRICE $130.00

The Eastern Model 25-A combines all the fine Eastern 21-STAR FEATURES in an amplifier perfectly suited for two- to four-speaker applications. Twenty-five (25) watts of Class AB1 audio output power, with a peak audio output of 39 watts, will amply fill a theatre, school or church with high-fidelity, low-distortion music or voice. The Eastern 25-A incorporates three separate input channels—two microphone channels and a phonograph input. This high-gain amplifier develops full output from any crystal, dynamic or velocity microphone delivering as little as —60 DB, and any crystal or magnetic pickup delivering —20 DB or more. Use of d.c. on the first two voltage amplifier tube heaters results in minimizing a.c. hum. The hum level is down approximately 40 DB below rated output, with all input controls set to maximum. Seven (7) tubes are used in this powerful amplifier. These tubes include 2—6SL7GT, 2—14F7, 2—6L6 and 1—5U4G.

EASTERN LEADER 14B AMPLIFIER



LIST PRICE $65.00, complete with Tubes

Now you can count on a full 14 watts of clear audio power with perfect tone quality and at a rock-bottom watts-per-dollar cost. Low hum level—full, round tonal reproduction—crisp microphone reproduction—full frequency response—modern mechanical and electronic design—all are combined in the new EASTERN LEADER 14B Amplifier for use in Public Address installations up to 175,000 cu. ft. coverage (up to approximately 3,000 people).

Five tubes (one a dual triode) give the equivalent of six-tube operation. A 6SJ7GT tube is used as a microphone input voltage amplifier, a 6SL7GT is employed as a phase inverter working into two 6V6GT tubes in push-pull Class AB1 and a 5Y3G tube is the rectifier.

Two inputs—both high impedance—allow the use simultaneously of a microphone and a phonograph. Each is controlled by a separate volume control so that 100% mixing is possible. The separate tone control at maximum allows an apparent bass boost of 18 DB at 50 cycles.

Five output impedances allow matching the amplifier to any combination of speakers or line. 4, 8, 15, 250, and 500 ohms taps are available at a convenient screw-terminal strip.

The amplifier is completely shielded and the chassis and cover are made of extra-heavy metal beautifully finished in chocolate brown with red and ivory overtones.

(Continued) →

EASTERN AMPLIFIERS

*U.S. Reg'n Applied For

Coming Soon . . .

50 WATT AMPLIFIER
50 WATT BOOSTER
125 WATT BOOSTER
"BALLYHOO" PORTABLE AMPLIFIER SYSTEMS
COMPLETE PACKAGED SOUND SYSTEMS FOR ALL PURPOSES—INDOOR AND OUTDOOR.
Complete Line of INTER-COMMUNICATION SOUND SYSTEMS
CENTRALIZED SOUND SYSTEMS
PORTABLE AND MOBILE AMPLIFIERS AND SYSTEMS
PAGING AND ANNOUNCING SYSTEMS
Complete Line of ACCESSORIES: Speakers — Horns — Trumpets—Drivers, Baffles, Microphones, Pick-ups, Microphone Stands, Connectors, Cables, Phonograph Motors, Transcription Units, Recording Amplifiers and Systems including Tape, Wire and Disc.

EASTERN AMPLIFIER

Model 18-A—18 Watts

LIST PRICE $110.00

For the two- or three-speaker installations which require that extra "sock", we offer the EASTERN Model 18-A. This is an amplifier which consistently delivers 18 watts of Class A1 audio power, rising to a peak power output of 30 watts! Standard output impedances of 4, 8, 15, 250 and 500 ohms are provided for quick attachment to any speaker-load combination. A separately controlled phono input allows full audio output power from any crystal or magnetic pickup having as low as a —20 DB output. Either of two separately controlled microphone inputs develops full amplifier output when connected to any crystal, dynamic or velocity microphone having an output as low as —60 DB. True electronic mixing provides operating stability because interaction between controls is eliminated. Two tone controls are included—one to accent or attenuate the high frequencies, the other to accent or attenuate the low frequencies. The hum level, with all controls wide open is approximately 75 DB below rated output. Use of d.c. on the first two voltage amplifier tube heaters results in minimizing a.c. hum. The Eastern 18-A amplifier uses 7 tubes (2—6L6, 2—14F7, 2—6SL7GT and 1—5U4G).

Model 14-B *(continued)*

1. Full 14 watts at less than 3% harmonic distortion.
2. Peak watts—25.
3. Five tubes—1-6SJ7, 1-6SL7, 2-6V6, 1-5Y3G.
4. Push-pull class AB, Output Stage.
5. Very low hum level.
6. 2 Inputs—1 microphone, 1 phono.
7. Separate control for each input.
8. Separate tone control and separate A-C switch.
9. 2 Hi-impedance inputs.
10. Choice of 5 output impedances—4, 8, 15, 250, 500 ohms.
11. Extra-sturdy chassis.
12. Completely shielded.
13. Extra-size transformers.
14. Microphone circuit gain—122 DB.
15. Phono circuit gain—82 DB.
16. Flat from 50 to 12,000 cycles—±2 DB.
17. 117 Volt 50-60 cycle power input.

The overall size is 14" x 9½" x 6".
Net weight 16 lbs. Shipping weight 22 lbs.

Model 35-A—35 Watts

LIST PRICE $190.00

When those larger installations for upwards of 10,000 people need a full 35 watts of low-distortion class AB2 audio power, we recommend the Eastern 35-A. Reserve peak power of up to 58 watts is available from a standard 4-8-15-250-500-ohm output. The hum level of this unit is approximately 75 DB below rated output. Use of d.c. on the first two voltage amplifier tube heaters results in minimizing a.c. hum. Two separate tone controls allow individual selection of the amplifier frequency response. The Treble control boosts or depresses the high-frequency end, and the Bass control boosts or depresses the low-frequency end. The Eastern Model 35-A incorporates 9 tubes (2—6L6, 2—14F7, 2—6SL7GT, 1—6SN7GT, 1—6X5GT and 1—5U4GT). As five of these tubes are double-purpose dual-triodes, an effective tube complement of 14 tubes results! Three separate input channels are available—two microphone and one phonograph. Full output from either microphone channel is available from any crystal, dynamic or velocity microphone having as little as —60 DB output. The phono channel will deliver full rated output with either a crystal or magnetic pickup having an output of —20 DB or more.

25B 25 Watt Leader

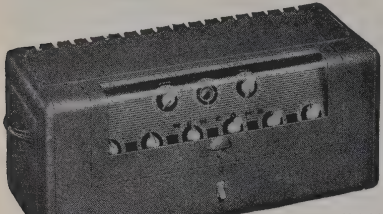
1. Full 25 watts at less than 4% harmonic distortion.
2. Six tubes— 2-6L6, 1-5U4G, 3-6SL7GT. (Equivalent of nine tube operation)
3. Push-pull class AB_1 output stage.
4. Very low hum level.
5. 3 inputs—2 microphone, 1 phono.
6. Separate control for each input.
7. Separate tone control and separate AC switch.
8. 3 Hi-impedance inputs.
9. Choice of 5 output impedances—4, 8, 15, 250, 500 ohms.
10. Extra-sturdy chassis.
11. Completely shielded.
12. Extra size transformers.
13. Microphone circuit gain—124 DB.
14. Phono circuit gain—84 DB.
15. Flat from 50 - 12,000 cycles ±2 DB.
16. 117 volt 50-60 cycle input.

LIST PRICE $92.00. COMPLETE WITH TUBES

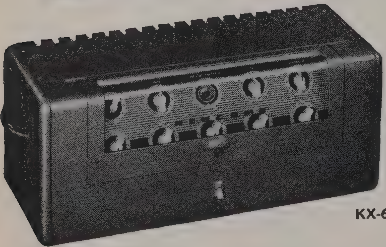
THE NEWCOMB DELUXE

KX-30. An amplifier of outstanding superiority, designed for use in auditoriums, churches, restaurants and nightclubs; its range of tone effects far exceeds the usual amplifier performance. Its extensive tonal range will satisfy the most critical professional.

KX-60. The finest quality 60-watt amplifier modern engineering can produce; an ideal general purpose instrument for permanent installations, for rentals, for high-powered portable applications. Less than 5% distortion at 60 watts.

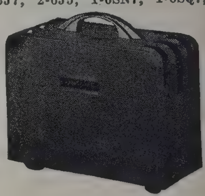

KX-30

KX-60


KX-6

SPECIFICATIONS KX-30, KX-60 . . . POWER OUTPUT: KX-30—30 watts at less than 5% distortion: KX-60—60 watts at less than 5% distortion; both with wide, flat power output versus frequency curve and extremely low distortion at any volume level. **FREQUENCY RESPONSE:** 20 to 20,000 cycles within 1 d.b. **INPUTS:** (5) 3 for microphones; 2 for phonograph. **INPUT IMPEDANCES:** Microphone 2 meg.; phonograph, ½ meg. (Microphone inputs instantly convertible to low impedance by use of TR-91 plug-in transformer). **OUTPUT IMPEDANCES:** KX-30—(6) 3, 4, 6, 8, 16 and 500 ohms to terminal strip and two bakelite molded sockets: KX-60—(6) 3, 4, 6, 8, 16 and 250 ohms to terminal strip and four bakelite molded sockets. **GAIN:** Microphone inputs, 126 d.b. Phonograph inputs, 78 d.b. **TONE COMPENSATION:** Base range from —17 to +24 d.b. Treble range from —24 to +24 d.b. **CONTROL PANEL:** Etched metal, fully illuminated. **CONTROLS:** (9) 3 microphone, 1 phonograph fader for 2 pickups, 1 master, 1 bass, 1 treble, 1 volume indicator, 1 power switch (not under panel cover). **CONTROL COVER:** Thru-vision key locked cover protects controls from misadjustment by unauthorized persons. **VOLUME INDICATOR:** Electron Ray type coupled to calibrated control provides full scale deflection (KX-30—from 1 to 30 watts; KX-60—from 2 to 60 watts). **OVERLOAD INDICATOR:** Electron Ray tube indicating slightest overload of output tubes.

MISCELLANEOUS FEATURES: All resistance capacity coupling; multi-stage inverse feedback; plug-in filter condensers; electronic type dual tone controls with resonant bass and special shaped curves; crystal pickup equalizing networks in each phonograph input; regulated screen power for output tubes; accessible fuse in insulated post type holder; AC outlet socket connected with main switch; thoroughly impregnated heavy duty transformers; Multiple winding output transformer with uniform output from all taps; heavy gauge welded steel chassis and cabinet; cabinet finished in durable, easily cleaned, baked enamel, grey Hammeroid finish. **POWER CONSUMPTION:** KX-30—136 watts, 105-129 volts, 50-60 cycles A.C.; KX-60—240 watts 105-129 volts, 50-60 cycles A.C. **TUBES:** KX-30—(13) 4-6J7, 2-6J5, 1-6SN7, 1-6SQ7, 1-6AF6G, 1-6V6GT, 2-6L6G, 1-5V4G; KX-60—(15) 4-6J7, 2-6SN7, 1-6SQ7, 1-6V6GT, 1-6AF6G, 4-6L6, 2-5Z4. **DIMENSIONS:** 8⅝″ x 8⅝″ x 20¼″. **SHIPPING WEIGHT:** KX-30—36 lbs.; KX-60—42 lbs.



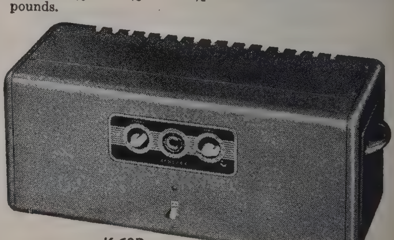
MODEL A POWER SUPPLY:

Compact, convenient power supply for use with the KX-6 Pre-Amplifier when the power cannot be conveniently obtained from a K60-P Booster. Power Consumption: 65 watts for 105-129 volts, 50-60 cycles A.C. Size: 3½″ x 6″ x 8″. Shipping Weight: 8 lbs.

KX-6 PRE-AMPLIFIER. A pre-amplifier of superb quality. Used alone, it will feed a 500 or 125 ohm telephone line or a whole bank of boosters. Used in conjunction with a K60-P 60-watt booster, it's an unbeatable combination for power, flexibility, portability and Newcomb quality.

SPECIFICATIONS KX-6 . . . POWER OUTPUT: Plus 22 d.b. (less than 5% distortion). **FREQUENCY RESPONSE:** 20 to 20,000 cycles within 1 d.b. **INPUTS:** (7) 5 for microphones and 2 for phonograph. **INPUT IMPEDANCES:** Microphone 2 meg., phonograph ½ meg. (Microphone inputs instantly convertible to low impedance by use of TR-91 plug-in transformer). **OUTPUT IMPEDANCES:** 500 to 125 ohms. **GAIN:** Microphone input 97 d.b. Phonograph input 47 d.b. **TONE COMPENSATION:** Bass range —17 to +24 d.b. Treble range —24 to + 24 d.b. **CONTROL PANEL:** Etched metal, fully illuminated. **CONTROLS:** (10) 5 microphone, 1 phonograph fader for 2 pickups, 1 master, 1 bass, 1 treble, 1 power switch (not under panel cover). **CONTROL COVER:** Thru-vision, plastic, key locked cover protects controls from misadjustment by unauthorized persons. **VOLUME INDICATOR:** Electron Ray type adjusted for full scale deflection at "0" level output. **MISCELLANEOUS FEATURES:** All resistance capacity coupling; plug-in filter condensers; electronic type dual tone controls with resonant base and special shaped curves; crystal pickup equalizing networks in each phonograph input; thoroughly impregnated transformers; heavy gauge welded steel chassis and cabinet, finished in durable, easily cleaned baked enamel, grey Hammeroid finish. **POWER CONSUMPTION:** 310 V. D.C. at 27 ma, 6.3 V. at 3.3 amps. **TUBES:** (11) 6-6J7, 3-6J5, 1-6SN7, 1-6E5. **DIMENSIONS:** 8⅝″ x 8⅝″ x 20¼″. SHIPPING WEIGHT: 25 pounds.

SPECIFICATIONS K60-P BOOSTER AMP. . . . POWER OUTPUT: 60 watts at less than 5% with wide flat power output versus frequency curve and extremely low distortion at any volume level. **FREQUENCY RESPONSE:** 20 to 20,000 cycles, 1 d.b. **INPUTS:** (1) Direct to .1 meg. control. Instantly convertible to low impedance or bridging impedance by use of TR-91 or TR-92 plug-in transformer. **GAIN:** 66 d.b. (67.4 d.b. with TR-92, or 62.5 d.b. with TR-91 input transformers). **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16 and 250 ohms to terminal strip and four bakelite molded sockets. **CONTROLS:** (2) 1 volume, 1 volume indicator. **VOLUME INDICATOR:** Electron Ray type coupled to calibrated control provides full scale deflection from 2 to 60 watts. **OVERLOAD INDICATOR:** Electron Ray tube indicates slightest overload of output tubes. **MISCELLANEOUS FEATURES:** All resistance capacity coupling; multi-stage inverse feedback; plug-in filter condensers; separate plate and filament transformers individually fused; 3 way A.C. male input socket provides access to either plate or filament transformer primary; provides power for KX-6 pre-amplifier; thoroughly impregnated heavy duty transformer; multi-winding wide range output transformer; regulated screen power for output tubes; heavy gauge welded steel chassis and cabinet, finished in grey baked enamel, Hammeroil finish. **TUBES:** (11) 1-6SJ7, 1-6SN7, 1-6SQ7, 1-6V6GT, 4-6L6G, 1-6AF6G, 2-5Z4. **POWER CONSUMPTION:** 193 watts, 105-129 volts, 50-60 cycles A.C. **DIMENSIONS:** 8⅝″ x 8⅝″ x 20¼″. SHIPPING WEIGHT: 44 lbs.


K-60P

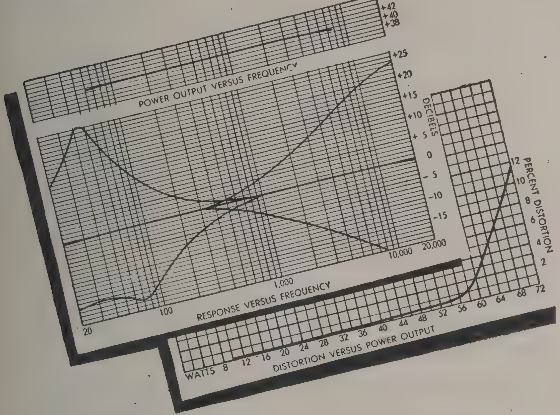
Newcomb AUDIO PRODUCTS CO.

K-SERIES AMPLIFIRES

KXP-30.

An amplifier with ample reserve power, (30 watts) able to produce superb quality even at lowest volume. Uniform power at all useful frequencies to insure purity of all tones at any volume. The KXP-30 has been designed particularly to meet the demands of critical listeners using today's wide range loudspeakers for: (1)—Less distortion. (2)—More uniform power at all frequencies. (3)—Extended frequency response. (4)—Distortion free tone controls of greater range. (5)—Maintenance of quality at low volume. (6)—Freedom from hum. (7)—Ample gain for high fidelity pickups. Separate bass and treble controls permit increasing or decreasing bass, and/or treble as desired, with minimum change in mid-range volume. The unit is housed in a beautifully finished steel cabinet and provided with a genuine etched metal escutcheon plate, illuminated for night visibility. The KXP-30 provides two inputs, one for phonograph, the other wired for use with the Newcomb TR-92 plug-in bridging input transformer, or TR-91 low impedance plug-in transformer, thus making the KXP-30 an ideal bridging amplifier for broadcast or recording studio or adapting it to low impedance pickups. Remarkably low distortion, ample reserve power superb tone control action and general versatility mark this amplifier as the logical choice for the professional or the music lover desiring the very best for his home.

TR-91 PLUG-IN INPUT TRANSFORMER. ***(See next page for details.)***



The above charts show actual response and distortion curves for the KX-30 amplifier.

KXP-30

SPECIFICATIONS KXP-30 . . . POWER OUTPUT: 30 watts at less than 5% distortion with wide flat power output versus frequency curve and low distortion at any volume level. **FREQUENCY RESPONSE:** 20 to 20,000 cycles within 1 d.b. **INPUTS:** (2) One with crystal pickup network. Impedance ½ megohm. The other, without phono equalizer but wired for use with TR-91 or TR-92. Plug-in input transformers. Impedance without transformer, ½ meg. With transformer 50,200 or 5000 ohms, depending on transformer selected. **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16, and 500 ohms to terminal strip and two bakelite molded sockets. **GAIN:** 85 d.b. either input, high impedance; 79.5 d.b. with TR-92; 73.5 d.b. with TR-91. **TONE COMPENSATION:** Bass range from —17 to +24 d.b. Treble range from —24 to +24 d.b. **CONTROLS:** (5) Two, Channel input; one bass; one treble; one power switch. **CONTROL PANEL:** Etched metal, fully illuminated. **POWER CONSUMPTION:** 144 watts. **TUBES:** (7) 1-6J7, 3-6J5, 2-6L6G, 1-5U4G. **DIMENSIONS:** 7″ x 8½″ x 15″. **SHIPPING WEIGHT:** 26 lbs.

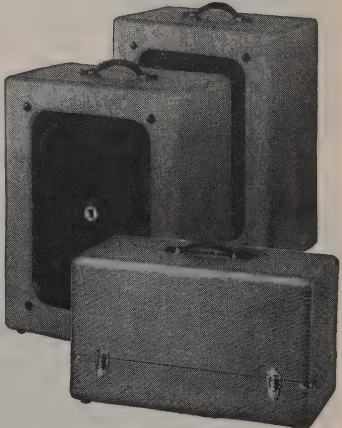
NEWCOMB DELUXE PORTABLE SYSTEMS

KX-6012A. 3-case port. system built around KX-60 amp. Genuine plywood, fabricoid cases. One carries amp. with space for mikes, cable and stand. Others house two 12″ speakers of finest, efficient type. Fifty ft. of cable with each speaker. No mikes or mtgs. included. Shipping Weight, 185 lbs.

KX-660-12A. 4-case, 60 watt port. system combining KX-6 Pre-amp. with K60-P Booster. 4 top quality 12″ speakers, each with 50 ft. cable. KX-6 and K60-P carried in separate cases. Space in each for mikes, cable and stand. Mikes not included. Shipping Wt., 221 lbs.

KX-3012A. 2-case port. system with KX-30 amp. Smart genuine plywood cases give protection and excellent response. One case carries amp. with space for mikes, cable and stand; other, 2 of best quality 12″ speakers, facing inside. No mikes or mtgs. included. Shipping Weight, 118 lbs.

KX-30R12A. Superb 3-case comb. of 2 new RS-12 wide range speakers and KX-30 amp. Case has space for stand, mikes, accessories. Each speaker with 50 ft. of cable. No mikes or mtgs. included. Ship. Wt., 147 lbs.



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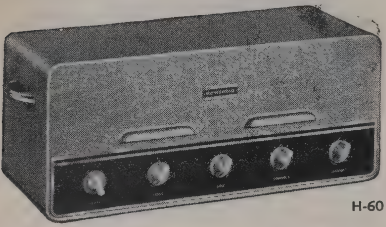
THE NEWCOMB STANDARD



H-60

H-60 AMPLIFIER. A full 60 watts of clean, distortion free power, for applications where cost of the equipment is major consideration.

SPECIFICATIONS . . . POWER OUTPUT: 60 watts at less than 5% with excellent power output at all frequencies and low distortion at all output levels. **FREQUENCY RESPONSE:** 30 to 15,000 cycles within 2 d.b. **GAIN:** Microphones 126 d.b. Phonographs 85 d.b. **INPUTS:** (4) 2 microphone, 2 phonograph. **INPUT IMPEDANCES:** Microphone 2 meg. Phonograph ½ meg. (Microphone inputs wired for instant conversion to low impedance by use of TR-91 plug-in transformer). **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16 and 250 ohms to terminal strip and 4 bakelite molded sockets. **CONTROL PANEL:** Etched metal, illuminated. **CONTROLS:** (5) 2 microphone-phonograph, 1 bass, 1 treble, 1 AC power switch. **CIRCUIT FEATURES:** All resistance capacity coupling; multi-stage inverse feedback; plug-in filter condensers; wide range individual control of bass and treble; regulated screen power to power tubes; multiple winding output transformer; accessible insulated fuse; thoroughly impregnated heavy duty transformers. **POWER CONSUMPTION:** 228 watts, 105-129 volts, 50-60 cycles A.C. **TUBES:** (11) 2-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 1-6V6GT, 2-5Z4. **DIMENSIONS:** 8⅜″ x 8⅛″ x 19″. **SHIPPING WEIGHT:** 38 lbs.

146-S

146-S PORT. SYSTEM. Compact, powerful unit weighing only 39½ lbs. Efficient up to ½ mile on land, 2 at sea. Power Output: 14 watts. Shipping Wt., 53 lbs.

PL-12 RECORD PLAYER with perm. sapphire needle. Output Approx. 1 volt at 1000 cycles. Response to 10,000 cycles. Constant speed, quiet type, rim drive. 78 r.p.m. For 110 volts, 60 cycles. 50 cycles special order. Size: 15¾″ x 14″ x 7½″. Shipping wt. 20 lbs.

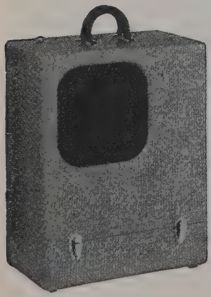
PORTABLE SYSTEMS AND ACCESSORIES

H1010G. 2-speaker, 10 watt system, with H-10 amp. 2 quality 10″ speakers, cable. Plywood case, 11″ x 20⅜″ x 15¾″. No mike or stand included. Shipping Weight, 43 lbs. **H1010C.** Identical to **H1010G**, but with more powerful speakers. Shipping Weight 43 lbs.

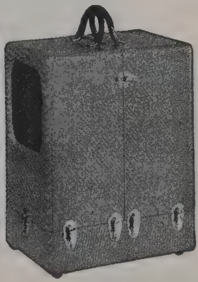
H-1412C. Built around H-14 amp. 2 full 12″ speakers with amp. in plywood case 11″ x 23¼″ x 18½″; comp. for mikes, cable, stand. No mikes, mtgs. included. Shipping Weight 53 lbs.

H-3012H. H-30 amp. with 2 high efficiency 12″ speakers, 50 ft. of cable ea. in case 11″ x 23¼″ x 18½″; space for mikes, cable, stand. No mikes, mtgs. included in price. Shipping Wt. 63 lbs.

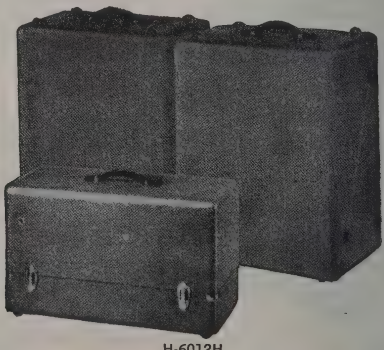
H-6012H. High power 60 watt port. system. H-60 amp., 4 top quality 12″ speakers. Space in amp. case for mikes and stand, not included in price of system. Shipping Weight, 160 lbs.



H-1412C—H3012H



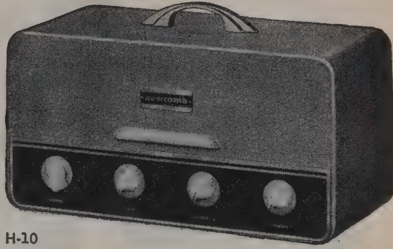
H-1010G



H-6012H

Newcomb AUDIO PRODUCTS CO.

H-SERIES AMPLIFIERS


H-10

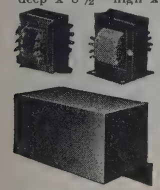
H-14

H-30

H-10 AMPLIFIER: Compact, light weight, dependable 10 watt amplifier, wired, as all Newcomb amplifiers, for instant conversion to low impedance by use of TR-91 plug-in transformer. **SPECIFICATIONS . . . POWER OUTPUT:**—10 watts at less than 5% distortion, with excellent power output at all frequencies and low distortion at all output levels. **FREQUENCY RESPONSE:** 40 to 10,000 cycles within 2 d.b. **GAIN:** Microphone 112 d.b. Phonograph 74 d.b. **INPUTS:** (2) 1 microphone, 1 phonograph. **INPUT IMPEDANCES:** Microphone 2 meg. Phonograph ½ meg. **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16 and 500 ohms to terminal strip and two molded bakelite sockets. **CONTROL PANEL:** Etched metal, illuminated. **CONTROLS:** (4) 1 microphone, 1 phonograph, 1 bass-treble, 1 A.C. power switch. **CIRCUIT FEATURES:** All resistance capacity coupling; push-pull output; multi-stage inverse feedback; thoroughly impregnated heavy duty transformers. **POWER CONSUMPTION:** 50 watts, 105-129 volts, 50-60 cycles A.C. **TUBES:** (5) 1-6SO7, 1-6SJ7, 2-6V6-GT/G, 1-6X5-GT. **DIMENSIONS:** 6$\frac{1}{16}$″ deep x 6⅝″ high x 12¾″ long. **SHIPPING WEIGHT,** 14 lbs.

H-14 AMPLIFIER. General purpose, moderate cost amplifier designed for high quality performance and long life. **POWER OUTPUT:** 14 watts at less than 5% distortion with excellent power output at all frequencies and low distortion at all output levels. **FREQUENCY RESPONSE:** 30 to 15,000 cycles within 2 d.b. **GAIN:** Microphone 112 d.b. Phonograph 75 d.b. **INPUTS:** (3) 2 microphone, 1 phonograph. **INPUT IMPEDANCES:** Microphone 2 meg. Phonograph ½ meg. (Microphone inputs instantly convertible to low impedance by use of TR-91 plug-in transformer). **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16 and 500 ohms to terminal strip and two molded bakelite sockets. **CONTROL PANEL:** Etched metal, illuminated. **CONTROLS:** (5) 1 microphone, 1 microphone-phonograph, 1 bass, 1 treble, 1 AC power switch. **CIRCUIT FEATURES:** All resistance capacity coupling; multi-stage inverse feedback; wide range individual control of bass and treble; accessible insulated fuse; thoroughly impregnated heavy duty transformers. **POWER CONSUMPTION:** 75 watts, 105-129 volts, 50-60 cycles A.C. **TUBES:** (6) 1-6SC7, 1-6SJ7, 1-6J5, 2-6V6-GT/G, 1-5Y3-GT. **DIMENSIONS:** 7″ deep x 8⅛″ high x 15″ wide. **SHIPPING WEIGHT:** 19 lbs.

H-30 AMPLIFIER: Answers majority of requirements; is compact, powerful, provides extremely faithful reproduction. **POWER OUTPUT:** 30 watts at less than 5% with excellent output power at all frequencies and low distortion at all output levels. **FREQUENCY RESPONSE:** 30 to 15,000 cycles within 2 d.b. **GAIN:** Microphone 121 d.b. Phonograph 78 d.b. **INPUTS:** (3) 2 microphone, 1 phonograph. **INPUT IMPEDANCES:** Microphones 2 meg. Phonograph ½ meg. (Microphone inputs instantly convertible to low impedance by use of TR-91 plug-in transformer). **OUTPUT IMPEDANCES:** (6) 3, 4, 6, 8, 16 and 500 ohms to terminal strip and two molded bakelite sockets. **CONTROL PANEL:** Etched metal, illuminated. **CONTROLS:** (5) 1 microphone, 1 microphone-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **CIRCUIT FEATURES:** All resistance capacity coupling; multi-stage inverse feedback; plug-in filter condensers; wide range individual control of bass and treble; accessible insulated fuse; thoroughly impregnated heavy duty transformers. **POWER CONSUMPTION:** 144 watts, 105-129 volts, 50-60 cycles A.C. **TUBES:** (7) 2-6SF5, 1-6SJ7, 1-6J5, 2-6L6-G, 1-5U46. **DIMENSIONS:** 7″ deep x 8½″ high x 15″ wide. **SHIPPING WEIGHT:** 23 lbs.

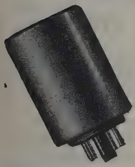


LS-2 (not shown) High Power Impedance matching auto-transformer having 28 impedance from 580 ohms to 1.21 ohms. Capacity 100 watts. Shp. wt. 5¼ lbs.

LS-4 Multi-winding general purpose transformer. Range of impedances from 3000 to 18,000 ohms in steps of 1,500 ohms Capacity 8 watts.

LS-5 TRANSFORMER. Similar to LS-4 with range of impedances from 500 to 3,000 ohms in steps of 250 ohms. Capacity 20 watts.

TC3 Weatherproof housing for use with all three transformers. Box size: 3¼″ x 4″ x 5¾″.



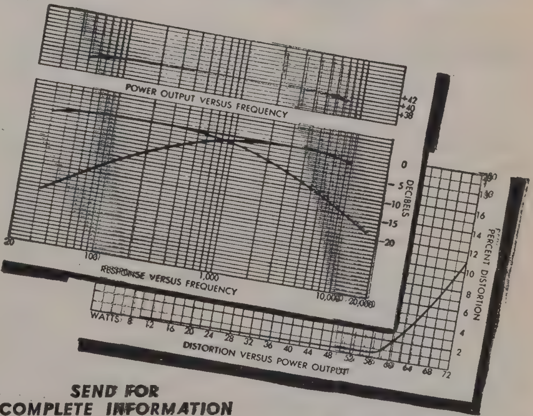
NEWCOMB PLUG-IN INPUT TRANSFORMERS. TR-91.

A distinct contribution to high quality p. a. systems. Features sextuple alloy and copper shielding for quiet operation right in amp. proper; alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles; plug base for easy installation without tools in any Newcomb amp. For use between 50 or 200 ohm mikes and grid. Shipping Weight, 1¼ lbs.

TR-92. PLUG-IN TYPE BRIDGING INPUT TRANSFORMER.

Input impedance 5,000 ohms to grid for bridging a 500 ohm line. Alloy shielded for minimum hum. When plugged into the socket provided on K60-P, it converts this amp. for use as bridging amp. Shipping weight, 1¼ lbs.

THE CHARTS BELOW SHOW ACTUAL RESPONSE AND DISTORTION CURVES FROM THE H-30 AMPLIFIER.



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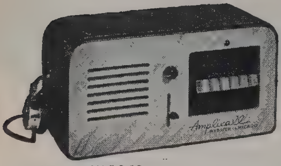
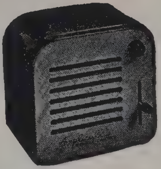
AMPLICALL

INTERCOMMUNICATION SYSTEMS



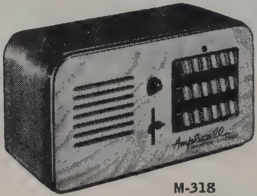
W-106Q



Remote Unit

W-100 Series
Combination Masters and Remotes

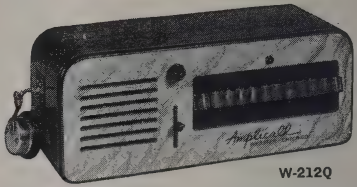
The W-100 Series Systems are extremely versatile and are among the most popular Intercom equipment because of their ability to fill the greatest number of installation needs. These Systems provide instant 2-way communication between central or Master location and a number of Remote locations—beginning with a 6-Station System to handle the popular demand for six or less stations—and also available in 12- and 18-station Systems designed to handle the expanded needs of larger installations. On single Master installations remotes may call the one master but cannot talk to each other. On combined Master and Remote Systems Master called answers without operating any control. System is non private. Remotes cannot originate a call. Compact Master station is beautifully housed in a streamlined walnut finished cabinet. Remote station is of similar design. (To provide for complete privacy of incoming conversation, models are also available with earphone attachment.) Models available: Masters—W-106, W-106Q, W-112, W-112Q, W-118, W-118Q. Remotes—W-400S, W-400SQ.



M-318

W-300 Series—Combined Intercom & Paging

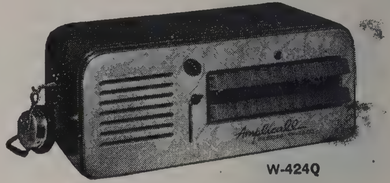
Here is a System of great versatility and considerable power in which the central Master station can not only carry on a two-way conversation with each Remote station in the system, but can also page independently over any one remote station or over all Remote stations simultaneously. Remote stations can originate calls to Master. Maximum facilities of the W-300 System are for 18 Remote Stations. Maximum power is 25 watts. Accurate station selection is accomplished by new type push-button selector switches. Master station is of beautiful, compact design; paging stations are metal-cased; Remote stations are walnut finished wood. Offers instant location of personnel through the "all call" paging feature. Models available: Masters—W306-10, W306-25, W312-10, W312-25, W318-10, W318-25. Remotes W-300, W-400S.



W-212Q

W-200 Series—All-Master Systems

The W-200 Series, recognized as one of the most universal and advantageous of all Intercom Systems, consists entirely of Master stations. This Series permits every station of the system to call and converse at will with every other station. All conversations are absolutely private—there is no cross-talk or eavesdropping possible. Each Master has a 3-position "talk-listen" switch: depress to talk; returns automatically to center position for listening; raise to "up" position when carrying on long conversation or dictation, or when using earphone. When earphone is used, it is not necessary to operate "talk-listen" switch; conversation is carried on same as on a telephone instrument. The W-200 Series is available in two sizes—Systems for 12 or for 24 stations. Units are fashioned in a beautiful walnut finished modern design. Models available: Masters—W-212, W-212Q, W-224, W-224Q.



W-424Q

W-400 Series
All Combination Hi-Power Systems

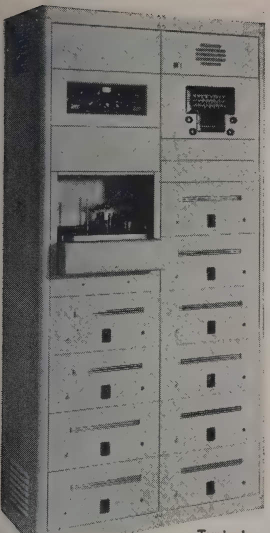
Here is the very latest in deluxe Intercom equipment. Master stations can be combined with Remote stations in practically any combination; all conversations between Masters are absolutely private; Masters can carry on a two-way conversation with and listen in on Remote stations; Remote stations are able to originate a call to as many as six Master stations. New features include: two volume controls for both incoming and outgoing volume; individual locking type, finger-tip push-buttons selectors; 3-position "talk-listen" switch, etc. Models are also available with earphone attachment for privacy of incoming conversation. Compact station units are streamlined modern in walnut. Models available: Masters—W-412, W-412R, W-412Q, W-412RQ, W-424, W-424R, W-424Q, W-424RQ. Remotes—W-400S, W-406S..

There is a Rauland AMPLICALL Intercom System for every type of installation. AMPLICALL speeds up office and plant routine—saves time, steps, and money—plays a vital role in your operational effort. Write for complete catalog giving prices and full details. (See other side of page for information covering the complete line of Rauland Amplifiers, Sound Systems, Factory Paging units, Power Stages, etc.)

Rauland

Rauland

CUSTOM BUILT CENTRALIZED SOUND EQUIPMENT



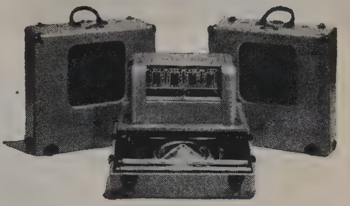
Typical
RP100 Rack

The constantly increasing utility of centralized radio and sound systems in all types of institutions results in a demand for a system so flexible in design that it shall be capable of additions for expansion and improvement at any future date. Rauland "Tailored-to-fit" sound system is the ideal answer to the problem.

The sectionalized construction of Rauland sound systems utilizing standard panel design, results in prices comparable with production equipment, but gives a flexibility equivalent to singly fabricated custom built systems.

Typical of Rauland "Custom Built" sound installations is the 840 watt rack and panel sound unit (illustrated at left). This giant Rauland system, built for a Government Ordnance Plant, covers 30 square miles and is used primarily for instant paging, direction and emergency announcement.

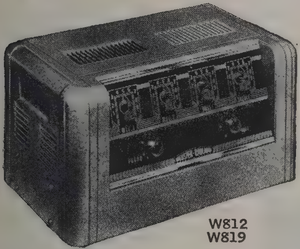
Rauland will build "Tailored-to-fit" sound equipment to meet your special requirement. Write for full details.



PORTABLE SYSTEMS

Rauland deluxe, complete portable systems, compact, lightweight and durable, are available in power outputs ranging from 14 to 35 watts.

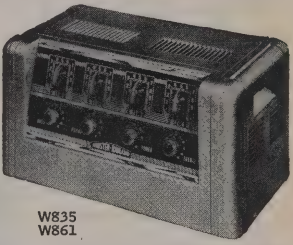
Amplifier, 12" PM speakers, crystal ("PX" Systems) or dynamic microphone ("PD" Systems) and floor stands are placed in attractive leatherette carrying cases for complete portability. 14 Watt Systems—PX and PD-812, 20 Watt Systems—PX and PD-819, 35 Watt Systems—PX and PD-835.



W812
W819

Rauland

SUPER LUXE AMPLIFIERS AND SOUND SYSTEMS



W835
W861

W-812—A high quality 14 watt amplifier will deliver sufficient power for up to 3000 people indoors and 10,000 square feet outdoors with 1 phono and 2 microphone inputs.

W-819—This 20 watt amplifier is a good performer in the medium power class. Will handle 2 microphones and 2 phonographs with intermixing and fading on all four. Dual fader phono control and separate bass and treble tone controls.

W-835—All the features and controls you will need for most applications are incorporated in this 35 watt deluxe amplifier. Four separate microphones and 2 phonographs can be intermixed in the input channel. Dual fader phono control. Separate bass and treble control.

W-861—Only Rauland has "Bi-Power"—P.A.'s supreme achievement—a circuit design that delivers giant power right up to its highest rated peak without distortion, without sign of "cracking up." Bi-Power is incorporated in this 60 watt amplifier. Its control panel handles 4 microphones and 2 phonographs, all of which can be faded and mixed. Separate treble and bass tone controls. All Rauland amplifiers are housed in heavy gauge metal cabinets finished in green Hammerloid.

W-841 (Open)

Rauland also offers a fine selection of dynamic, velocity and crystal microphones as well as a wide variety of high quality sound accessories, designed and built to render the dependable service demanded by today's rigid requirements.

Write for prices and complete descriptive literature.

MOBILE AMPLIFIERS

Designed To Do The Job

Rauland offers a selection of superb Mobile Amplifiers designed for operation from 117 volts AC or from 6 volts DC. The W-841 amplifier (illustrated at left) has a 30 watt output, 3 microphone inputs; one phono input; mixer fader control on all 4 inputs (remote mixing on mikes); separate bass and treble controls; phono motor, crystal pick-up, etc.

The W-821 Amplifier (illustrated at right) has 20 watts output, includes 2 microphone inputs, one phono input, mixer-fader control on all three inputs, tone control, phnoo motor and crystal pick-up.

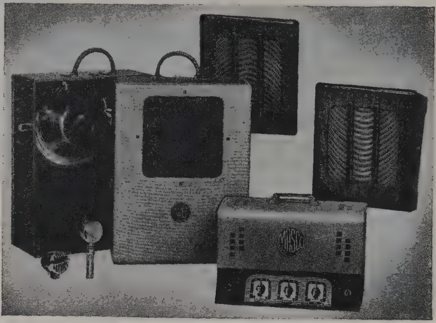
W-821

SOUND SYSTEMS

MASCO 17 WATT PORTABLE OR PERMANENT SOUND SYSTEM

FEATURES

- Tapped Output, 2-4-8-15-500 Ohms
- Beam Power Output (2—6L6G)
- Electronic Mixing Overall
- Aero-dynamic Design
- Full Range Controls
- Individual Controls
- Inverse Feedback
- 24 Hour Operation
- Custom Made



APPLICATION

These systems are highly efficient and afford outstanding results to meet requirements for medium power installations. For coverage up to 175,000 cubic feet. Microphone and Phono may be used simultaneously through the use of separate controls. Hum and noise have been reduced to a negligible level through correct design and filter.

Ease of setup and operation, plus maximum output and excellent tonal quality are the salient features of these systems. The amplifier chassis is finished in a hard baked smooth gray wrinkle. The carrying case is styled after the finest aeroplane hand luggage with tweed facings and calf skin tan overall striping. The interior of the case is designed to hold the complete system and accessories. Amplifier is mounted on sliding panel for ease in removing from case when in use.

Specifications for Model MA-17 Amplifier: Power Output: 17 Watts • Gain: Microphone 118 DB, Phono 74 DB • Controls—Three: Microphone, Phono, Tone • Separate on-off AC Switch • Input—Two: Microphone and Phono • Tubes: 1—7C7, 1—7F7, 2—6L6GA, 1—5Y3GT • Output: Tapped—2-4-8-15-500 Ohms • Power Consumption: 90 Watts • Hum Level: Below Zero Level—22DB • Frequency Response: 50 to 10,000 cycles • Dimensions: 12″ x 6¾″ x 7¾″.

PORTABLE SYSTEM

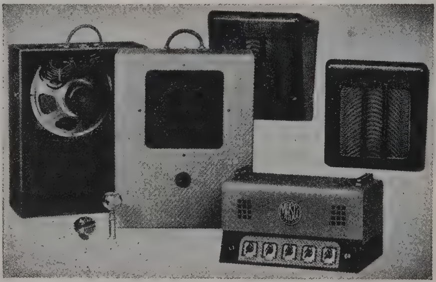
The MAS-17 complete portable system consists of: Model MA-17 amplifier less tubes, mounted in carrying case. An Astatic JT-30 Microphone with 20′ cable with connectors, two 10″ PM speakers each with 25 ft. cable plus plugs.

	List Price
MAS-17—Complete portable system as described	$125.50
MA-17 —Amplifier less tubes, with streamline cover	49.00
Kit of MATCHED tubes	9.00
No. 102—10″ walnut speaker cabinet	7.50
If Astatic JT-30 Microphone is not desired, deduct	14.00

MASCO 25 WATT PERMANENT OR PORTABLE SOUND SYSTEM

FEATURES

- Output Tapped, 2-4-8-15-500 Ohms
- Two Microphones and Phono
- Electronic Mixing Overall
- Beam Power 6L6 Output
- Undistorted 25 Watt Output
- Triple Channel Inputs
- Inverse Feedback
- 24 Hour Operation
- Custom Made



MASCO offers industrial streamlining and extra refinement in circuit design, imperative in modern sound equipment. Model MA-25 permits use of two microphones and phono in a multiple mixing circuit. Output is tapped to match any speaker or speaker groups. Humless operation plus fine tonal quality at high level output are only a few of its outstanding features. Richly appointed carrying case of two-tone tan calf and tweed. Amplifier is finished in attractive gray baked wrinkle. Accessories housed within carrying case. Amplifier mounted on sliding panel for ease in removing from case when in use.

Amplifier Specifications for Model MA-25: Power Output: 25 Watts • Gain: Microphone 125 DB, Phono 78 DB • Controls—Four: Two Microphones, Phono, Tone • Separate On-Off Switch • Input—Three: Two Microphones, Phono • Tubes: 2—7B4, 1—7F7, 1—7N7, 2—6L6GA, 1—5U4G • Output: Tapped—2-4-8-15-500 Ohms • Power Consumption: 120 Watts • Hum Level: —55 DB below 25 Watts • Frequency Response: 50 to 10,000 Cycles • Dimen: 15″ x 8″ x 8″.

Portable System: The MAS-25 complete system consists of: Model MA-25 amplifier less tubes, mounted in carrying case as described. Astatic JT-30 Microphone with 20 ft. cable with connector, two heavy duty 12″ PM Speakers, each with 25 ft. cable plus plugs.

	List Price
MAS-25—Complete portable system as described	$153.25
MA-25 —Amplifier less tubes, with streamline cover	67.75
Kit of MATCHED tubes	13.25
No. 101—12″ Walnut Speaker Cabinet	9.00
If Astatic JT-30 Microphone is not desired, deduct	14.00

Please Note: When desiring combination of equipment other than listed herein, write for further details. All specifications, prices, etc., mentioned herein are subject to change without notice. **West of the Rockies** add 5% to above prices.

WRITE FOR CATALOG DESCRIBING COMPLETE "MASCO" LINE OF SOUND EQUIPMENT AND ACCESSORIES

SOUND SYSTEMS

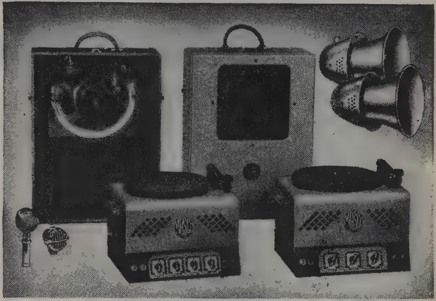
25 WATT UNIVERSAL PHONO-TOP MOBILE SYSTEM . . . FOR BATTERY AND 115 VOLT AC OPERATION

Model MAC-25P Mobile System

Amplifier Features: Model MC-25P 6 volt DC and 115 volt AC amplifier is a high-powered De Luxe Unit that is applicable to all uses for outdoor sound. Provisions for two microphones and phono-input with independent controls along with universal speaker matching of 2-4-8-15 and 500 Ohms, add to its value. The MASCO battery saver "stand-by" switch is also incorporated. The extra-heavy duty vibrator assures a 75% overload safety factor, and through its use steady voltage and frequency is maintained. A primary feature is the Ripple-Free operation; chassis finish is attractive gray.

Amplifier Specifications for Model MC-25P: Power Output: 25 Watts • Gain: Microphone, 125 DB; Phono, 78 DB. • Controls—Four: Two Microphones, Phono, Tone • Switches: On-off AC, On-off Phono Motor, Stand-by Battery Saver Switch • Input—Two Microphone and one Phono • Tubes: 2—7B4, 1—7F7, 1—7N7, 2—6L6GA, 1—5U4G • Output: Tapped —2-4-8-15-500 Ohms • Power Consumption: AC 120 Watts, 6 Volts DC 22 Amps • Hum Level: Ripple-Free on Battery — 55 DB below 25 Watts • Frequency Response: 50 to 10,000 cycles • Dimen: 12" x 10" x 8".

Portable System: The Model MAC-25P complete portable system consists of: Model MC-25P Phono-top amplifier less tubes, mounted in carrying case of attractive two-tone tan and brown. One Astatic JT-30 Microphone with 20 ft. cable with connector, two heavy duty 12" PM Speakers with 25 ft. cable and plugs.



	List Price
MAC-25P—Complete portable system as described	$210.25
MC-25P—6 volt DC and 115 volt AC phono-top amplifier less tubes	124.75
MC-25—6 volt DC and 115 volt AC amplifier less tubes, with plain cover	106.75
Kit of MATCHED tubes	13.25
Model 402—12" all steel non-resonant baffle	17.75
If Astatic JT-30 Microphone is not desired, deduct	14.00
NOTE: If amplifier with plain cover is desired with above system deduct	18.00

NOTE: If the above amplifier systems are desired as Outdoor Systems, deduct the $25.00 List Price of the Amplifier Case and add the List Price of two No. 402 baffles.

DE LUXE PHONO-TOP P. A. EQUIPMENT (AC)

Features and Application: Another MASCO first is presented here with everything that is desirable in portable systems. Now for the first time, complete portability in P. A. is attained. Especially adaptable where combined P. A. and recorded music is essential. The MAS-17P and MAS-25P are leaders in their respective fields. Both equipped with a 78 R.P.M. constant speed motor, and modern Astatic tanget head crystal pickup.

Model MAS-17P System

Amplifier Specifications: Chassis size for Model MA-17P, 12" x 10" x 8". All other specifications same as Model MA-17. (See preceding page for specifications.)

Portable System: The MAS-17P complete portable system consists of the following: Model MA-17P phono-top amplifier, less tubes, mounted in carrying case, an Astatic JT-30 Microphone with 20 ft. cable with connector, two heavy duty 10" PM Speakers, each with 25 ft. cable and plugs.

	List Price
MAS-17P—Complete portable system as described	$146.25
MA-17P—Amplifier with phono-top cover, less tubes	69.75
Kit of MATCHED tubes	9.00
If Astatic JT-30 Microphone is not desired, deduct	14.00

Model MAS-25P System

Amplifier Specifications: Chassis size for Model MA-25P, 12" x 10" x 8". All other specifications same as Model MA-25. (See preceding page for specifications.)

Portable System: The Model MAS-25P complete portable system consists of: The Model MA-25P phono-top amplifier, less tubes, mounted in carrying case, an Astatic JT-30 Microphone with 20 ft. cable with connector, two heavy duty 12" PM Speakers, each with 25 ft. cable with plugs.

	List Price
MAS-25P—Complete portable system as described	$171.50
MA-25P—Amplifier with phono-top cover, less tubes	86.00
Kit of MATCHED tubes	13.25
If Astatic JT-30 Microphone is not desired, deduct	14.00

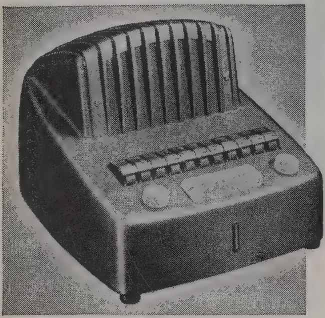
PLEASE NOTE: When desiring combination of equipment other than listed herein, write for further details. All specifications, prices, etc., mentioned herein are subject to change without notice. West of the Rockies add 5% to above prices.

WRITE FOR CATALOG DESCRIBING COMPLETE "MASCO" LINE OF SOUND EQUIPMENT AND ACCESSORIES

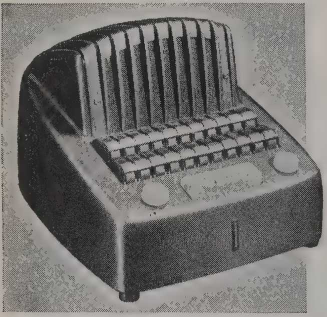
OPERADIO

FLEXIFONE

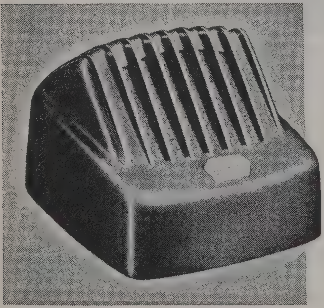
FOR INTERCOMMUNICATION



EXECUTIVE MODEL 4A10 AND 4A11
10-STATION MASTER



EXECUTIVE MODEL 4A15
20-STATION MASTER

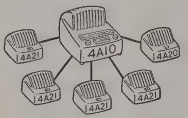


FLEXIFONE MODEL 4A20 AND 4A21
REMOTE SPEAKER STATION

FLEXIFONE *EXECUTIVE* AND *SUPERVISOR* SERIES MEET THE DEMAND FOR ANY AND EVERY TYPE OF INTERCOMMUNICATION SYSTEM

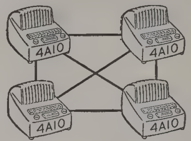
The FLEXIFONE Executive series makes it possible to install an inter-communication system to meet any requirement. Streamlined, modern cabinets of durable die-cast metal. Smooth, attractive gray-tan Hammerloid finish compliments any desk. Self-clearing piano-action keyboard. Plastic station-selector keys with easily read name tabs. Talk Bar controls conversations—special lock-down feature holds bar in "talk" position, freeing both hands during dictation by FLEXIFONE. Plastic on-off switch and volume control knobs. Master stations provide instant conference connections between several executives. All models designed and engineered for highest quality performance.

SUPERVISORY SERVICE



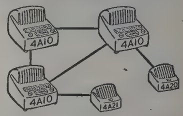
One FLEXIFONE Master station is connected with as many as 20 Speaker stations. The Master station can call each individual Speaker station and receive an answer. Speaker stations, if equipped with "Call Switch," can originate conversations with Master station.

EXECUTIVE SERVICE



Master stations are shown connected for complete intercommunication between all stations. This hookup for swift executive service is limited only by number of stations connected. Several two-way conversations may be carried on simultaneously in strict privacy.

COMBINED EXECUTIVE AND SUPERVISORY SERVICE



This FLEXIFONE hookup permits connection of as many Master stations as may be required. In addition, each Master station is connected with a group of Speaker stations. Master stations can be interconnected for two-way service or conference hookup. Each Master station can be connected with several Speaker stations.

●●●●●●●●●●●●●●●●●●●●

MODEL No. 4A10, EXECUTIVE 10 STATION MASTER: Can be connected with any combination of master stations or speaker stations up to ten units. Die cast metal case with smooth gray-tan Hammerloid finish. Plastic station selector keys and control knobs. Size 9¼" wide, 7¾" high, 11-5/6" deep. Weight approx. 14 lbs. **$83.00**

MODEL No. 4A11, EXECUTIVE 9 STATION MASTER WITH RMOTE PAGING KEY: Same as No. 4A10, with remote "self-paging" feature. Enables foreman or supervisor to leave desk. By depressing paging key all incoming calls will be reamplified and come through speaker or horns out in plant.......... **$84.00**

MODEL No. 4A15, EXECUTIVE 20 STATION MASTER: Same as No. 4A10, except this unit can be connected with any combination of master stations or speaker stations up to 20 units. Same dimensions as No. 4A10. Weight, approx. 14 lbs. **$95.50**

MODEL No. 4A20, SPEAKER STATION: Provides talk-back communication with any model master station. Die-cast metal case with smooth, gray-tan Hammerloid finish. Size—6¾" wide, 5⅝" high, 7⅞" deep. Weight approx. 4 lbs.......**$16.20**

MODEL No. 4A21, SPEAKER STATION WITH CALL SWITCH: Same as No. 4A20, with call switch added. Call switch enables speaker station to originate calls to master station **$18.10**

MODEL No. 7A10, HANDSET ASSEMBLY: Optional phone type handset for confidential conversation on FLEXIFONE master stations 4A10, 4A11 and 4A15. When handset is in use, speaker is cut off. Handy hook switch and box may be installed at side of desk or any convenient location close to the master station **$39.50**

MODELS No. 200-5 AND No. 200-6, PLUG AND CABLE ASSEMBLIES: Provide simplified connection from master station to No. 8A10 junction box. No. 200-5 for use with No. 4A10 and No. 4A11 master stations. No. 200-6 for use with No. 4A15 master station **$6.20**

MODEL No. 4A10, JUNCTION BOX: Provides means of terminating main cable and connecting with No. 200-5 or No. 200-6 from No. 4A10, No. 4A11 or No. 4A15 master stations **$4.45**

176-12	12 Conductor Cable (For 4A10 and 4A11)	**$27.40 C**
176-22	22 Conductor Cable (For 4A15)	**$47.30 C**
176-3	3 Conductor Cable (For 4A21)	**$ 9.50 C**
176-7585	2 Conductor Cable (For 4A20)	**$ 3.90 C**

Flexifone Units, listed above, to be used with 105-125, 50-60 cycle, AC only.

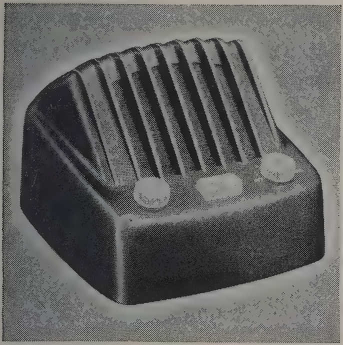
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

OPERADIO

FLEXIFONE

FOR INTERCOMMUNICATION



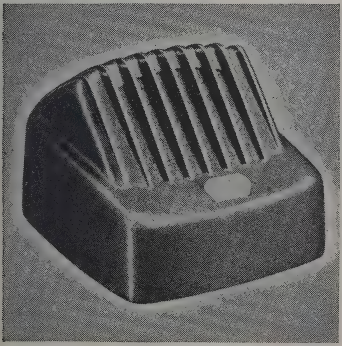
MODELS 4M25 & 4A25 MASTER STATIONS

MODEL 4M25 "OFFICIAL" ALL MASTER SYSTEM AND MODEL 4A25 "SUPERVISOR" MASTER TO REMOTE SYSTEM

FLEXIFONES Model 4M25 "OFFICIAL" all master system and Model 4A25 "Supervisor" master to remote system makes it possible for small business offices, plants, institutions, stores, garages, homes, and farms to enjoy the efficiency and ease of "talking instantly" with economical, dependable intercommunication units. Latest electronic developments assure clear, natural voice transmission. Durable, functionally designed die cast housings finished in Gray-tan Hammerloid.

Both the 4M25 and 4A25 master stations feature a selector switch for selecting any one of six outlying stations. There is also an "all-call" position making it possible to page or talk through all six speaker stations simultaneously.

Dimensions of the Model 4M25 "Official" Master, Model 4A25 "Supervisor" Master, Model 4A20 and 4A21 Speaker Stations are all identical . . . 6¾" wide, 5⅜" high, 7⅞" deep.



MODELS 4A20 & 4A21 SPEAKER STATIONS

FOR EITHER AN "OFFICIAL" ALL-MASTER SYSTEM OR "SUPERVISOR" MASTER-TO-REMOTE SYSTEM USE THE FOLLOWING FLEXITONE EQUIPMENT

FLEXIFONE MODEL No. 4M25, "OFFICIAL" MASTER STATION: Designed for master-to-master service only. Selector switch makes it possible to select up to six other "Official" master stations. "All-Call" position, also included on selector switch, makes it possible to page or talk through all six masters simultaneously **$44.50**

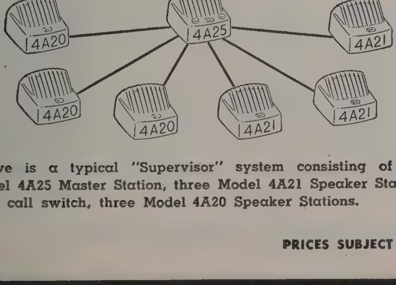
FLEXIFONE MODEL No. 4A25, "SUPERVISOR" MASTER STATION: Designed for use with Model 4A20 or 4A21 Speaker Stations only. Selector switch makes it possible for selecting any one of six speaker stations. "All-call" position also included on selector switch, makes it possible to page or talk through all speaker stations simultaneously.......... **$44.50**

FLEXIFONE MODEL No. 4A20, SPEAKER STATION: Provides talk-back communication with Model 4A25 "Supervisor" FLEXIFONE.......... **$16.20**

FLEXIFONE MODEL No. 4A21, SPEAKER STATION WITH CALL SWITCH: Same as Model 4A20, but with call switch incorporated. Call switch enables speaker station to originate calls to master station.......... **$18.10**

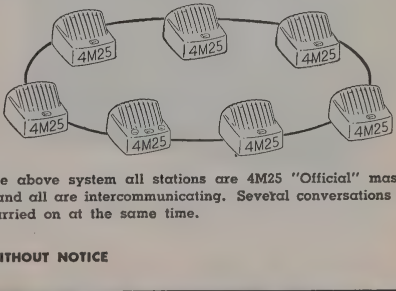
(See Cable Listed Under FLEXIFONE "Executive" Series)

TYPICAL FLEXIFONE MODEL 4A25 "SUPERVISOR" SYSTEM WITH SIX OUTLYING SPEAKERS



Above is a typical "Supervisor" system consisting of one Model 4A25 Master Station, three Model 4A21 Speaker Stations with call switch, three Model 4A20 Speaker Stations.

TYPICAL FLEXIFONE MODEL 4M25 "OFFICIAL" SYSTEM OF SEVEN MASTER STATIONS



In the above system all stations are 4M25 "Official" masters . . . and all are intercommunicating. Several conversations can be carried on at the same time.

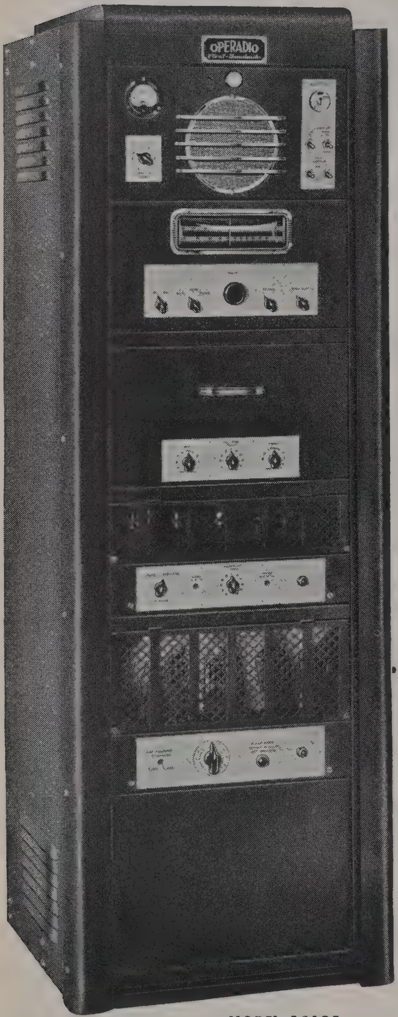
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

OPERADIO

PLANT-BROADCASTER

A STANDARD LOW COST SYSTEM FOR MUSIC AND VOICE PAGING



MODEL 14A25
PLANT BROADCASTER

SIMPLIFED STANDARDIZED UNIT WITH POWER OUTPUT OF 125 WATTS. ADDITIONAL BOOSTER AMPLIFIERS CAN BE ADDED TO INCREASE OUTPUT UP TO 1000 WATTS OR MORE

Operadio designed, engineered and built the original Plant Broadcaster . . . and now they are proud to present their latest model for Music and Voice Paging in industrial plants or commercial establishments — the Operadio Model 14A25 PLANT BROADCASTER! Experience in engineering and building some of the finest and largest plant broadcasting systems in the world enables Operadio to combine all the quality features and advantages of custom-built equipment into a standardized unit for the average industrial plant.

The lower cost is brought about by eliminating special engineering costs and by standardizing construction, but only the highest quality components are used. Reproduction is of broadest quality. Relay control panel incorporated . . . makes it possible to select either one or two areas without change in volume.

Phonograph mechanism incorporated, and provisions for radio, enable desired programs to be played throughout the plant or to selected area. Dynamic microphone on special switchboard stand with two-area foot-switch and 25' cable are furnished with unit. Loudspeakers are not included in the price of the equipment because the number and types vary with each installation.

MODEL No. 14A25, PLANT BROADCASTER: 125 watt output. Cabinet assembly complete with dynamic microphone on special switchboard stand, and footswitch, incorporating two area switches and 25 foot cable **$1275.00**

MODEL No. 1A50 — 125 WATT BOOSTER AMPLIFIER PANEL: Additional power for use with Model 14A25 Plant Broadcaster........................**$ 434.00**

SPECIFICATIONS OF MODEL 14A25 PLANT BROADCASTER

OUTPUT: Full 125 watts at 5% total harmonic distortion when measured across 250 ohm load resistance, across amplifier output terminals at 1000 cycles per second. OVERALL GAIN: 125 db. FREQUENCY RESPONSE: Approx. plus or minus 1½ db. from 40 to 10,000 cycles per second with 1000 cycles per second reference level. TUBES: Power amplifiers: 1-6F6, 1-6J5, 4-807, 2-866A, 1-5V4G. Voltage amplifier: 3-6J7, 16SN7GT, 1-5Y3GT/G. OUTPUT IMPEDANCE: 31, 44, 62, 88, 125, 175, 250 at output terminals of Power Amplifier. POWER SUPPLY: 110-120 volt, 60 cycle single phase only. POWER CONSUMPTION: 450 watts at full power. 155 watts with tubes idling, no plate current. FINISH: Operadio dark green baked wrinkle. WEIGHT: 400 pounds (approx.). FLOOR SPACE REQUIRED: 22" x 18".

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

OPERADIO

AMPLIFIERS

DESIGNED, ENGINEERED, AND BUILT TO TOP STANDARDS!

MODEL 1A65 FOUR POSITION PRE-AMPLIFIER

The Model No. 1A65 Pre-Amplifier will drive from one to eight of the Model No. 1A70 Booster Amplifiers . . . this flexibility permits the building-up of a paging or sound system to any required size. The Pre-amplifier has three microphone inputs, which can be either high or low impedance by means of individual selector switches.

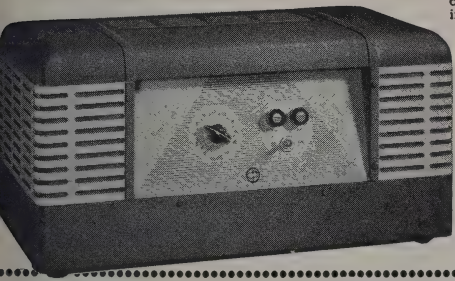
SPECIFICATIONS: MODEL 1A65 PRE-AMPLIFIER

TUBES: 4 (four) 6J7's—1 (one) 6SN7—1 (one) 6X5GT. STAGE: Microphone 3 (three) stage—Phono 2 (two) stage. INPUTS: 3 (three) High Impedance Microphones or 3 (three) Low Impedance Inputs available by means of selector switches: 1 (one) Phono Input. TONE CONTROLS: New Dynamic range high and low frequency controls. CONTROLS ON FRONT PANEL: 3 (three) Microphone: 1 (one) Phono: 1 (one) High Frequency Control: 1 (one) Low Frequency Control: 1 (one) A. C. Line Switch. OUTPUT: 10 V. across 5000 ohms at less than 2% distortion at 1000 cycles. OUTPUT TERMINAL: 5000 Ohms Balanced Line: 500 Ohms Balanced Line: 5000 Ohms Single Ended Line: 1250 Ohms Single Ended Line: 500 Ohms Single Ended Line: 125 Ohms Single Ended Line. POWER SUPPLY: 105-125 Volts—50-60 Cycle. POWER CONSUMPTION: 40 Watts. DIMENSIONS: 8½" high x 6" deep and 16" long. WEIGHT: 25 lbs.

MODEL No. 1A65, FOUR POSITION PRE-AMPLIFIER WITH TUBES.....$115.00

MODEL 1A70 50-WATT BOOSTER AMPLIFIER

The Model No. 1A70 Booster Amplifier provides a full 50 watts at less than 5% distortion and features high level, low level, high impedance phono, and intercom inputs. The several input levels make it possible to pick-up and amplify zero level signals for leased wire transmission and it can be used as a booster amplifier with a "FLEXIFONE" inter-communication system . . . . plus many other applications.



SPECIFICATIONS: MODEL 1A70 BOOSTER AMPLIFIER

OUTPUT: 50 Watts at less than 5% distortion. TUBES: 1 (one) 6J5—1 (one) 6SN7—4 (four) 6L6's—2 (two) 5U4G's. STAGES: 3 (three) stage for Phono or Driver Input. INPUT: 1 (one) High Impedance Phono: 1 (one) Intercom Input: 1 (one) High Impedance Input (10,000 to 50,000 Ohms). Requires approximately 8 Volts to drive amplifier to full output. 1 (one) Low Impedance Input (50 to 5000 Ohms). Requires approximately 1.7 Volts to drive amplifier to full output. CONTROLS: 1 (one) Master Volume Control. OUTPUT TERMINALS: This booster amplifier is equipped with 5 (five) output taps. Each tap will handle a range of load impedances: No. 1—2 to 4 Ohms: No. 2—8 to 16 Ohms: No. 3—30 to 60 Ohms: No. 4—60 to 120 Ohms: No. 5—125 to 250 Ohms. POWER SUPPLY: 105 to 125 Volts—50-60 Cycle. POWER CONSUMPTION: 240 Watts maximum. DIMENSIONS: 8½" high x 9" deep x 17⅜" long. WEIGHT: 39 lbs.

MODEL No. 1A70, 50-WATT BOOSTER AMPLIFIER.........................$134.75

OPERADIO MODEL 13A15 RACK ASSEMBLY

The Model 13A15 Rack is especially suitable for factories, hospitals, schools, hotels, institutions, and many other buildings requiring various and specialized types of sound installations. The flexibility of the Model 13A15 Rack makes it possible to incorporate any combination of amplifiers, pre-amplifiers, booster amplifiers, switching arrangements, phone unit, etc.

Below we are listing the Model 13A15 Rack and components available for use with the 13A15 Rack Assembly

MODEL No. 13A15, RACK ASSEMBLY:
Consists of:
1—Part No. 211-92 Top; 1—Part No. 560-50 Blank Panel (2⅞" x 19"); 1—Part No. 107-34 Mounting Bracket (Rear); 1—Part No. 107-35 Mounting Bracket (Front); 1—Part No. 189-13 Left Side; 1- Part No. 189-12 Right Side; all necessary hardware. Dimensions: Height 45"; Width 21⅛"; Depth 14⅞"..............**$35.00**

PART No. 560-51, TOP PANEL: Panel is cut out to incorporate Automatic Record Changer **$7.50**

PART No. 560-49, BLANK PANEL: Dimensions: 8¾" x 19"..**$4.80**

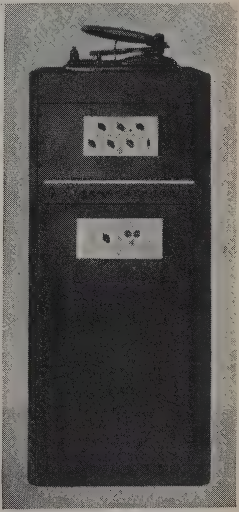
MODEL No. 1B65, PRE-AMPLIFIER: A four position pre-amplifier designed to be mounted in the Model 13A15 Rack. Specifications are the same as the Model 1A65 described above....**$115.00**

PART No. 560-56, MOUNTING PANEL: Panel is designed to convert the Operadio Model 1A65 Pre-amplifier to a Model 1B65 . . . Making it suitable for mounting in Model 13A15 Rack Assembly **$6.80**

MODEL No. 1B70, BOOSTER AMPLIFIER: A 50 watt Booster Amplifier designed to be mounted in the Model 13A15 Rack. Specifications are the same as the Model 1A70 described above...................**$134.75**

PART No. 560-55, MOUNTING PANEL: Panel is designed to convert the Operadio Model 1A70 Booster Amplifier to a Model 1B65 . . . making it suitable for mounting in Model 13A15 Rack Assembly **$7.50**

PRICES SUBJECT TO CHANGE WITHOUT NOTICE



TYPICAL 13A15 RACK ASSEMBLY WITH WEBSTER MODEL 56 RECORD CHANGER INCORPORATED

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

OPERADIO

AMPLIFIERS

DESIGNED, ENGINEERED, AND BUILT TO TOP STANDARDS!

MODEL 2A15
SOUNDCASTER

THE NEW SOUNDCASTER A QUALITY 50 WATT AMPLIFIER

The Operadio Soundcaster is a rugged 50-watt amplifier of the highest quality. The Soundcaster is a completely standardized, flexible unit — available in two models — offering outstanding performance, features and durability. For plant broadcasting, a 3-way switch on the control panel permits pre-set volume selection. Two microphones may be used with the Soundcaster. A special auxiliary input is provided for separate record player, or leased telephone wire.

SPECIFICATIONS: OUTPUT: 50 watts at 3% distortion, maximum 65 watts. TUBES: 2-5U4G, 4-6L6GA, 1-6SN7GT, 3-6J7. FREQUENCY RESPONSE: Within 2db from 30 CPS to 10,000 CPS. STAGES: Microphone 4, Phonograph 3. INPUTS: 2 microphone channels; 1 phonograph input; 1 auxiliary input; 0 level for telephone lines; separate tone controls. OUTPUT: For microphone and phonograph. OUTPUT IMPEDANCE: 2 to 4—8 to 16—30 to 60—60 to 120—125 to 250 at output terminals. CONTROLS: 2 microphone volume controls, 1 phono volume control, 1 michrophone bass attenuator, 1 michrophone treble attenuator, 1 phono bass attenuator, 1 phono treble attenuator, 1 power switch, 1 paging switch and 1 service selector switch. POWER SUPPLY: 105-125, 50-60 cycle. POWER CONSUMPTION: 215 watts.

MODEL 2A15 "SOUNDCASTER": Incorporates a phonograph unit with automatic record-changing mechanism. Plays twelve 10" or ten 12" recordings consecutively. 78 R.P.M. only. Price on Request

MODEL 2A16 "SOUNDCASTER": Incorporates a 2 speed turntable providing 33⅓ R.P.M. for transcriptions and 78 R.P.M. for standard recordings.......Price on Request

MODEL 1A30 20 WATT AMPLIFIER

The Operadio 20-watt amplifier incorporates the newest electronic features in the field of audio-amplification. New method of tone control permits 24 db high and low frequency control with no apparent change in over-all level.

SPECIFICATIONS: OUTPUT: 20 watts at less than 5% distortion. TUBES: 1-5V4G, 2-6L6GA, 1-6SN7, and 3-6J7. STAGES: Microphone 4, Phonograph 3. INPUTS: 2 microphone channels; 1 phonograph channel. TONE CONTROLS: New Dynamic range high and low frequency controls. LEVEL CONTROL: 2 microphone; 1 phonograph. OUTPUT TERMINALS: This amplifier is equipped with 4 output taps. Each tap will handle a range of load impedances. These taps are: No. 1, 3 ohms to 7 ohms; No. 2, 7.5 ohms to 16 ohms; No. 3, 100 ohms to 200 ohms; No. 4, 250 ohms to 500 ohms.

The amplifier is capable of delivering 20 watts of audio power at less than 5% distortion into any of the range of impedances mentioned above. POWER SUPPLY: 105-125 volts, 50-60 cycle. POWER CONSUMPTION: 105 watts under full load. FINISH: High lustre, dark green wrinkle housing . . . lacquered aluminum grillwork. DIMENSIONS: 8½" high x 9" deep x 16" long.

MODEL 1A30, 20 WATT AMPLIFIER WITH TUBES.......$109.00

MODEL 1A45 50 WATT AMPLIFIER

The Operadio Model 1A45 50 watt amplifier meets the demand for the ultimate in high quality amplification . . . a unit that's outstanding in every respect.

SPECIFICATIONS: OUTPUT: 50 watts at 3% distortion, maximum 65 watts. TUBES: 2-5U4G, 4-6L6GA, 1-6SN7GT, 3-6J7. FREQUENCY RESPONSE: Within 2db from 30 CPS to 10,000 CPS. STAGES: Microphone 4, Phonograph 3. INPUTS: 2 microphone channels; 1 phonograph imput; 1 auxiliary imput; 0 level for telephone lines; separate tone controls. OUTPUT: For microphones and phonograph. OUTPUT IMPEDANCE: 2 to 4—8 to 16—30 to 60—60 to 120—125 to 250 at output terminals. CONTROLS: 2 microphone volume controls, 1 phono volume control, 1 microphone bass attenuator, 1 microphone treble attenuator, 1 phono bass attenuator, 1 phono treble attenuator, 1 power switch, 1 paging switch. POWER SUPPLY: 105-125, 50-60 cycle. POWER CONSUMPTION: 215 watts.

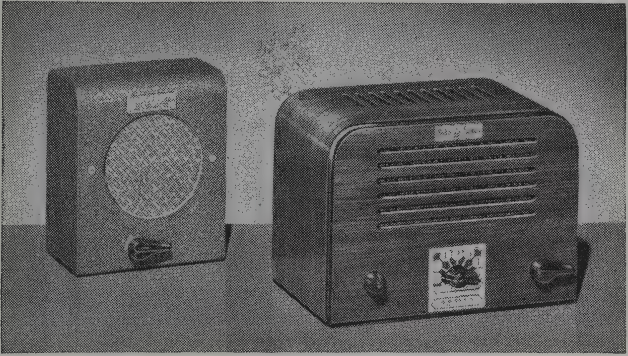
MODEL 1A45, 50 WATT AMPLIFIER.......PRICES ON REQUEST

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

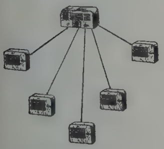
Talk-A-Phone

The World's Most Complete Line of Inter-Communication



STANDARD SYSTEMS

LP-5 LP-10 MASTER SELECTIVE SYSTEMS



The LP-5 System consists of 1 Master Station working with up to a total of 5 Sub-stations; the LP-10 System with up to a total of 10 Sub-stations. The Master Station can talk privately to any of the Sub-stations or to all at one time. You can begin with a Master Station and a single Sub-station and add up to 5 Sub-stations in the LP-5 System and up to 10 Sub-stations in the LP-10 System. The Master has complete privacy; Sub-stations cannot listen in on the Master. They can hear only when the Master is talking to them. Exclusive Talk-A-Phone "Silent Feature" shuts out all sounds originating at the Sub-station, yet Sub-stations are able to originate calls to the Master at will. Sub-stations operate as far as 2000 feet from the Master Station. Individuals at Sub-stations may answer the Master when called without leaving work or touching units even though they may be up to 25 feet from the Sub-station itself. The volume level is controlled by the Master Station. LP-5 and LP-10 Systems operate universally on 110-115 Volts AC or DC.

LP-5 LP-10 LIST PRICES

Model LP-5—Master Station Selective Unit for 5 Sub-stations, complete with tubes and instructions $34.00

Model LP-10—Master Station Selective Unit for 10 Sub-stations, complete with tubes and instructions. $42.50

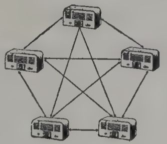
Model RS-3—Sub-station Unit for use with LP-5 and LP-10 Masters..$12.50

No. 2330 Connecting Cable — The proper cable for connecting RS-3 Sub-stations to LP-5 or LP-10 Master Station, per 100 feet $4.50

HOW TO ESTIMATE CABLE

Measure distance between Master Station and each Sub-station, then order equivalent to the total footage of these distances.

LP-100 LP-110 SUPER SELECTIVE SYSTEMS



The LP-100 and LP-110 Systems are made up exclusively of Master Stations. With this system any station can call any other station in the system and in addition a number of two-way conversations can be carried on at one time. You can begin with 2 Masters and add up to a total of 5 in the LP-100 System and a total of 10 in the LP-110 System. In the latter system as many as 5 complete two-way conversations may be maintained simultaneously. Masters may call one another regardless of whether station being called has power on or not. The voice volume is adjusted at each Master Station and can be varied from a whisper to a loudness that can be heard up to 25 feet from the unit. The LP-100 and LP-110 Master Stations will operate with units as far as 2000 feet apart. LP-100 and LP-110 systems operate universally on 110-115 Volts AC or DC.

LP-100 LP-110 LIST PRICES

Model LP-100—Master Station Super Selective Unit for 5 station use, complete with tubes and instructions. $39.75

Model LP-110—Master Station Super Selective Unit for 10 station use, complete with tubes and instructions. $44.75

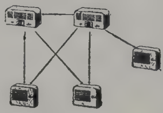
No. 3333 Connecting Cable — The proper cable for inter-connecting LP-100 Master Stations, per 100 feet. $14.50

No. 6655 Connecting Cable. — The proper cable for inter-connecting LP-110 Master Stations, per 100 feet. $22.00

HOW TO ESTIMATE CABLE

Simply measure distance between Master Units starting from any one Master to the second, to the third, etc., until you reach the last staion in the system, then order equivalent to the total footage of these distances.

LP-65 COMBINATION SYSTEM



The LP-65 Combination System consists of Master Stations and Sub-stations intermixed up to a total of 5. Master Stations can talk to each other and call Sub-stations. Sub-stations can answer Master Stations but cannot talk to other Sub-stations. You can begin with 2 stations (at least one must be a Master) and then add units as required up to a total of 5. Another outstanding Talk-A-Phone feature is, while Masters may have Sub-stations in common, each Master may also have his own individual Sub-station for private conversation. When one Master Station calls another Master or Sub-station, the person being called can answer even though he is up to 25 feet away from his station. The LP-65 will operate universally on 110-115 Volts AC or DC.

LP-65 LIST PRICES

Model LP-65 — Combination Master Station Unit for 5 station use, complete with tubes and instructions. $42.50

Model RS-2—Sub-station Unit for operating with LP-65 Master Station. $11.25

No. 3605 Connecting Cable — The proper cable for inter-connecting LP-65 Master Stations to each other, per 100 feet $29.50

No. 1212 Connecting Cable — The proper cable for inter-connecting RS-2 Sub-stations to LP-65 Master stations, per 100 feet $5.90

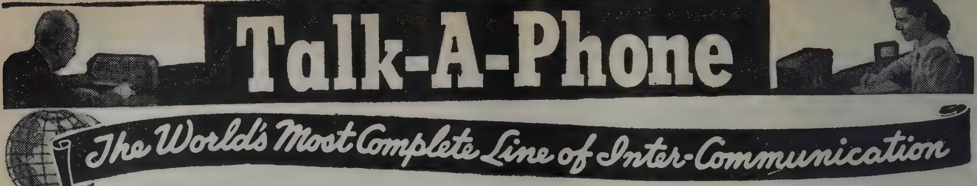
HOW TO ESTIMATE CABLE

Measure cable from Master to Master. Order total of these distances in Master type cable. Measure Sub-station to nearest Master only for Sub-station cable.

SEE NEW TALK-A-PHONE COMPLETE CATALOG

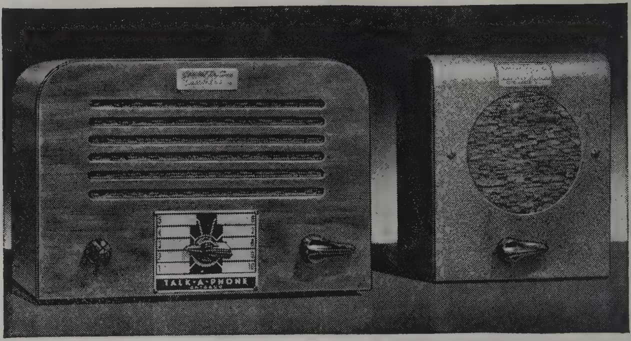
Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Co.** ILLINOIS



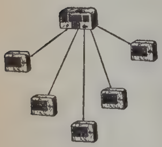
Talk-A-Phone

The World's Most Complete Line of Inter-Communication



SPECIAL DELUXE SYSTEMS

KR-4010 MASTER SELECTIVE SYSTEM



The KR-4010 System consists of 1 Master Station working with up to a total of 10 Sub-stations. You can begin with a Master Station and a single Sub-station and add any number of Sub-stations up to a tottal of 10 as needed. This system affords private two-way conversation between the Master and any of the Sub-stations, as well as simultaneous address from Master to all Sub-stations. Sub-stations can answer and originate calls to the Master Station but cannot talk to one another. Individuals at Sub-stations may answer when called without leaving their work and without touching the unit from as far away as 40 feet. "Silent Feature" shuts out all sounds originating at Sub-stations yet permits Sub-stations to originate calls to Master Station. Volume is controlled by Master. The KR-4010 system operates on 110-115 Volts AC or DC.

KR-4010 SYSTEM LIST PRICES

Model KR-4010 — Special DeLuxe Master Station. Handles one to ten stations. Complete with tubes and instructions **$51.00**

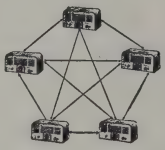
Model RU-433S—Sub-station.. **$13.95**

No. 4433 Cable — The proper cable for above, per 100 feet **$8.85**

HOW TO ESTIMATE CABLE

Measure distance between Master Station and each Sub-station, then order equivalent to the total footage of these distances.

KS-6010 SUPER SELECTIVE SYSTEM



The KS-6010 Special DeLuxe System is made up exclusively of Master Stations. With this system any station can call any other station in the system and in addition a number of two-way conversations can be carried on at one time. You can begin with 2 Masters and add up to a total of 10 in the KS-6010 System. In this system as many as 5 complete two-way conversations may be maintained simultaneously. Another exclusive Talk-A-Phone advantage found in this system is the "Silent Feature" which assures complete silence at every Master Station between conversations. Masters may call one another regardless of whether station being called has power on or not. The voice volume is adjusted at each Master Station and can be varied from a whisper to a loudness that can be heard up to 40 feet from the unit. The KS-6010 Master Stations will operate with units as far as 2500 feet apart. KS-6010 systems operate universally on 110-115 Volts AC or DC.

KS-6010 SYSTEM LIST PRICES

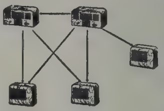
Model KS-6010—Special DeLuxe Super Selective Unit. Two to ten units may be used. Complete with tubes and instructions **$53.50**

No. 9911 Cable—The proper cable for above, per 100 feet............ **$34.00**

HOW TO ESTIMATE CABLE

Simply measure distance between Master Units starting from any one Master to the second, to the third, etc., until you reach the last station in the system, then order equivalent of the total footage of these distances.

KC-8050 COMBINATION SYSTEM



The KC-8050 Combination System is made up of Master Stations and Sub-stations intermixed up to a total of 5 stations. Master Stations may listen in at will to any of the other units, either Masters or Sub-stations in the system. The Sub-stations cannot listen in on the Masters except when they are called by the Masters. Master Stations may talk to each other and to Sub-stations. Sub-stations can answer Masters but cannot originate calls to them nor talk to other Sub-stations. You can begin with 2 stations (at least one must be a Master) and add units as required up to a total of 5. The KC-8050 System operates with units as far as 2500 feet away from each other without noticeable loss of volume. Volume is individually controlled at each Master Station. Persons at either Master Stations or Sub-stations being called may reply without leaving their work even if they are 25 to 40 feet away from their units. The KC-8050 operates universally on 110-115 volts AC or DC.

KC-8050 SYSTEM LIST PRICES

Model KC-8050 — Special DeLuxe Master Station. Handles one to five stations. Complete with tubes and instructions **$55.00**

Model UC-821S—Sub-station unit for connecting to KC-8050 Master Stations **$12.50**

No. 3605 Cable—The proper cable for inter-connecting KC-8050 Master Stations, per 100 feet **$29.50**

No. 1212 Cable—The proper cable for connecting UC-821S to KC-8050 Master Stations, per 100 feet.. **$5.90**

HOW TO ESTIMATE CABLE

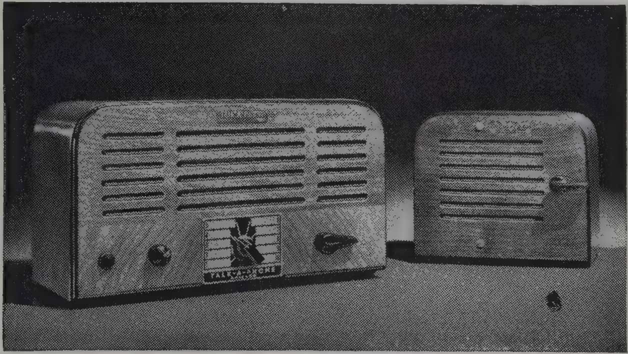
Measure cable from Master to Master. Order total of these distances in Master type cable. Measure Sub-station to nearest Master only for Sub-station cable.

SEE NEW TALK-A-PHONE COMPLETE CATALOG
Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Co.** ILLINOIS

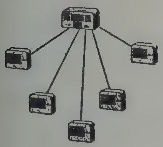
Talk-A-Phone

The World's Most Complete Line of Inter-Communication



DELUXE SYSTEMS

KR-40 MASTER SELECTIVE SYSTEM



The KR-40 System consists of 1 Master Station working with up to a total of 10 Sub-stations. You can begin with a Master Station and a single Sub-station and add any number of Sub-stations up to a total of 10 as needed. This system affords private two-way conversation between the Master and any of the Sub-stations, as well as simultaneous address from Master to all Sub-station units. Sub-stations can answer and originate calls to the Master Station but cannot talk to one another. Individuals at Sub-stations may answer when called without leaving their work and without touching the unit from as far away as 50 feet. "Silent Feature" shuts out all sounds originating at Sub-stations yet permits Sub-stations to originate calls to Master Station. Volume is controlled by Master. Privacy Earphone is available as optional equipment on the Master Station but is not furnished on Sub-stations. The KR-40 system operates on 110-115 Volts AC or DC.

KR-40 and KR-40-C DELUXE SYSTEMS LIST PRICES

Model KR-40—DeLuxe Master Station. Complete with tubes, junction box and instructions $59.00

Model KR-40-C—Same as above but with Private Earphone $74.00

Model RU-43—DeLuxe Sub-station in wood cabinet $18.95

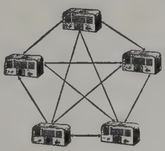
Model RU-43-M—DeLuxe Sub-station in metal cabinet $18.95

No. 4433 Cable—The proper cable for above, per 100 feet $8.85

HOW TO ESTIMATE CABLE

Measure distance between Master Station and each Sub-station, then order equivalent to the total footage of these distances.

KS-60 SUPER SELECTIVE SYSTEM



This system consists of Master Stations only. You may begin with 2 Masters and then add units up to a total of 10 as required. When 10 units are in the system, as many as five two-way conversations may be held simultaneously. Masters can call one another regardless of whether Master being called has power on or not. "Silent Feature" assures 100% silence at every Master between conversations. Privacy Earphone is optional on the KS-60 Masters. When used, system works like a telephone without the use of the "Talk-Listen" switch. You may use Master Stations without earphones as well as Master Stations with earphones in the same system. The KS-60 system operates with undiminished power with units as far as 3000 feet away from one another. Volume may be adjusted at each Master from a whisper to a loudness that can be heard 25 to 50 feet from the unit. The KS-60 operates universally on 110-115 Volts AC or DC.

KS-60 and KS-60-C DELUXE SYSTEMS LIST PRICES

Model KS-60—DeLuxe Super Selective Unit. Complete with tubes, junction box, 6-foot cable, and instructions $59.00

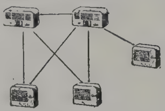
Model KS-60-C—DeLuxe Super Selective Unit. As above, but with Privacy Earphone $74.00

No. 9911 Cable—The proper cable for above, per 100 feet $34.00

HOW TO ESTIMATE CABLE

Simply measure distance between Master Units starting from any one Master to the second, to the third, etc., until you reach the last station in the system, then order quivalent to the total footage of these distances.

KC-80 COMBINATION SYSTEM



The KC-80 Combination System is made up of Master Stations and Sub-stations intermixed up to a total of 10 stations. Master Stations may listen in at will to any of the other units, either Masters or Sub-stations, in the system. Master Stations may talk to each other and to Sub-stations. Sub-stations can answer Masters but cannot originate calls to them nor talk to other Sub-stations. Privacy Earphone is optional on Master Stations in this system. You can begin with 2 stations (at least one must be a Master) and add units as required up to a total of 10. The KC-80 System operates with units as far as 3000 feet away from each other without noticeable loss of volume. Volume is individually controlled at each Master Station. Persons at either Master Stations or Sub-stations being called may reply without leaving their work even if they are 25 to 50 feet away from their units. The KC-80 operates universally on 110-115 Volts AC or DC.

KC-80 and KC-80-C DELUXE SYSTEMS

Model KC-80—DeLuxe Combination Master Unit for ten Station use. Complete with tubes, junction box and instructions $64.75

Model KC-80-C—Same as above but with Privacy Earphone attachment. $79.75

Model UC-82—Sub-station Unit for above $18.95

Model UC-82M—Sub-station Unit as above but in metal cabinet....$18.95

No. 2142 Cable—The proper cable for inter-connecting KC-80 and KC-80-C Masters, per 100 feet... $59.00

No. 1212 Cable—The proper cable for connecting UC-82 and UC-82-M Sub-stations to KC-80 and KC-80-C Master Stations, per 100 feet........$5.90

HOW TO ESTIMATE CABLE

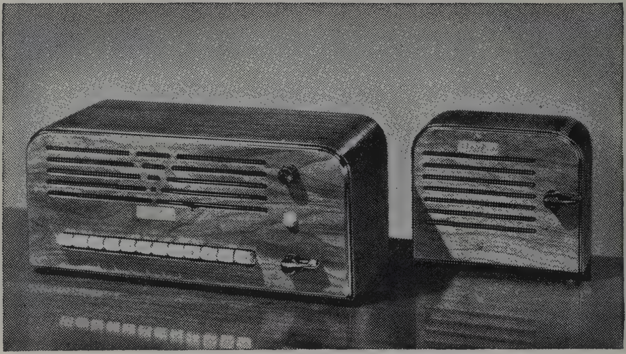
Measure cable from Master to Master. Order total of these distances in Master type cable. Measure Sub-station cable from Sub-station to nearest Master only.

SEE NEW TALK-A-PHONE COMPLETE CATALOG

Prices and Specifications Subject to Change Without Notice.

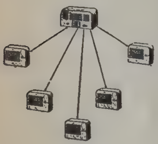
CHICAGO **Talk-A-Phone Co.** ILLINOIS

Talk-A-Phone
The World's Most Complete Line of Inter-Communication



CHIEF SYSTEMS

C-410 MASTER SELECTIVE SYSTEM



The C-410 "Chief" Master Selective System consists of 1 Master Station working with up to 10 Sub-stations. It affords instant communication between one, two, three, etc., or all stations at the same time. You can begin with two stations (one Master and one Sub-station) and add Sub-stations up to a total of 10 as required. Other outstanding features include "Silent Feature" and "X-tra Power", as well as "All Call" button. The latter feature provides the Master Station with a quick sure way of contacting all stations at once by merely depressing a single button. Privacy Earphone is optional on this model and is available on the Master Station only. The C-410 operates on 110-115 Volts AC or DC.

C-410 LIST PRICES

Model C-410—"Chief" Master Selective Station for ten Sub-stations, complete with tubes, extension cable, junction box and instructions **$84.95**

Model C-410-C—Same as above but with Privacy Earphone **$99.95**

Model RU-43—Sub-station for connecting to C-410 or C-410-C Master Station **$18.95**

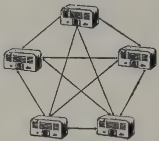
Model RU-43-M—Same as above but in metal cabinet **$18.95**

No. 4433 Connecting Cable — The proper cable for connecting RU-43 or RU-43-M Sub-stations to the C-410 or C-410-C Master Selective Station, per 100 feet **$8.85**

HOW TO ESTIMATE CABLE

Measure distance between Master Station and each Sub-station, then order equivalent to the total footage of these distances.

C-612 SUPER SELECTIVE SYSTEM



The C-612 "Chief" Super Selective System utilizes Master Stations only up to a total of 12. Six private two-way conversations may be held simultaneously and a conference may be held between any number of Master Stations. You can begin with 2 Masters and add up to a total of 12 as required. The C-612 Master Stations can call one another regardless of whether station being called has power on or not. The C-612 system operates with units as far as 3000 feet away from one another. Privacy Earphone is optional. You may use Master Stations without earphones as well as Master Stations with earphones in the same system. When used, the unit works like a telephone without the use of the Talk-Listen switch. The C-612 system operates on 110-115 Volts AC or DC.

C-612 LIST PRICES

Model C-612—"Chief" Super Selective Master Station for 12 station use, complete with tubes, extension cable, junction box and instructions **$84.95**

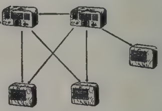
Model C-612-C—Same as above but with Privacy Earphone **$99.95**

No. 6677 Connecting Cable — The proper cable for inter-connecting C-612 or C-612-C Master Stations, per 100 feet **$37.50**

HOW TO ESTIMATE CABLE

Simply measure distance between Master Units starting from any one Master to the second, to the third, etc., until you reach the last station in the system, then order equivalent to the total footage of these distances.

C-712 COMBINATION SYSTEM



The C-712 "Chief" Combination System uses Master Stations and Sub-stations intermixed in any combination up to a total of 12. Master Stations may carry on a number of two-way conversations. Master Stations can also call Sub-stations at will. Sub-stations can answer Master Stations but cannot originate calls to Master Stations nor talk to any other Sub-station. Master Stations may listen in at will to any of the other units, either Masters or Sub-stations in the system. You can begin with 2 stations (at least one must be a Master) and add units as required up to a total of 12. Individuals at either Masters or Sub-stations being called may reply without leaving their work even if they are 25 to 50 feet away from their units. Privacy Earphone is optional on Master Stations only. The C-712 system operates on 110-115 Volts AC or DC.

C-712 LIST PRICES

Model C-712 — Combination Master Station Unit for 12 station use, complete with tubes, junction box, extension cable and instructions. **$97.50**

Model C-712-C—Same as above but with Privacy Earphone attachment. **$112.50**

Model UC-82—Sub-station for connecting to Model C-712 or C-712-C Masters **$18.95**

Model UC-82-M—Same as above but in metal cabinet **$18.95**

No. 2442 Connecting Cable — The proper cable for inter-connecting C-712 or C-712-C Master Stations to each other, per 100 feet **$66.50**

No. 1212 Connecting Cable — The proper cable for connecting UC-82 or UC-82-M Sub-stations to C-712 or C-712-C Master Stations, per 100 feet **$5.90**

HOW TO ESTIMATE CABLE

Measure distances between Master Units starting from any one Master to the second, to the third, etc., connecting Sub-stations to the nearest Master only.

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Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Co.** ILLINOIS

Talk-A-Phone

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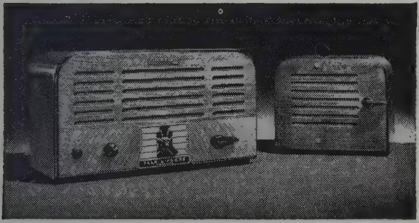
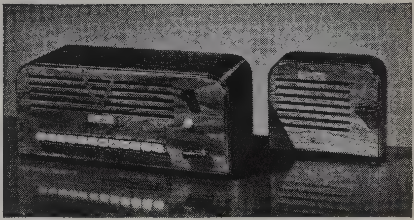


DELUXE MODEL

KC-87 SPECIAL COMBINATION SYSTEM

The KC-87 Special Combination System uses Master Stations, Staff Stations and Sub-Stations in combination in the same system. You can begin with 2 stations (at least one must be a Master) and add units as required up to a total of ten. Master Stations may communicate with each other and call Staff Stations and Sub-Stations and receive an answer from them. Staff Stations can originate calls to Masters but cannot call other Staff Stations or Sub-Stations. Sub-Stations can receive calls from Master Stations and answer them. Privacy Earphone is optional on Master Stations only. The KC-87 Special Combination System operates on 110-115 Volts AC or DC.



CHIEF MODEL

C-812 SPECIAL COMBINATION SYSTEM

The C-812 Special Combination System combines the use of Master Stations, Staff Stations and Sub-Stations in the same system up to a total of 12. Master Stations may carry on a number of two-way conversations or a conference. Staff Stations or Sub-Stations cannot eavesdrop or interrupt Master Stations. Master Stations may also call Staff Stations and Sub-Stations and receive an answer. Staff Stations can originate calls to Master Stations but cannot call other Staff Stations or Sub-Stations. Sub-Stations can receive calls from Master Stations and answer. Privacy Earphone is optional on the Master Station on this model. System operates on 110-115 Volts AC or DC.

MODEL KC-87 and C-812 SPECIAL COMBINATION SYSTEMS LIST PRICES

Model KC-87—DeLuxe Master Station unit for ten station use, complete with tubes, six foot extension cable, junction box and instructions	$64.75
Model KC-87-C—DeLuxe Master Station unit. Same as above but with privacy earphone attachment.	$79.75
Model C-812—"Chief" Master Station unit for 12 station use, complete with tubes, six foot extension cable, junction box and instructions	$97.50
Model C-812-C—"Chief" Master Station unit. Same as above but with privacy earphone attachment.	$112.50
Model UC-82—Non-originating Sub-Station unit in wood	$18.95
Model UC-82-M—Same as above except in metal cabinet	$18.95
Model UC-201—Staff Station for originating calls to one Master Station	$22.00
Model UC-201-M—Same as above except in metal cabinet	$22.00
Model UC-205—Staff Station for originating calls to any of five Master Stations	$24.95
Model UC-205-M—Same as above except in metal cabinet	$24.95
Model UC-210—Staff Station for originating calls to any of ten Master Stations	$29.95
Model UC-210-M—Same as above except in metal cabinet	$29.95
No. 3603—Inter-connecting Cable (3 pair)—The proper cable for inter-connecting up to three Masters, per 100 feet	$17.10
No. 3636—Inter-connecting Cable (3 pair)—The proper cable for inter-connecting Staff Station Models UC-201, UC-205 and UC-210 to each Master with whom they are to communicate with, per 100 feet	$17.10
No. 1212—Inter-connecting Cable (2 conductor)—The proper cable for inter-connecting Model UC-82 Sub-Stations with each Master they are to communicate with, per 100 feet	$5.90

How to Estimate Cable for "SPECIAL COMBINATION SYSTEMS"

A length of three pair proper cable is used to inter-connect each three Masters in a system. For example, if six Masters are used in a system, two lengths of three pair cable are used between the Master Stations. A proper three pair cable is also used to connect Staff Stations to **Each** Master with which they are to communicate. A proper two conductor cable is used to connect Sub-Stations to **Each** Master with which it is to communicate.

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CHICAGO **Talk-A-Phone Co.** ILLINOIS

Talk-A-Phone

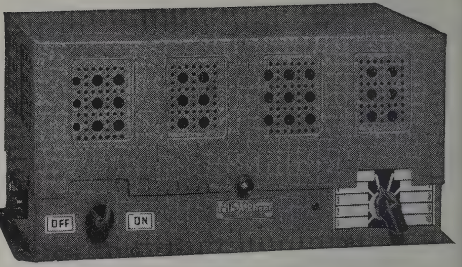
The World's Most Complete Line of Inter-Communication

Talk-A-Phone Booster

The Talk-A-Phone Model HP-16 is a Booster Amplifier of advanced design delivering 15 watts of "VOICE RANGE" Power. When connected to Model C-410, the HP-16 becomes an integral part of these systems so that not only do you have the regular communication advantages but in addition paging facilities, as well as a supplementary 15-watt inter-com system. Operation is simple. By merely pressing the button marked "Power" (in addition to the regular operation of the system) you immediately have a 15-watt inter-communication system. Voice of Master is heard at regular room volume and is controlled by the Master Station. The Booster is equipped with "on-off" switch. "Pilot Light Indicator" and "Variable Volume Control" which controls outgoing volume up to 15 watts. Operation is on 115 volts, AC, 60 cycles. Units are furnished complete.

HP-1 Auxiliary Speaker—Recommended in place of sub-station where it is necessary to use output of Power Booster at one station location. Housed in durable metal cabinet. Capacity up to 5 watts.

HP-2 Auxiliary Speaker—Same as above but for up to 15 watts capacity.



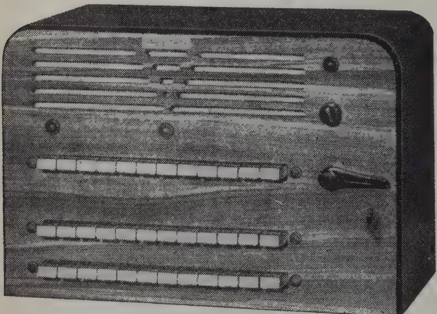
HP-16 POWER BOOSTER

HP-16 LIST PRICES

HP-16—15 watt Power Booster, complete with matched tubes and installation instructions.
List Price $65.00

HP-1—Paging Station, maximum capacity 5 watts.
List Price $22.50

HP-2—Paging Station, maximum capacity 15 watts.
List Price $39.75



C-434 CHIEF MODEL

Talk-A-Phone Multiple Station Units

An outstanding feature of the Talk-A-Phone line is that all systems are available in stock models from five to 100 stations. These Multiple type units have the same operating characteristics and features as the systems described in the preceding pages. Illustrated to the left is the "Chief" and "Super Chief" model in 34 and 36 stations, and for your convenience we are listing below list prices of Master Stations up to and including 34 and 36 stations. Sub-Station and Staff Station prices remain the same as for 5 and 10 station units. Write for list prices on larger systems. Privacy Earphone is optional on the DeLuxe, "Chief" and "Super Chief" Masters, at an additional list price of $15.00 on each unit.

STANDARD MODELS

LP-20—Master Selective Station for 20 Sub-Stations.
List Price $57.50

LP-30—Master Selective Station for 30 Sub-Stations.
List Price $72.50

LP-110-20 — Super-Selective Station for 20 Master Stations.
List Price $59.75

LP-110-30 — Super-Selective Station for 30 Master Stations.
List Price $74.75

SPECIAL DELUXE MODELS

KR-4010-20 — Master Selective Station for 20 Sub-Stations.
List Price $66.00

KR-4010-30 — Master Selective Station for 30 Sub-Stations.
List Price $81.00

KS-6010-20—Super-Selective Station for 20 Master Stations.
List Price $68.50

KS-6010-30—Super-Selective Station for 30 Master Stations.
List Price $83.50

DELUXE MODELS

KR-40-20—Master Selective Station for 20 Sub-Stations.
List Price $74.00

KR-40-30—Master Selective Station for 30 Sub-Stations.
List Price $89.00

KS-60-20 — Super-Selective Station for 20 Master Stations.
List Price $74.00

KS-60-30 — Super-Selective Station for 30 Master Stations.
List Price $89.00

KC-80-20 — Combination Master Station for 20 stations
List Price $79.75

KC-80-30 — Combination Master Station for 30 stations.
List Price $94.75

KC-87-20 — Combination Master Station for 20 stations.
List Price $79.75

KC-87-30 — Combination Master Station for 30 stations.
List Price $94.75

CHIEF MODELS

C-422—Master Selective Station for 22 Sub-Stations.
List Price $108.95

C-434—Master Selective Station for 34 Sub-Stations.
List Price $132.95

C-624 — Super-Selective Station for 24 Master Stations.
List Price $108.95

C-636 — Super-Selective Station for 36 Master Stations.
List Price $132.95

C-724—Combination Master Station for 24 stations.
List Price $121.50

C-736—Combination Master Station for 36 stations.
List Price $145.50

C-824—Combination Master Station for 24 stations.
List Price $121.50

C-836—Combination Master Station for 36 stations.
List Price $145.50

SEE NEW TALK-A-PHONE COMPLETE CATALOG
Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Co.** ILLINOIS

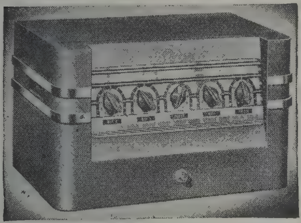
THORDARSON AMPLIFIERS

THORDARSON 8 WATT AMPLIFIER — T-30W08A

LIST PRICE $49.90 — WITH TUBES

This amplifier combines maximum performance with minimum size. It is ideal for ballyhoo installations, carnivals, or inter-phone applications. The quality is such that it may be used for reproduction of the finest records. Individual controls for phono and microphone provide electronic mixing. The treble attenuation tone control has sufficiently smooth operation for satisfactory elimination of needle scratch or objectionable highs; or with the control in a normal position the highest treble tone can be clearly reproduced.

POWER OUTPUT—8 Watts (+31.25 Db) at less than 9% distortion.
TWO INPUT CIRCUITS—
One high impedance microphone channel—115 Db gain (based on 100,000 ohms input impedance).
One high impedance phono channel—72 Db gain (based on 100,000 ohms input impedance).
All input circuits may be mixed.
Low impedance microphone input optional at slight additional cost (50, 250, or 500 ohms).
IMPROVED TONE CONTROL—(high frequency attenuator type). Maximum position attenuated 1,000 C.P.S. 4 Db, 5,000 C.P.S. 17 Db, 10,000 C.P.S. 22 Db.
FREQUENCY RESPONSE—Flat within 1 Db from 50 to 10,000 C.P.S.
CHASSIS TYPE CONSTRUCTION—Attractive three-tone control panel.
INVERSE FEED-BACK CIRCUIT.
OUTPUT IMPEDANCES—4, 8, 15, 250, 500 ohms—all available at an 8-prong receptacle.
HUM LEVEL—60 Db below rated output.
TUBES—2-6SJ7; 1-6L6; 1-5Y3G.
DIMENSIONS—10″ x 6″ x 7½″ high.
POWER CONSUMPTION—70 watts, 110-120 volts, 50-60 cycles (other primary voltages on special order).
WEIGHT NET—14¾ pounds; shipping 16 pounds.

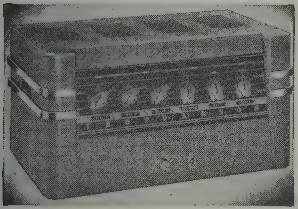


THORDARSON 25 WATT AMPLIFIER — T-31W25A

LIST PRICE $115.00 — WITH TUBES

Sufficient undistorted power is available from this unit for large auditorium or night club installations. Two low level inputs and one high level input will allow the use of two microphones with low impedances or high impedances to be satisfactorily mixed with a phono input for musical background. The attractive front panel is supplied with three gain controls and two tone controls. The tone controls provide individual bass or treble attenuation to eliminate undesirable highs in recordings or undesirable lows for crisp speech output. When the tone controls are in the normal position—Tru-Fidelity output is available.

POWER OUTPUT—25 watts (+36.2 Db) at less than 3% distortion.
THREE-INPUT CIRCUITS—
Two high-impedance microphone channels—116 Db gain (based on 100,000 ohms input impedance).
One high impedance phono channel—72 Db gain (based on 100,000 ohms input impedance).
Low impedance microphone input optional at slight additional cost (50, 250, 500 ohms).
All input circuits may be mixed.
IMPROVED TONE CONTROLS (Treble and bass attenuators).
Maximum attenuation positions.
Bass—50 C.P.S.—20 Db. 100 C.P.S.—12 Db.
Treble—1,000 C.P.S.—4 Db 5,000 C.P.S.—15 Db 10,000 C.P.S.—23 Db.
FREQUENCY RESPONSE—Flat within 1 Db from 30 to 15,000 C.P.S.
FULLY ENCLOSED CONSTRUCTION—All-steel streamlined cabinet—Attractive three-tone control panel.
MULTIPLE INVERSE FEED-BACK CIRCUIT.
OUTPUT IMPEDANCES—4, 8, 15, 250, 500 ohms—all available at 8-prong receptacles, selected by means of a switch.
HUM LEVEL—65 Db below rated output.
TUBES—3-6SJ7; 1-6N7; 2-6L6; 1-5X4G.
DIMENSIONS—15½″ x 10″ x 9″ high.
POWER CONSUMPTION—137 watts—110-120 volts, 50-60 cycles (other primary voltages on special order).
WEIGHT NET—28 pounds; shipping 32 pounds.



THORDARSON 50 WATT AMPLIFIER — T-31W50A

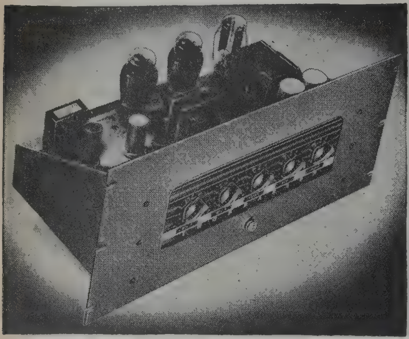
LIST PRICE $225.00 — WITH TUBES

This amplifier employs 4-Beam Power tubes; is conservatively rated at 50 watts and will supply over 65 watts of peak power. The unit is ideal for large stadium or roller-rink applications. The three low-level microphone and two high-level phono inputs will satisfactorily handle the most elaborate mixing applications. Dual tone controls will attenuate individually either the bass or treble or individually boost the bass or treble. Either low or high impedance inputs may be accommodated. The range of output impedances provided will accommodate multiple speaker applications.

POWER OUTPUT—50 Watts (+39.6 Db) at less than 5% distortion.
FIVE INPUT CIRCUITS—
Three input microphone channels—115 Db gain (based on 100,000 ohms input impedance).
Two phono fader inputs—75 Db gain (based on 100,000 ohms input impedance).
Low impedance microphone input optional at slight additional cost (50, 250, 500 ohms).
TWO TONE CONTROLS—
One bass control providing a bass boost of 9½ Db at 80 C.P.S. to a bass attenuation of 25 Db at 80 C.P.S.
One treble control providing a boost of 11½ Db at 8,000 C.P.S. to an attenuation of 25 Db at 8,000 C.P.S.
Nine extreme individual response curves available with the two tone controls.
FREQUENCY RESPONSE—Flat within 1 Db from 30 to 15,000.
CHASSIS TYPE CONSTRUCTION—All-steel streamlined cabinet—attractive three-tone control panel.
INVERSE FEED-BACK CIRCUIT.
OUTPUT IMPEDANCES—4, 6, 8, 15, 125, 250 and 500 ohms—selected by means of a selector switch.
HUM LEVEL—70 Db below rated output.
TUBES—2-5X4; 1-6X5; 4-6L6; 1-6V6; 4-6SJ7; 1-6J5.
DIMENSIONS—17″ x 11¾″ x 8¾″ high.
POWER CONSUMPTION—250 Watts at 110-120 volts, 50-60 cycles (other primary voltages on special order).
WEIGHT NET—44 pounds; shipping 50 pounds.

TRANSFORMER SPECIALISTS SINCE 1895 **THORDARSON**

THORDARSON AMPLIFIERS



T-31W26 AMPLIFIER—PRE-AMPLIFIER

This combination unit will satisfy the requirements for permanent installations. In addition to being used as a mixer, it will also deliver 25 watts of undistorted output for speaker installations in the vicinity of the pre-amplifier.

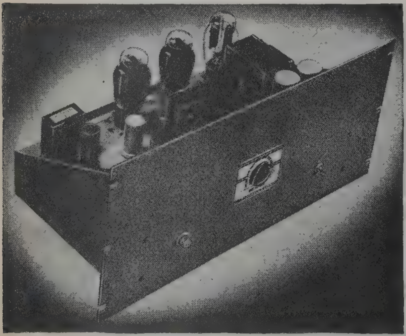
T-31W26 PRE-AMPLIFIER

LIST PRICE $125.00 — WITH TUBES

This pre-amplifier, booster combination unit is exactly like the T-31W25A amplifier but is constructed for rack and panel mounting. As both voice coil and line impedances are available, this unit may be used as a source of power and an exciter for T-31W27 booster amplifiers. If the unit is used only as a pre-amplifier a 500-ohm secondary must be loaded with a 500-ohm, 50-watt resistor. An unlimited amount of booster amplifiers may be connected in parallel across the output of this unit. Low impedance inputs are available and for further technical data see those accompanying the T-31W25A.

DIMENSIONS—19″ x 8¾″ x 10¾″ behind back of panel.

WEIGHT NET—28 pounds: shipping 32 pounds.



T-31W27 BOOSTER

This booster unit designed for operation in conjunction with pre-amplifier T-31W26 is convervatively rated at 25 watts. An unlimited number of these units may be installed in a rack either with a pre-amplifier or at the end of a terminated line. The master gain control will allow satisfactory adjustment of individual speaker installations.

T-31W27 BOOSTER

LIST PRICE $120.00 — WITH TUBES

An unlimited amount of these boosters may be connected in parallel across the T-31W26 pre-amplifiers. Each booster will deliver full 25 watts at less than 3% distortion and is equipped with a master gain control for the adjustment of individual circuits. The over-all gain from high impedance input is 40 Db which makes it possible to excite the booster from any of the available impedances on the pre-amplifier. High impedance bridging transformers are available on special order if isolation is desired from a 500 ohm line.

FREQUENCY RESPONSE—Flat within 1 Db from 30 to 15,000 C.P.S.
INPUT IMPEDANCE—100,000 ohms.
HUM LEVEL—75 Db below full output.
TUBES—1-5X4; 2-6L6; 1-6N7; 1-6J5.
POWER CONSUMPTION—125 Watts at 110-120 volts, 50-60 cycles (other primary voltages on special order).
DIMENSIONS—19″ x 8¾″ x 10¾″ behind back of panel.
WEIGHT NET—27½ pounds; shipping 31½ pounds.

THORDARSON ELEC. MFG. DIV'N — MAGUIRE INDUSTRIES INCORPORATED
500 WEST HURON STREET **CHICAGO 10, ILLINOIS, U. S. A.**

TRANSFORMER SPECIALISTS SINCE 1895 **THORDARSON**

Cinaudagraph Speakers, INC.

FACTORY: SLATER, MISSOURI

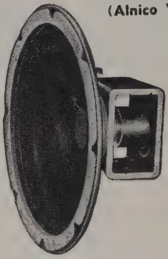
Sales Offices
1401 FAIRFAX TRAFFICWAY, KANSAS CITY, KAN.

Subsidiary of Aireon MANUFACTURING CORP.

REPLACEMENT SPEAKERS

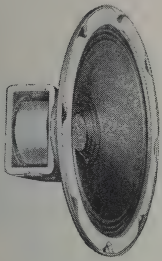
SIZE	MODEL	VOICE COIL		MAGNET WEIGHT	LIST PRICE
		IMPEDANCE	WATTS		
2″	P2A1	3.2	1.0	.68 oz.	$3.25
3″	P3A1	3.2	1.5	.68	3.50
	P3C2	3.2	2.0	1.47	4.00
4″	P4A1	3.2	2.0	.68	3.75
5″	P5A1	3.2	2.5	.68	4.00
	P5C1	3.2	3.0	1.47	4.50
6″	P6A1	3.2	3.0	.68	4.50
	P6C1	3.2	3.5	1.47	5.00
	P6F1	3.2	5.0	3.16	7.00
8″	P8D1	3.2	5.0	1.47	7.25
10″	P10G1	8	8.0	3.16	12.00
12″	P12G1	8	9.0	3.16	13.50

2″—12″
Permanent Magnet
(Alnico V)



REPLACEMENT SPEAKERS

3″—12″
Field Coil Type



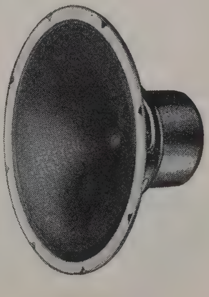
SIZE	MODEL	VOICE COIL		FIELD		LIST PRICE
		IMPEDANCE	WATTS	RESISTANCE	WATTS	
3″	F3B2	3.2	1.5	450	3	$4.50
4″	F4B2	3.2	2.0	450	3	4.75
5″	F5B2	3.2	2.5	450	3	5.00
	F5B3	3.2	2.5	1000	3	5.00
	F5B6	3.2	2.5	2750	3	5.00
6″	F6B1	3.2	3.0	4(6 volt)	3	5.50
	F6B2	3.2	3.0	450	3	5.50
	F6B3	3.2	3.0	1000	3	5.50
	F6B6	3.2	3.0	2750	3	5.50
8″	F8D3	3.2	4.0	1000	4	6.50
	F8D5	3.2	4.0	2500	4	6.50
	F8H5	8	5.0	2500	6	9.50
10″	F10H5	8	8.0	2500	8	10.50
12″	F12H5	8	9.0	2500	8	13.00

PUBLIC ADDRESS TYPE SPEAKERS

SIZE	MODEL	VOICE COIL		MAGNET WEIGHT	LIST PRICE
		IMPEDANCE	WATTS		
6″	P6J1	8	6	6.8 oz.	$11.75
8″	P8J1	8	8	6.8	13.00
10″	P10J1	8	9	6.8	16.00
12″	P12J1	8	10	6.8	17.50
	P12K1	8	12	12.1	28.50
	P12M1	8	15	21.5	50.00
15″	P15M1	8	17	21.5	57.50

SIZE	MODEL	VOICE COIL		FIELD		LIST PRICE
		IMPEDANCE	WATTS	RESISTANCE	WATTS	
12″	F12M5	8	15	2500	14	$41.00
15″	F15M5	8	17	2500	14	46.50

6″—15″
P M & Field Coil



Cinaudagraph Speakers, Inc., offers the most complete range of speakers available for replacement, small PA installations, and inter-office communications. Each speaker has the inherent Cinaudagraph quality. All except 2″ speakers have transformer mounting brackets, but are supplied without transformers. All PM speakers use Alnico V. All speakers are dustproofed and all field coil models have bucking coils.

WRITE FOR COMPLETE CATALOG

ALTEC LANSING CORPORATION

SPEAKERS AMPLIFIERS TRANSFORMERS

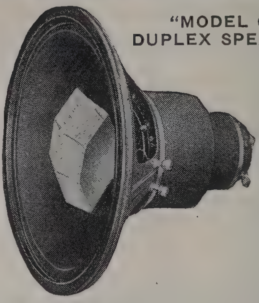
1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.

The Altec Lansing Model 604 Duplex and associated N-2000-B network represents the finest loudspeaker on the market. Manufactured by the same company which makes the famous "Voice of the Theatre" loudspeaker systems used by leading motion picture theatres, this compact unit has all of the fine design principles and construction that has heretofore been available only in the most costly loudspeakers offered for professional use and laboratory standards. Price has not been spared to make the Duplex the peer of all loudspeakers.

The unusual features are: (a) Two way operation utilizing separate diaphragms and voice coils for high and low frequencies. (b) Multicellular horn to provide uniform sound distribution over a wide area. (c) Alnico No. 5 permanent magnets designed for total absence of external stray fields. (d) Easily replaceable high frequency diaphragm and low frequency cone making it unnecessary to return the complete unit to the factory for repair. (e) Both the high and low frequency voice coils made of edge-wise wound ribbon wire to provide 22% greater efficiency. (f) Mounting frame of diecast aluminum. (g) Large 3″ low frequency voice coil for high power capacity and to assure that the cone will operate as a stiff piston and not break up. (h) Frequency response more than spans FM range of 50 to 15,000 cycles. (i) Ideal 180°, constant resistance, parallel type electrical dividing network having an attenuation of 12 db per octave on either side of 2000 cycle crossover. (j) Overall acoustic efficiency 3 to 5 db greater than the ordinary loudspeaker.

The Model 604 Duplex Loudspeaker and associated N-2000-B net work are available separately, or can be supplied together in a number of specially constructed baffle cabinets as illustrated. The cabinet combinations are known as Duplex Loudspeaker Systems.

The Duplex Loudspeaker particularly meets the critical requirements of broadcast and recording studio monitoring, high quality public address and music distribution systems, and when used with 16 mm. sound equipment will increase the audience coverage many fold. Music lovers and discerning people require the Duplex for home use with fine phonograph records and FM reception.



"MODEL 604 DUPLEX SPEAKER"

"N-2000-B Dividing Network"

SPECIFICATIONS—604 DUPLEX SPEAKER

Area of Horizontal Distribution	60°
Area of Vertical Distribution	40°
Voice Coil Impedance	20 ohms
Dividing Network Impedance	20 ohms
Dividing Network Crossover	2000 cycles
Power Rating	30 watts
Weight	35 lbs.
Diameter	15-3/16″
Depth	11½″
List Price, less Network	**$210.00**

The N-2000-B network associated with the 604 Duplex must be ordered as a separate item. List Price **$40.00.**

MODEL 603 DIACONE SPEAKER

The Altec Lansing 603 Multicell Diacone is now available to meet the tremendous demand for an economical high quality speaker for customers who desire a speaker priced lower than the "professional" Model 604 Duplex. This unit has the advantages of a 2-way multicellular speaker system, and its performance, efficiency, high frequency distribution, frequency respone, and absence of distortion are surpassed only by the 604 Duplex. It is designed for the discriminating customer who appreciates fine quality sound in his home AM or FM radio, phonograph, music system, and for the manufacturer who earnestly attempts to meet these home requirements.

This Speaker, which is an Alnico 5 permanent magnet unit, incorporates a metal high frequency diaphragm and a low frequency cone coupled together by a mechanical dividing network and driven by a single 3″ voice coil. The metal high frequency diaphragm operates into a multicellular horn to assure uniform sound distribution over a wide area.

Although not normally supplied in a baffle-cabinet, the Model 603 can be installed in any of the illustrated Altec Lansing cabinets which can be ordered separately.

SPECIFICATIONS—603 MULTICELL DIACONE SPEAKER

Area of Horizontal Distribution	60°
Area of Vertical Distribution	40°
Voice Coil Impedance	10 ohms
Voice Coil Diameter	3″
Power Rating	25 watts
Weight	17 lbs.
Diameter	15-3/16″
Depth	6⅝″
List Price	**$84.00**

MODEL 515 SPEAKER

The Altec Lansing 515 low frequency speaker unit which is also used in the "Voice of the Theatre" loudspeaker systems is available for non theatrical applications where high power, high quality low frequency speakers are needed. The use of Alnico 5 permanent type magnet provides a compact, self energized speaker with its highly concentrated energy permitting higher efficiencies than ever before thought possible with a permanent magnet.

Equally important is the exclusive feature of edgewise wound copper ribbon wire used in perfecting the large 3″ voice coil. Ribbon wire permits the utilization of considerable more conductor material in the air gap greatly increasing efficiencies and decreasing operating temperatures. The diameter of the edgewise wound copper ribbon voice coil has been enlarged permitting uitlization of higher power with less distortion.

Another feature of this low frequency speaker is the highly efficient dome-inserted, moisture resistant, seamless molded cone with effective driving area of 123 sq. in. Cone and voice coil assembly are permanently aligned in a 15″ die cast frame and clamping ring.

SPECIFICATIONS—515 LOW FREQUENCY SPEAKER UNIT

Signal Capacity	30 watts
Voice Coil Impedance	10 ohms
Dimensions	15-3/16″ diameter x 8″ deep
Weight	29 lbs.
List Price	**$140.00**

MODEL 600 DIACONE SPEAKER

The Altec Lansing model 600 Diacone speaker is similar in design to the 603 Multicell Diacone except that it is a 12″ speaker and does not have a multicellular horn. It is a superior quality speaker designed especially for the home radio-phonograph, at a price which will allow the radio service man to install it in the ordinary radio phonograph sets, and effect a marked improvement in home reproduction.

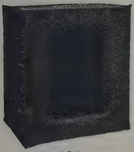
SPECIFICATIONS—600 DIACONE SPEAKER

Voice Coil Impedance	10 ohms
Voice Coil Diameter	3″
Power Rating	20 watts
Weight	12 lbs.
Diameter	12¼″
Depth	5¼″
List Price	**$68.00**

ALTEC LANSING CORPORATION

SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.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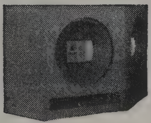
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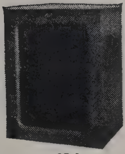
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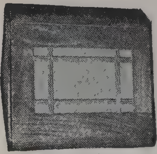
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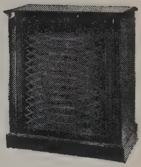

605A

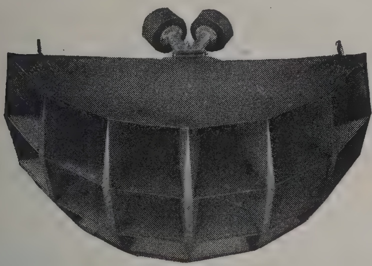
SPECIFICATIONS FOR DUPLEX LOUDSPEAKER SYSTEMS

NO.	Unit	Description	Dimensions H. W. D.	Ship. Wt. (Including Duplex Speaker)	LIST PRICE COM-PLETE	LIST PRICE CABINET ONLY*
605A	Floor Cabinet	Furniture Finished Mahogany Cabinet with Mounted Duplex and Dividing Network	36″ 31$\frac{3}{16}$″ 17$\frac{5}{16}$″	189 lbs.	$330.00	$170.00
606	Wall Cabinet	Furniture Finished Walnut Cabinet with Mounted Duplex and Dividing Network	23½″ 33″ 23″	178 lbs.	330.00	160.00
612	Utility Cabinet	Painted Cabinet with Mounted Duplex and Dividing Network	29½″ 25½″ 17¾″	130 lbs.	290.00	56.00
613	Public Address Cabinet	Painted Cabinet with Two Mounted Duplex Speakers and Dividing Network	21½″ 36″ 18″	211 lbs.	495.00	70.00
614	Portable Public Address Cabinet	Painted Cabinet with Mounted Duplex Speaker and Divid-Network	24¾″ 18¾″ 18¼″	85 lbs.	282.50	45.00

*Note that cabinets carry same code numbers as complete Duplex speaker systems. When ordering, be sure to specify whether complete system or cabinet only is required.

CABINETS

Altec Lansing offers a variety of baffle cabinets which are engineered for high quality sound reproduction. Construction is of heavy ply-wood, with all joints screwed and glued to eliminate spurious rattles. The interior of the cabinets are well padded with rock wool to prevent side reflections. All cabinets illustrated are designed to accommodate either Model 604 Duplex or Model 603 Multicell Diacone loudspeakers.



MULTICELLULAR HORNS

Altec Lansing multi-cellular horns are constructed from exponential horn cells grouped in different configurations to meet various sound distribution requirements. Each cell is a true exponential horn.

The large multi-cellular horn provides the best way of covering long distances and large areas with high levels of quality acoustic power in the frequency range above 200-300 cycles. By choosing the proper configuration of cells, the sound output can be directed for even distribution over any horizontal and vertical area desired; and conversely, to a large degree the sound can be kept from unwanted areas such as walls and ceiling which might produce echoes, slaps, reverberations, etc. These horns find particular application in large buildings with high noise levels, reverberant cathedrals, ball parks, skating rinks, stadia, race tracks, airports, church carillons, sports arenas, etc.

The chart shows multicellular horns available. Note that a throat is not supplied as part of the multi-cellular horn and must be ordered separately according to the type required.

Horn Code #	Cell Configuration	Sound Distribution		Dimensions *L-W-H	Net Weight (Less Speakers)	LIST PRICE	Throat Code No.			LIST PRICE
		Horizontal	Vertical				1 Unit	2 Units	4 Units	
H-803	2 x 4	70°	35°	36 x 32 x 18	86	$140.00	30162			$20.00
H-1003	2 x 5	90°	35°	35 x 40 x 18	131	195.00	30210	30170		20.00
H-1203B	2 x 6	105°	35°	36 x 43 x 18	152	195.00	30210	30170		20.00
H-1504	3 x 5	105°	60°	33½ x 40 x 24	160	220.00	No	No	(2)30170	20.00
H-1803	3 x 6	105°	53°	35 x 43 x 25	184	230.00	30166	30172		20.00

* Overall length of horn including throat and 288 unit (s).

288 SPEAKER

The Altec Lansing 288 speaker unit is designed to fit on the throats of various Altec Lansing multi-cellular horns. Using Alnico 5 permanent magnet, its efficiency when mounted on a multi-cellular horn is such that a sound level of 98 db (ref. 10^{-16} watts per square centimeter) is produced at five feet distance for an electrical input of 0.1 watt at 1000 cycles.

The use of tangential compliances in the diaphragm and edgewise wound ribbon wire in the voice coil provide maximum power handling capacity and acoustic output. Beryllium copper leads, spot-welded to the voice coil, provide heavy duty connections which will not fatigue under use. The entire diaphragm and voice coil assembly, coded 20221, which is mounted in a cast bakelite ring, is field replaceable.

When using the 288 speaker unit for all range reproduction, it is necessary to attenuate the frequencies below 300 cycles which would otherwise damage the diaphragm and voice coil assembly. This attenuation may be accomplished by the proper sized condenser either in the input or output circuit of the final power amplifier.

288 SPECIFICATIONS

Signal Capacity	—40 watts for frequencies above 300 cps.
V. C. Impedance	—24 ohms when operating under normal horn loading conditions.
Dimensions	—6⅛″ Diameter x 4⅞″ Deep.
Weight	—21 lbs.
List Price	—$180.00

ATLAS SOUND CORPORATION

ATLAS HEARD 'ROUND THE WORLD SOUND

"DR" RE-ENTRANT — REFLEX PROJECTORS

NON-RESONANT
•
STURDY
•
COMPACT
•
STORM-PROOF
•
UNIFORM RESPONSE
•
FOUR SIZES

The utmost in sound projection can be expected from the new non-resonant reflex sound projectors. All metallic resonance is eliminated by the use of cork mechanical insulation and a special rubber beading for dampening rim vibration. The entire assembly and bracket mounting is designed around aluminum alloy castings that guarantee long life under extreme conditions of mechanical strain. All aluminum spinnings are used, finished in high lustre enamel. Bracket included.

MODEL DR-32—2½ ft. PROJECTOR ....
Bell diameter 13½", Overall length 12", Air column length 32", frequency cut-off 175 c.p.s., Dispersion angle 70°. **Less Driver Unit** .... **$23.50 List**

MODEL DR-42—3½ ft. PROEJCTOR
Bell diameter 20", Overall length 14½", Air column length 3½ ft., Frequency cut-off 135 c.p.s., Dispersion angle 80°. **Less Driver Unit** .... **$28.00 List**

MODEL DR-54—4½ ft. PROJECTOR
Bell diameter 25", Overall length 18", Air column length 4½ ft., Frequency cut-off 105 c.p.s., Dispersion angle 90°. **Less Driver Unit** .... **$40.00 List**

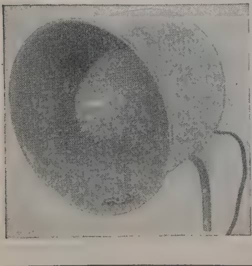
MODEL DR-72—6 ft. PROJECTOR
Bell diameter 30", Overall length 25", Air column length 6 ft., Frequency cut-off 85 c.p.s., Dispersion angle 100°. **Less Driver Unit** .... **$62.50 List**

PIPE STANCHION FITTING

"DR" or "RC" Projector fitting adapted to ¾" pipe fittings. Holes in casting match holes in above "U" brackets. Bolts supplied.

Model PS-1 .... **$2.00 List**

Marine 5" Cone Speaker Projector



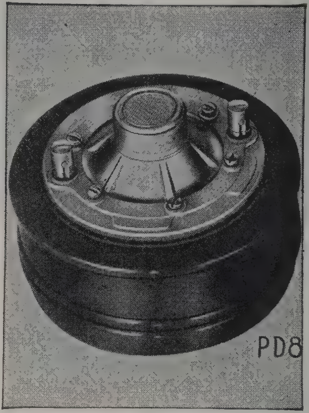
This inverted reflex projector will accommodate any standard 5" cone speaker. This efficient projector greatly increases the effectiveness of any cone speaker. Complete weather and mechanical protection.

An adjustable steel mounting bracket is supplied.

Model	List
WX-5	$13.50

(less cone speaker)

SUPER POWER DRIVER UNITS



SEALD-TITE

UN-BREAKABLE PHENOLIC DIAPHRAGM

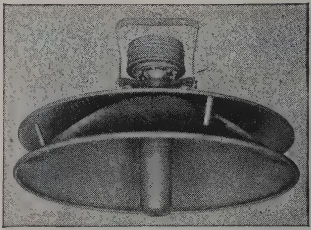
HIGHEST CONVERSION EFFICIENCY

ALNICO PERMANENT MAGNET
•

The new Atlas "Dyna-Flux" Permanent .. Magnet Driver Units are the outstanding result of many years of engineering, research and experience. The ALL-PHENOLIC diaphragm is practically indestructible . . . the entire assembly is hermetically sealed against moisture, dust or corrosion.

GIANT MODEL PD-8 — Average power capacity 25 watts, Frequency response 60-7500 c.p.s., Voice coil 16 ohms, Outside diameter 5½", Sensitivity rating 204. **Model PD-8** ...... **$50.00 List**
STANDARD MODEL PD-5 — Average power capacity 25 watts, Frequency response 80-6000 c.p.s., Voice coil 16 ohms, Outside diameter 4½", Sensitivity rating 181. **Model PD-5** .... **$37.00 List**

RADIAL DRIVER UNIT PROJECTORS



100% WEATHER-PROOF

UNIFORM 360° COVERAGE

NON-RESONANT CONSTRUCTION

CENTRALIZED SOUND SOURCE

The new "RC" Radial Projectors are often the answer to the most difficult acoustic and sound coverage problems.
MODEL RC-36 — Air Column Length 3 ft., Bell diameter 24", Overall height 18", **Less Driver Unit** **$36.00**
MODEL RC-48 — Air column Length 4 ft., Bell diameter 28", Overall height 21", **Less Driver Unit** **$50.00**

P.M. BOOSTER SPEAKER HU-15

COMPLETE WITH DRIVER UNIT —

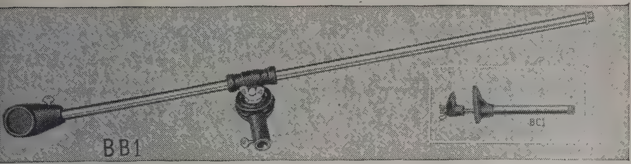
MINIATURE
•
RE-ENTRANT
•
HIGH EFFICIENCY
•
WEATHER-PROOF
•
UNIVERSAL BRACKET
•
HERMETICALLY SEALED

A new development in miniature high-efficiency speakers. Excellent "talk-back" characteristics. Universal bracket permits both vertical and horizontal adjustment. . . . Bell diameter 8½", Overall length 8½", Voice coil 8 ohms, Diaphragm of unbreakable phenolic, Input power 10 watts, Finished in gray enamel, Net weight 6 lbs.
Model HU-15—(complete with driver unit)................**$34.00 List**

ATLAS SOUND CORPORATION

"BABY BOOM" EXTENSION ARM AND BRACKET CLAMP

VERSATILE — CONVENIENT — FLEXIBLE — ATTRACTIVE
THE ANSWER TO DIFFICULT MOUNTING PROBLEMS

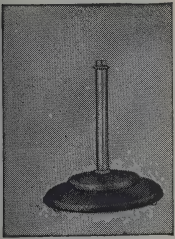


"Baby Boom" equipped with a universal swivel and easily attached to any microphone stand or to the BC-1 Bracket Clamp. The BC-1 has a multitude of useful applications.

SPECIFICATIONS: Tube Section 32" long, Chrome-plated, Thread ⅝"-27.
Model BB-1 ....$7.00 List

SPECIFICATIONS: Tube Section 6" long Chrome-plated, Thread ⅝"-27.
Model BC-1 .... $3.00 List

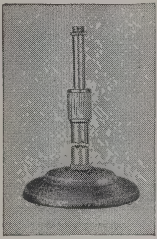
"VELVET" ACTION DESK STANDS



DS-5

Embody the same precision as used on floor models. All tubes brass chrome-plated . . . base finish gun-metal shrivel . . . Non-adjustable model 7" high . . . Adjustable model 8" to 13" . . . all bases equipped with shock absorbent, non-scratch pads. New style functionally designed base offers maximum stability.

	List
Model DS-5 (non-adjustable)	$2.75
Model DS-7 (adjustable)	4.50



DS-7

ADJUSTABLE BANQUET STAND

Uses full size tubing and clutch mechanism as floor stands. Chrome tubes and gun-metal shrivel finished base. Base diameter 8", Total weight 5 lbs., Adjustable from 18" to 32". Anti-scratch, vibration absorbant pads included.

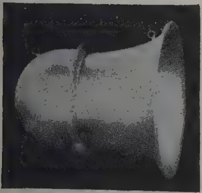
List
Model TS-5 .... $7.10

FLEXIBLE GOOSE NECK

Can be attached to any floor or desk stand. For use where some amount of microphone overhang is required. Thread ⅝"-27 male and female each end. Finished in bright superchrome. Total length 13".

List
Model GN-13 .... $2.00

All Steel Parabolic Baffles for 6", 8", 12" Speakers



Will resist the severest type of service. The exclusive inter-lock seal eliminates all resonance effects and offers a tight seal against rain leakage at the seam where the front and rear sections are joined. No drilling for speaker mounting. All hardware screws and mounting loops supplied. Finished in blue-gray weather resistant enamel.

Model	Bell Diameter	Overall Length	Speaker Size	List
SM-6	12"	10"	6"	$12.00
SM-8	18"	14"	8"	13.50
SM-12	20"	18"	12"	14.50

Baffle Mounting Fixture

Offers convenient mounting for Parabolics on sound truck, wall surfaces, etc. Model ST-8 . . . Complete fixture and base as illustrated, List $5.25
Model SA-10 . . . Saddle fixture and swivel only, ½" female pipe thread. List $3.00

Speaker Power Volume Control

GAIN
0
1
2
3
4
5
6
7
8
9
10
ATLAS SOUND

Constant impedance control for use across any speaker. Uniform taper . . . Smooth control . . . 10 watts capacity. Overall diameter 3". For 8 ohm circuits. Model RC-1 .... $5.25 List
Model CB (Box only) as per above. Model CB .... $1.00 List

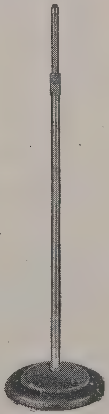
"Velvet Action" MICROPHONE STANDS

MS-12C MS-11C

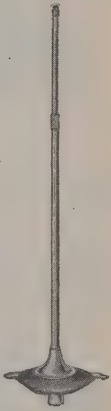
The new "Full-Grip" Clutch used on both models. All tubes super-chrome plated. New "non-tip" base design. Base diameter 10", Weight 12 lbs., Thread size ⅝"-27, Anti-scratch vibration pads on base.

	List
Model MS-12C (Painted base)	$ 9.60
Model MS-11C (All Chrome)	11.40

De Luxe and Professional "Velvet Action" Stands



Heavy Oversize Tubes
1⅛" Base Tube
⅞" Inner Tube
12" Diameter Base
Special Non-Tip Design

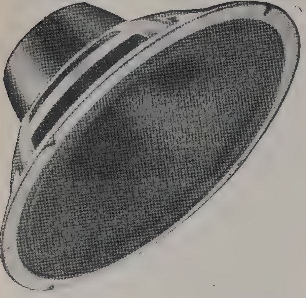


MS-20 MS-24

These stands are designed for the most critical user. A new type "Full-Grip", non-slip, non-jamming clutch is supplied on both models. Tube finish chrome. MS-24 base combination of chrome and gun-metal shrivel. ⅝"-27 Microphone thread.

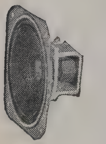
Model	Weight	List
MS-20	15 lbs.	$14.00
MS-24	24 lbs.	19.50

GENERAL ELECTRIC



ALNICO V P. M. LOUDSPEAKERS

All component parts of the new Alnico V Loudspeakers are made to the rigid specifications of G-E quality control. These features, in addition to highly efficient manufacturing skill combined with the "know-how" of G-E engineers, have made these new superb speakers possible — unsurpassed in fidelity, dependability and durability.



4" TYPE 400C

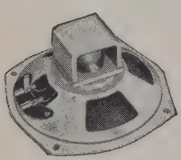
GENERAL ELECTRIC'S new 4-inch speakers are the result of years of intensive engineering research to produce units of reduced size with maximum efficiency for use in small portable and table model receivers. In addition to having the "stay-bright" finish and the aluminum foil base voice coil, the new 4-inch speakers are considerably lighter in weight and more compact. This reduction in weight and space has been accomplished through the use of Alnico V magnet material, all-weld construction, and smaller yoke assembly.

Suggested List $4.30

5¼" TYPE 525C

GENERAL ELECTRIC'S 5¼-IN. PM speakers have all been designed and developed to provide full, true, low notes and excellent high frequency definition for voice or music reproduction. Skillful designing has been applied to all details to assure the best possible results.

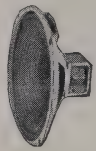
Suggested List $5.00



6½" TYPE 650C

GENERAL ELECTRIC 6½-inch loudspeakers are the result of years of persistent development to improve performance. Never were ideas introduced and combined with better quality materials. Greater sensitivity and power capacity in more compact space was achieved by these methods.

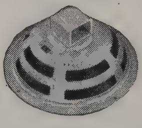
Suggested List $6.88



8" TYPE 800C

The NEW ALNICO V PERMANENT MAGNET material was chiefly responsible for maintaining the excellent performance of the G-E 8-inch speakers and still keeping the over-all size smaller. The speakers are capable of handling full audio power with very little distortion. These speakers are recommended for quality in design and faithful reproducing characteristics.

Suggested List $8.97



10" TYPE 1000C

GENERAL ELECTRIC'S new 10-inch P.M. speakers are the result of application of latest developments in scientific laboratory tone reproduction. Especially designed for brilliant reproduction of voice and music. Types 1001C and 1000C represent balanced perfection in relative factors of performance ability, cost, and appearance.

Suggested List $12.50

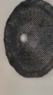
12" TYPE 1200C

GENERAL ELECTRIC'S powerful 12-inch permanent magnet loudspeakers are designed to provide faithful tone reproduction at high levels. Types 1201C and 1203C equal or surpass the performance of electro-dynamic speakers of the same size. Utilizing the moulded curved cones and having a cover for the magnet assembly, they are dustproof and moisture free. All weld construction has minimized distortion at maximum operation levels by eliminating vibration and assures perfect alignment of voice coil and cone assembly, even under the severest conditions. They require no external field supply or exciting voltage.

Suggested List $16.50

G-E LOUDSPEAKER FEATURES

ALNICO V MAGNET MATERIAL is one of the great wartime engineering developments. Its energy per unit volume—approximately three times as great as other magnets—has enabled G-E engineers to design a new line of smaller speakers with better performance characteristics.



ALUMINUM FOIL VOICE COILS only are used in all G-E permanent magnet speakers. Exact concentric location with the collar of the spider assembly insures perfect alignment. Humidity or excessive temperature variations do not affect the aluminum foil voice coils, making this type of speaker ideal for receivers designed for use in export markets.

ALL WELD CONSTRUCTION of the newly designed G-E Alnico V Loudspeakers not only reduces the weight and size but also increases the rigidity necessary for perfect alignment of all parts. It also eliminates the possibility of dust and moisture accumulation and simplifies the replacement of damaged cones.

SPEAKER CHARACTERISTICS

Size	Number IRS	Res. Freq.	Wt. Al. 5 Oz.	VC Imp. Ohms	VC Diam. In.	B Gauss	Watts	Freq. Char. Cycles
4	400C	180	1.3	3.2	9/16	7,200	4	180-5000
5½	525C	135	1.3	3.2	9/16	7,200	4	140-5000
6½	650C	125	3.0	3.2	¾	8,800	8	100-6000
6½	625C	125	1.3	3.2	9/16	7,200	4	100-7000
8	800C	105	3.0	3.2	¾	8,800	8	90-8000
10	1001C	75	14.5	8	1¼	10,500	25	70-8000
10	1000C	75	6.8	3.2	1	9,500	12	70-6000
12	1201C	55	14.5	8	1¼	10,500	25	45-9000
12	1200C	75	6.8	3.2	1	9,500	12	70-7000

EMCO • BAFFLES — BRACKETS

Manufactured and Distributed by LOUIS M. KERN & CO., Inc. BROOKLYN, N. Y.

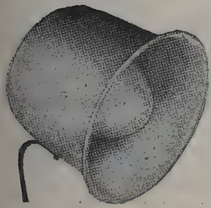
NEW! ARMORED ALL STEEL WEATHERPROOF MARINE STEEL

• FOR 6" — EASY MOUNTING

These weatherproof marine horns will withstand direct driving rain without damage to the cone speaker, constructed entirely of heavy gauge steel to withstand extreme hard use. The speaker dome is lined with acoustic felt to absorb back pressure and eliminate extra high frequencies and metallic resonance. Ideal for use in all indoor and outdoor installations. The special construction of these horns enables the reproduction of both voice and music with excellent fidelity of tone. Finished in a beautiful and durable weather resisting slate gray baked wrinkle enamel. Supplied with a unique and convenient mounting bracket which enables the speaker to be focused in any direction.

For 6" speakers..............................Model MM-6...............................List Price $14.50

MARINE MIDGET BAFFLE



Designed for indoor and outdoor use. Inverted reflex design corresponds in effect to air column of 15 inches. **Speaker housing is lined with a heavy acoustic felt to eliminate extra high frequencies and metallic resonance.** Made of extra heavy gauge aluminum, finished in a beautiful battle ship gray. Adjustable bracket is supplied for mounting. Overall size 8", bell diameter 10".

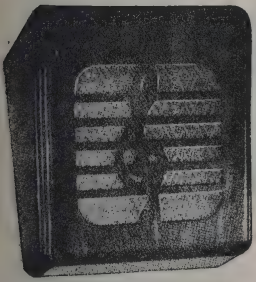
Model MM-15 ....List Price $10.50

5" permanent magnet speaker ideally suited for use with above baffle. Output rating 5 watts.

Model PM-5 ....List Price $5.00

Symphonic MUSIC BOX

FOR 12" SPEAKERS



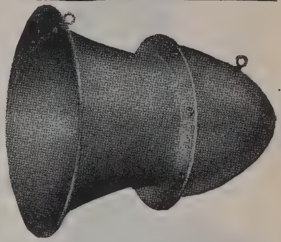
A beautifully designed cabinet made of choice Walnut Veneers, and handsomely finished. Heavily constructed and reinforced throughout. Cleverly designed grill adds to the beauty of this cabinet. The slope front gives the proper directional effect to the speaker. Supplied complete with hardware for mounting speaker.

Model SM-12 ....List Price $15.00

For 8" speakers, general construction and appearance same as above, physical size smaller to accommodate 8" speakers.

Model SM-8 ....List Price $13.00

ARMORED ALL STEEL BAFFLE



This new armored all steel baffle is made to withstand the severest service, the all steel construction makes it impossible to dent or damage any part of this baffle. Resonance effects are eliminated due to the modern design incorporated in the construction.

All holes for mounting speaker are punched, hardware for mounting speaker and hanging loops are supplied.

Speaker dome large enough to accommodate all types of 12" P.M. and Dynamic speakers with sufficient room for transformer.

Finished in a handsome and durable weather resisting slate gray wrinkle baked enamel.

Model No. AB-12 ....List Price $13.50

TRUCK MOUNTING BRACKET

Designed especially for our AB-12 baffles. A convenient fixture for mountin these baffles on sound trucks. Has four way swivel joint adjustment for tilting these baffles on sound Made of extra heavy malleable steel casting, finished in gray crinkle.

Model MT-8 List Price $5.00

Saddle & Swivel

A convenient bracket for AB-12 baffles. Made of extra heavy malleable steel casting. Has four way swivel joint adjustment finished in gray crinkles with positive grip locks.

Model SS-7 List Price $3.00

MOUNTING STAND

A heavy stand designed especially for AB-12 baffles. Extends from 5 to 9 ft. Weighs 40 lbs. Has 18 inch diameter base. A special bracket and clamp permit the tilting of baffle at any angle. Two locking collars prevent slipping. These stands are very excellent for temporary and permanent installations.

Model HS-40............List Price $25.00

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

See and Hear

KAINER SOUND PROJECTORS

NEW KAINER *"High Intensity"* REFLEX TRUMPETS

These NEW IMPROVED KAINER REFLEX TRUMPETS are unique in design and construction. Spun of a special steel alloy with attractive offsets adding extra strength, ruggedness and durability with improvement to the acoustic properties.

The Reflex Trumpets are beautifully finished with a gray hammerloid baked on enamel assuring increased acoustic value and durability.

The mounting fixture furnished with both the RT-26 and RT-21 Trumpets is constructed of cast malleable iron highly finished and adjustable to all practical angles. This fixture includes a handle for ease in carrying.

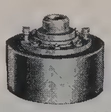
An optional feature is the back which encloses the driver unit adding a streamline effect to the contour of the Trumpet and protection for the unit.

As standard equipment, a moulded rubber rim attached to the beading on the edge of the bell is supplied. Both models are equipped with a threaded attachment 1⅜" x 18 thread which will take a KAINER P. M. Driver Unit or any other standard unit.

The RT-16 Trumpet is very similar to the larger horns. It is a new addition to the KAINER line and various tests have proven it will meet every requirement for its purpose.

Permanent Magnet Driver Units—Manufactured to the highest of electrical and mechanical standards and of the finest available materials. Two models designed to take care of all public address work, rated at the same handling capacity in watts. The chief difference is in the increased efficiency in power output and in tonal range evident in the larger models. Diaphragms are breakdown proof at the rated capacity of 25 watts continuous operation and the unit is waterproof from all angles.

All units are equipped with 1⅜" by 18 thread connection to fit either the R-T21 or the R-T25 Trumpet models.



Model No. DU-2

Continuous Power Cap.	25 watts
Freq. Response	60-5500 cycles
Rec. Trumpets	R-T21 & R-T25
Net Weight	7 lbs.
List Price	**$53.00**

Model No. DU-1

Continuous Power Cap.	25 watts
Freq. Response	70-5000 cycles
Rec. Trumpets	R-T21 & R-T25
Net Weight	4 lbs.
List Price	**$37.00**

Model RT-25

Overall Length	21"
Bell Diameter	26"
Acoustic Length	4'10"
Projection Angle	90°
Shipping Weight	28 lbs.
List Price, Complete	$44.25
With streamline weatherproof back	$50.00

Model RT-21

Overall Length	18"
Bell Diameter	22"
Acoustic Length	4'
Projection Angle	80°
Shipping Weight	21 lbs.
List Price, Complete	$27.50
With streamline weatherproof back	$32.75

Model RT-16

Overall Length	16"
Bell Diameter	16"
Acoustic Length	2'10"
Projection Angle	85°
Shipping Weight	16 lbs.
List Price	$23.70

All Steel Exponential Sound Projector for 12" Speakers

Model J-12 all steel sound projector is the result of severe laboratory and field tests. It will accommodate all types of 12" speakers with or without matching transformers, including those with extra heavy permanent magnets.

Sturdily constructed of heavy spun steel alloy, it is light in weight yet strong enough to stand the abuse of heavy vibration under load as well as rough handling.

Breather opening is screened. Entire projector is beautifully finished with high lustre, baked-on, weatherproof art enamel. The malleable iron fixture to which the lower bracket can be attached is welded to the baffle and extends up the sides to include two of the speaker bolts which assures the minimum of vibration in the entire instrument.

The malleable iron base and bracket carries a tilting dog-toothed adjustment with a swivel and lock nut.

Model J-12

Overall Length	20"
Circular Mouth Opening	17"
Flare Extension	11"
Shipping Weight	16 lbs.
J-12—Horn **List Price, Complete**	**$20.90**

All Steel Exponential Sound Projector for 8" Speakers

Model J-8 is specially designed to accommodate all types of 8" speakers and is very similar in construction to Model J-12 above.

The sturdy spun steel alloy construction is light in weight yet very strong. The baffle is spun in only two pieces, with the exclusive KAINER wedge fit feature which overcomes vibrations under extreme load.

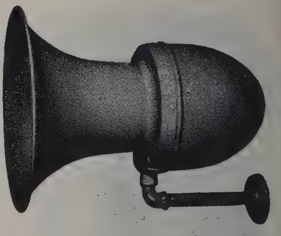
Built with perforated breather opening. Both baffle and bracket are attractively finished with a new high lustre, weatherproof, baked-on art enamel.

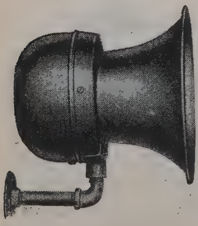
The malleable iron fixture to which the lower bracket extension can be attached is firmly welded to the baffle, and is tapped so that any distance from the floor, wall or ceiling may easily be obtained by using ½" pipe, nipples, couplings, etc.

Bracket attachment furnished consists of flange base with length of pipe and elbow for either wall or upright mounting.

Model J-8

Overall Length	17"
Circular Mouth Diameter	14"
Flare Extension	9"
Shipping Weight	8 lbs.
J-6—Baffle **List Price, Complete**	**$15.85**





All Steel Exponential Sound Projector for 6" Speakers

Model J-6 is used extensively in parking lots, garages, small playgrounds, hallways, stock rooms, hotels, hospitals, warehouses and other places where call systems are needed. A perfect accessory to installations where 6" speakers must withstand all weather conditions and heavy service. Severe tests have proved that the Model J-6 Baffle produces clearer and more perfectly projected speech than when unprotected speakers or flat type speaker housings are used.

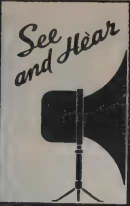
Has perforated breather opening. The shell is built to accommodate any 6" P.M. speaker with matching transformer.

Constructed of heavy spun steel alloy all parts attractively finished in the new high lustre, weatherproof, baked-on art enamel.

The malleable iron fixture is welded to the baffle and tapped so that any distance off the wall or ceiling may be obtained by attaching required length of ½" pipe, nipples, couplings, ect., thus insuring a permanent and rigid installation.

Model J-6

Overall Length	9½"
Circular Mouth Opening	10"
Flare Extension	5"
Shipping Weight	4½ lbs.
J-8—Baffle **List Price, Complete**	**$10.15**



KAINER SOUND PROJECTORS

CHANDELIER BAFFLES FOR UNIFORM COVERAGE

CB-12

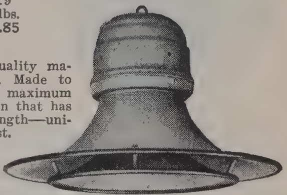
A KAINER development in speaker baffles for uniform coverage. The construction of this horn affords 360° dispersement of sound with lower deflector reducing feed back and areas of concentrated sound. This design of horn is ideal for Restaurants, Clubs, Cabarets and Dance Halls where the necessity of projecting sound close to the performers is important. It will replace multiple wall speaker installations eliminating large installation cost with a minimum of maintenance. It is spun of heavy gauge steel and finished in a beautiful baked-on enamel. It is simple to install, suspended from the ceiling with link chain. Accommodates any heavy duty 12" P. M. speaker. A moulded rubber rim is used on both bells eliminating vibrations.

Diameter	32"
Height	19"
Weight	25 lbs.
List Price, Complete	$35.85

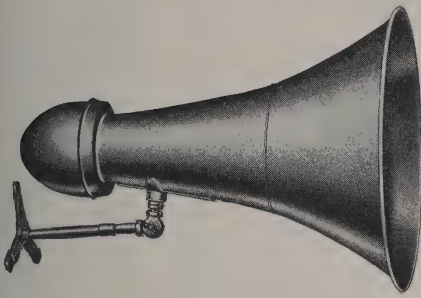
CB-8

The CB-8 is constructed of the same quality materials and design of the larger CB-12. Made to taken any standard 8" speaker it offers maximum uniform coverage at minimum cost. A horn that has everything—beauty in appearance—strength—uniform sound distribution—all at a low cost.

Diameter	20"
Height	17"
Weight	11½ lbs.
List Price, Complete	$18.15



AIR COLUMN HORN Model A-C-8

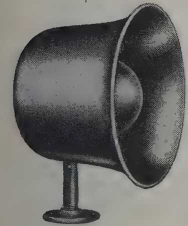


Specially effective for all outdoor work: Baseball Parks, Circuses, Athletic Fields, and all installations where power and direction of sound are particularly required. ¶The A-C-8 Air Column Horn is well suited for applications where sound must be projected great distances and with the minimum of feedback. When using a microphone under conditions where ordinary baffles would be unsatisfactory, this horn with its uni-directional qualities will allow in most cases double or more power to be used before the feed back point is reached. ¶The back of this horn is completely closed, eliminating to the best possible extent, interference to person or persons using a microphone, and allowing the best possible placement of speakers either directly above and slightly forward of the microphone, or to the left or right of the microphone and slightly forward. Both of these positions eliminate bothersome "double talk" and "lag" which is objectionable to audiences. This method of placement gives the best illusion that the sound is coming directly from the person using the microphone. ¶The bracket attachment is welded to the horn, properly balanced, and mounting fixtures with base can be furnished as a complete unit, permitting exceptionally convenient means for installation. ¶THE KAINER AIR COLUMN HORN is constructed of heavy spun steel alloy, light in weight, yet very strong. All parts finished with durable baked art metal enamel. Designed for 8" HEAVY DUTY Speaker—Bell Opening 24"—Overall Length 36".

Horn Complete with Mounting Fixture, Base and Adjustable Attachment .... List **$44.80**

KAINER WEATHERPROOF HORNS

Model WH-5



FOR 5" SPEAKERS—COMPACT AND EFFICIENT

The inverted reflex design is similar to that used in the WH-6 and WH-8 models, which aids materially to the performance of any good cone speaker. ¶For all purpose use, including use as a microphone in Talk-Back installations—wide frequency range, good for both music and voice. ¶The very substantially constructed bell and reflex cone are of spun steel alloy, finished with gray baked art metal enamel. The bell and cone are mounted on an aluminum alloy casting to which the base fixture is also attached. This insures a rigid assembly and makes it convenient to install 5" cone speaker direct to the aluminum casting.

SPECIFICATIONS

Over All Length—8". Bell Opening—11". Ship. Wt. 5½ lbs.

Horn complete with base .... List **$11.95**

Model WH-8

Constructed for all unsheltered outdoor and indoor use: Factories, Airports, Sound Trucks, Police and Fire Cars, Stadiums, etc. ¶Exceptionally sturdy construction—Possible physical damage to the cone speaker is overcome due to its inverted position. The speaker faces the inside of the horn. ¶This construction will withstand exposure to rain, snow and wind. ¶The bell and housing are spun of heavy gauge steel alloy, light in weight, yet very strong; and all parts are heavily finished with a durable baked art metal enamel. ¶Bracket attachment is welded to the horn, properly balanced, and mounting fixture with base can be furnished as a complete unit, permitting exceptionally convenient means for installation on Sound Trucks, Wall, or Portable Use. ¶Designed for 8" HEAVY DUTY Speaker. Bell Opening 22¾". Overall Length 17¾"—Height from Base 27".

Horn Complete With Base and Fixture.

$33.85

Model WH-6

Construction similar to Model WH-8 except size is for 6" speaker. ¶Used for all unsheltered outdoor and indoor installations, factories, airports, sound trucks, police and fire cars, stadiums, etc. ¶The bell and speaker housing are of spun heavy gauge steel alloy, all parts finished with a durable art baked enamel. ¶Heavy aluminum casting firmly holds speaker. Mounting is attached to casting on which the speaker is mounted. ¶Very sturdy construction throughout. Designed for 6" Heavy Duty P.M. Speaker.

SPECIFICATIONS

Bell Opening—15". Over All Length 12".

Shipping Weight—11 lbs.

Horn complete with base and mounting fixture.................... List **$17.90**

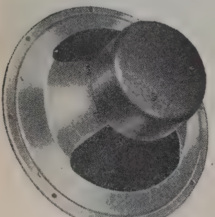
ADJUST-A-CONE

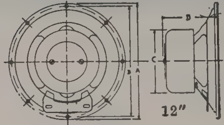
QUAM

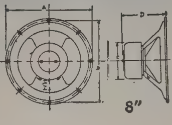
A radio sounds only as good as its loudspeaker

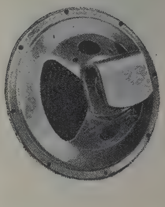
SPEAKERS

QUAM HEAVY DUTY SPEAKERS









THE QUAM Heavy Duty line of speakers is designed to fill the demand for speakers with unusual power handling capacity. The heavier field in the Electro-Dynamic unit and the larger magnet in the Permanent Magnet unit, plus the larger diameter voice coils, increase the power handling capacity of these speakers. In every respect these units meet the most exacting standards. Both the Electro-Dynamics and Permanent Magnet Dynamics are fully dustproofed and of rigid welded construction, assuring permanent alignment of integral parts, and of course include the Adjust-A-Cone feature which is available only on the QUAM line of speakers.

The heavy duty line is suited for a wide range of installations such as custom-built radios, combination sets, console radios, public address systems and auxiliary speakers. All speakers may be installed with minimum effort.

PERMANENT MAGNET

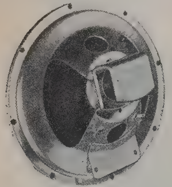
Cat. No.	Model Size in Inches	Alnico V Magnet No.	WATTAGE		DIMENSIONS IN INCHES			Ship.† Wt. Lbs.	List Price
			Normal	Peak	A	B	D		
8AD4	8	46	10.0	12.0	8	7 5/8	3 7/8	4.25	$10.20
8AD6	8	68	12.0	15.0	8	7 5/8	4 1/32	4.50	12.10
12AD4	12	46	12.0	15.0	12 3/32	11 9/16	5 1/4	5.00	$12.65
12AD6	12	68	15.0	20.0	12 3/32	11 9/16	5 3/8	5.50	14.50

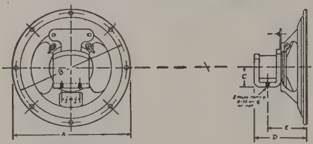
ELECTRO-DYNAMIC

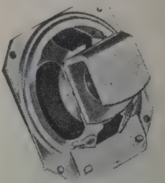
Cat. No.	Model Size in Inches	Field Ohms	WATTAGE		DIMENSIONS IN INCHES				Ship.† Wt. Lbs.	List Price
			Normal	Peak	A	B	C	D		
8ED10	8	1000	9.0	12.0	8	7 5/8	(1)	4 13/32	4.50	$10.00
8ED15	8	1500	9.0	12.0	8	7 5/8	(1)	4 13/32	4.50	10.00
8ED18	8	1800	9.0	12.0	8	7 5/8	(1)	4 13/32	4.50	10.00
8ED25	8	2500	9.0	12.0	8	7 5/8	(1)	4 13/32	4.50	10.00
12ED60	12	600	12.0	18.0	12 3/32	11 9/16	(1)	6 3/32	8.50	$12.65
12ED10	12	1000	12.0	18.0	12 3/32	11 9/16	(1)	6 3/32	8.50	12.65
12ED15	12	1500	12.0	18.0	12 3/32	11 9/16	(1)	6 3/32	8.50	12.65
12ED25	12	2500	12.0	18.0	12 3/32	11 9/16	(1)	6 3/32	8.50	12.65

(1) Pot cover. Voice Coil Impedance RMA Standard 6 to 8 ohms ± 10% †Approximate.

QUAM PERMANENT MAGNET SPEAKERS







THE QUAM-NICHOLS organization is a pioneer in the Permanent Magnet Dynamic Speaker field. This type of unit, originally designed for applications where no current was available for field excitation, has recently found a wide-spread use for replacements and original equipment in small AC-DC table models, record players inter-office communication systems and automobile receivers.

Cat. No.	Model Size in Inches	Alnico V Magnet No.	WATTAGE		DIMENSIONS IN INCHES					Ship.† Wt. Lbs.	List Price
			Normal	Peak	A	B	C	D	E		
4A07	4	07	2.5	3.75	4 3/32	4 11/16	1	2 1/32	1 1/2	0.75	$4.00
4A1	4	10	2.5	3.75	4 3/32	4 11/16	1	2 3/16	1 9/16	1.00	4.25
4A15	4	15	2.5	3.75	4 3/32	4 11/16	1	2 3/16	1 9/16	1.00	4.70
5A07	5	07	3.0	4.5	5	4 11/16	1	2 3/16	1 5/8	1.00	$4.20
5A1	5	10	3.0	4.5	5	4 11/16	1	2 5/16	1 11/16	1.25	4.45
5A15	5	15	3.0	4.5	5	4 11/16	1	2 5/16	1 11/16	1.25	4.85
6A1	6	10	4.0	6.0	6 1/2	6 1/8	1	2 5/8	2	1.25	$4.80
6A15	6	15	4.0	6.0	6 1/2	6 1/8	1	2 5/8	2	1.25	5.20
6A21	6	21	5.0	7.5	6 1/2	6 1/8	1 1/8	2 7/8	2 1/8	1.50	5.80
8A21	8	21	6.0	8.0	8	7 5/8	1 1/8	3 3/8	(1)	2.00	$7.20
8A31	8	31	8.0	10.0	8	7 5/8	1 3/8	3 21/32	(1)	2.50	8.50

(1) No mounting holes furnished. Voice Coil Impedance RMA Standard 3.2 ohms ±10% †Approximate.

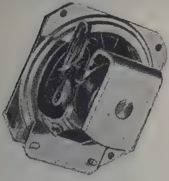
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

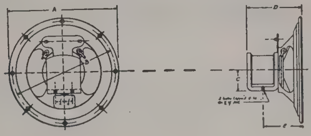
DESCRIPTIVE PART NUMBERS—Each part number conveys the essential specifications of each unit. The first digit indicates the size; the following single or double letter indicates the type of speaker, i. e., **E** indicates Electro-Dynamic, **A** Alnico Permanent Magnet, the second letter **S** Senior line (heavier fields), **D** heavy duty. The last numbers of the Electro-Dynamics indicate the field resistance and of the Permanent Magnets, the approximate size of the magnet. For example, a **5E45** speaker is a 5" model of the Electro-Dynamic line with a 450-ohm field. A **46A1** is a 4 x 6 Alnico Permanent Magnet speaker with a medium-sized magnet. An **8ES18** speaker is an 8" Electro-Dynamic Senior Model with an 1800 ohm field.

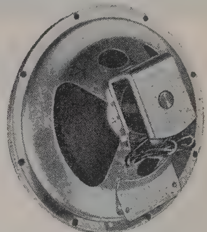
ADJUST-A-CONE
QUAM
A radio sounds only as good as its loudspeaker

SPEAKERS

QUAM ELECTRO-DYNAMIC SPEAKERS







QUAM Electro-Dynamic Speakers manufactured under Quam patents Nos. 2,020,211 and 2,020,212 are the result of the great backlog of experience gained through the manufacture of millions of this type of unit in prewar days. All models conform to RMA standard dimensions and are equipped with the QUAM Adjust-A-Cone voice coil suspension.

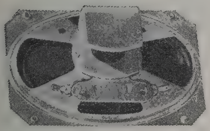
Field coils are manufactured from carefully selected, constantly tested materials and by time-proven methods, guaranteeing long life under the most adverse climatic conditions. The units included in this line are designed and constructed for use as replacements and in the public address field.

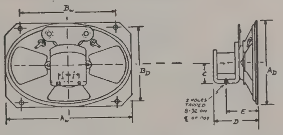
Cat. No.	Model Size in Inches	Field Ohms	WATTAGE Normal	WATTAGE Peak	DIMENSIONS IN INCHES A	B	C	D	E	Ship.† Wt. Lbs.	List Pric
4E45(3)	4	450	2.5	3.75	4 3/32	4 11/16	1 1/4	2	1 7/16	1.75	$4.40
4E10	4	1000	2.5	3.75	4 3/32	4 11/16	1 1/4	2	1 7/16	1.75	4.40
4E27	4	2700	2.5	3.75	4 3/32	4 11/16	1 1/4	2	1 7/16	1.75	4.40
5EV6	5	6-V Field	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	$4.60
5E45(3)	5	450	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	4.60
5E10	5	1000	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	4.60
5ES10(2)	5	1000	3.5	5.0	5	4 11/16	1 1/4	2 25/64	1 23/32	2.00	5.05
5E18	5	1800	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	4.60
5ES18(2)	5	1800	3.5	5.0	5	4 11/16	1 1/4	2 25/64	1 28/32	2.00	5.05
5E25	5	2500	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	4.60
5E30	5	3000	2.5	3.75	5	4 11/16	1 1/4	2 1/8	1 19/32	2.00	4.60
6EV6	6	6-V Field	3.5	5.0	6 1/2	6 1/8	1 1/4	2 23/32	2 1/32	2.50	$5.40
6EVS6(2)	6	6-V Field	5.5	8.0	6 1/2	6 1/8	1 9/32	3 17/64	2 5/16	2.75	6.20
6E10	6	1000	3.5	5.0	6 1/2	6 1/8	1 1/4	2 23/32	2 1/32	2.50	5.40
6ES10(2)	6	1000	5.5	8.0	6 1/2	6 1/8	1 9/32	3 17/64	2 5/16	2.75	6.20
6E18	6	1800	3.5	5.0	6 1/2	6 1/8	1 1/4	2 23/32	2 1/32	2.50	5.40
6ES18(2)	6	1800	5.5	8.0	6 1/2	6 1/8	1 9/32	3 17/64	2 5/16	2.75	6.20
6E25	6	2500	3.5	5.0	6 1/2	6 1/8	1 1/4	2 23/32	2 1/32	2.50	5.40
8EV6	8	6-V Field	4.0	6.0	8	7 5/8	1 31/64	3 3/8	(1)	2.50	$6.75
8E10*	8	1000	4.0	6.0	8	7 5/8	1 31/64	3 3/8	(1)	2.50	6.75
8ES10(2)	8	1000	6.0	9.0	8	7 5/8	1 9/32	3 25/32	(1)	3.00	7.55
8E18*	8	1800	4.0	6.0	8	7 5/8	1 31/64	3 3/8	(1)	2.50	6.75
8ES18(2)	8	1800	6.0	9.0	8	7 5/8	1 9/32	3 25/32	(1)	3.00	7.55
8E25*	8	2500	4.0	6.0	8	7 5/8	1 31/64	3 3/8	(1)	2.50	6.75
8ES25(2)	8	2500	6.0	9.0	8	7 5/8	1 9/32	3 25/32	(1)	3.00	7.55

Voice Coil Impedance RMA Standard 3.2 ohms ±10% †Approximate.

*Available in heavy duty. (1)No mounting holes furnished. (2)Senior Line, heavy field. (3)Includes hum bucking coil.

QUAM 4 X 6 OVAL SPEAKERS





Designed for radios, record players, combinations and inter-office communicators. Meet RMA electrical and mechanical standards. . . . Available both in Permanent Magnet and Electro-Dynamic types, these speakers, compared with the more conventional round speakers, do not suffer loss of quality because of their unusual shape. . . . Furnished with a transformer mounting bracket which fits the QUAM line of interchangeable transformers. Completely dustproofed. . . . Permanent Magnet types utilize Alnico V for the magnet.

ELECTRO-DYNAMIC Cat. No.	Field Ohms	List Price	PERMANENT MAGNET Cat. No.	Alnico V Magnet No.	List Price
46E45†	450	$5.30	46A07	07	$4.45
46E10	1000	5.30	46A1	10	4.75
46E15	1500	5.30	46A15	15	5.15

Voice Coil Impedance, both types: RMA Standard 3.2 ohms ± 10%.
Dimensions, both types: AD—4 3/32″; AW—6 5/32″; BD—3 5/8″; BW—4 5/8″.
Dimensions, Electro-Dynamic types: C—1 5/64″; D—2 15/64; E—1 5/8″.
Dimensions, Permanent Magnet types: C—1″; D—2 7/32″ Max.; E—1 9/16″ Max.
Model size, both types: 4″ x 6″. Approx. shipping weight in pounds: Electro-dynamic—1.25; Permanent Magnet—1.00.
Normal wattage: Electro-dynamic—2.5; Permanent Magnet—3. Peak Wattage: Electro-dynamic—3.75; Permanent Magnet—4.5. †Includes hum-bucking coil.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

THE QUAM ADJUST-A-CONE FEATURE

THE QUAM-ADJUST-A-CONE feature, now included in every QUAM speaker, consists of a clamping ring securely fastening the spider to the basket by means of two machine screws, instead of cementing or otherwise permanently affixing the spider. Thus the QUAM spider can be moved if necessary. To recenter a voice coil, merely loosen the two screws and move the spider and voice coil assembly laterally. This will relocate the voice coil concentrically around the pole piece.

In many cases, a rubbing coil may be adjusted by means of the QUAM ADJUST-A-CONE feature without removing the speaker from the chassis, or the chassis from the cabinet. Such repairs can be made in a matter of minutes with every assurance that they will be complete.

UNITS RACON TRUMPETS

PERMANENT MAGNET HORN UNITS

Latest improvements as developed during the war are now included in all units. Higher watt-handling capacity, greater efficiency and practically lifetime operation. All Permanent Magnet units use the finest grade of Alnico steel magnets and Armco iron throughout. All steel parts copper-plated to prevent corrosion. Units are magnetized, using an electromagnetic cutout switch which gives the maximum flux density obtainable in the gap. All magnets are measured for flux density and each unit is tested with special machines for power-handling capacity as well as 300 volt ground-test, making for uniformity and ability to withstand all types of service. All units are supplied with corrosion-proof metal diaphragms or plastic diaphragms on request, without extra charge. Voice coil impedance on all units: 15 ohms. Special ohmages on request. Supplied blastproof to withstand explosion and gunfire, when requested, at additional charge.

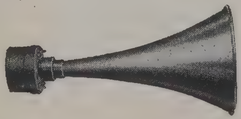
NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

Code	Stock No.	Size	Total Weight	Flux Density per sq. cm.	Capacity (watts) Peak	Operating	List Price
RETUF	PM-530	Magnum Giant	8½ lb.	17000 gausses	60	20	$70.00
RETAX	PM-523	Senior Giant	8 lb.	15000 gausses	60	30	57.50
RETOT	PM-515	Junior Giant	6½ lb.	14000 gausses	60	30	47.50
RETIL	PM-508	Baby Giant	3½ lb.	11000 gausses	35	25	32.50
REDOW	PM-505	Dwarf	1 lb.	8000 gausses	10-20	5-15	18.00

STANDARD TYPES USING ALNICO BLUE DOT MAGNETS

Code	Stock No.	Size	Weight of Alnico	Total Weight	Flux Density per sq. cm.	Capacity (watts) Peak	Operating	List Price
REVUM	PM-383	Super Giant	130 oz.	17 lb.	15000 gausses	60	30	$65.00
REVUX	PM-365	Giant	104 oz.	13 lb.	14000 gausses	60	30	55.00
REVUE	PM-338	Master	60 oz.	9 lb.	12000 gausses	60	30	45.00
REVAT	PM-329	Junior	45 oz.	7¾ lb.	10000 gausses	60	30	35.00
REVEL	PM-311	Baby	17 oz.	3 lb.	8000 gausses	35	20	18.00

Permanent Magnet High Frequency Speaker



An efficient and precision built speaker, to meet the latest requirements for wide-range reproduction. Designed to cover the frequency band from 1,000 to 12,000 cycles. Special models are available for response up to 18,000 cycles. Supplied with horn, (as shown) and mounting bracket, (not shown). Designed to operate in conjunction with a suitable low frequency speaker (cone or horn type) in order to give high fidelity reproduction in the wide-range audio frequency band. Not made to operate below 1,000 cycles.

Voice Coil impedance 15 ohms.

Code	Stock No.	List Price
RABAT	HF-3 Complete with Unit	$25.00

DIAPHRAGM REPLACEMENTS

Code		Net Price
Code: RUTEX	Type A Diaphragms only	$2.60*
Code: RUVEX	Type B Diaphragms only	3.60*
Code: RUZEN	Type A Head Assembly (including diaphragm) Theatre Type	4.25*
Code: RUZUR	Type B Head Assembly (including diaphragm) General PA Type	5.25*
Code: RUBUF	Type A High Fidelity Head Assembly (including diaphragm)	6.00*

MULTIPLE HORN COMBINATIONS

Connectors made of heavy cast bronze with loose couplings for unit connection.

Combinations of two or three trumpet horns driven by one unit through properly designed connectors, will be found very efficient and flexible for public address service. Wider coverage can be obtained from the same power level input.

Double Connector — Dispersion angle 75°

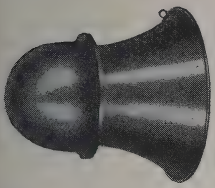
Code	Stock No.	List Price
RADIX	DC-302A	$17.00

Triple Connector — Dispersion angle 105°

Code	Stock No.	List Price
RACER	TC-303A	$23.00

UNITS **RACON** **TRUMPETS**

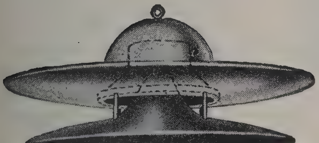
ARMORED CONE SPEAKER PROJECTORS



Efficient projectors for dynamic cone speakers. . . . Rugged and suitable for indoor and outdoor use. . . . All projectors have steel back enclosures and waterproof overlap. . . . Provided with mounting hook and mounting hole.

Code	Stock No.	Cone Size	Bell Diam.	Length	Description	List Price
RUMIX	CP-8A	8″	15″	15″	Aluminum Bell; Steel Back	$10.00
RUMIL	CP-8S	8″	15″	15″	All Steel	10.50
RIFLE	CP-8AW	8″	15″	15″	All Steel, with back acoustically damped, and cone opening protected by wire screening and silk gauze	11.50
REDAZ	CP-8AS	6″-8″	22″	20″	Aluminum Bell; Steel Back	27.50
RUMID	CP-12A	12″	17″	20″	Aluminum Bell; Steel Back	11.50
RUMIS	CP-12S	12″	17″	20″	All Steel	12.00
ROBOT	CP-12AW	12″	17″	20″	All Steel, with back acoustically damped, and cone opening protected by wire screening and silk gauze	13.50

RADIAL HOUSING FOR CONE SPEAKERS



A radial housing for cone operation. Speaker is designed to project sound over a complete circumference of 360°, distributing the sound with even intensity and bringing out the high response lacking in direct cone horns. Particularly adapted for use on trucks and in auditoriums where complete coverage is desired. Can be camouflaged to blend with ceiling architecture.

IN ALL RACON RADIAL CONE HOUSINGS the upper deflector is made of heavy gauge steel, back cone cover of steel, and lower deflector of RACON ACOUSTIC material to prevent resonant effects prevalent in all metal reflecting surfaces. Storm-proofed for all weather conditions. These cone housings are furnished without speakers.

Code	Stock No.	Cone Size	Bell Diameter	Depth	Weight	List Price
RADAG	CR-12	12″ or 10″	31″	14″	10 lb.	$29.50
RADAC	CR-6	6″ or 5″	17″	7″	3½ lb.	10.50

STEEL SWIVEL BRACKETS FOR CONE PROJECTORS

For wall or truck mounting; equipped with a tooth ratchet swivel to give 180° angular movement. Supplied with stand—or without stand to attach to standard pipe connection.

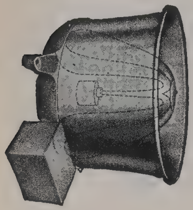
Stock No. RB-150A

Code	Stock No.	Description	Cone Size	List Price
RAMIS	RB-150	Without Base	8″ or 12″	$3.50
RAMIT	RB-150A	With Base	8″ or 12″	5.00
RAMUN	LB-150	Without Base	12″	4.00
RAMUB	LB-150A	With Base	12″	6.00

Stock No. LB-150A

UNITS RACON TRUMPETS

DOUBLE RE-ENTRANT MARINE SPEAKERS



THE LATEST SPEAKERS IN MARINE PRACTICE! A double re-entrant type of horn. The Regular, Midget and Miniature Marine speakers are approved by the Bureau of Marine Inspection and Navigation, Department of Commerce, for all Emergency Loudspeaker Systems on ships, under the 53rd Supplement of the Bureau, after tests made by the Bureau of Standards, Washington, D. C. These Marine Speakers are used both as Loudspeakers and as Microphones. The driving Unit and connections are all enclosed, making a completely waterproof speaker not affected by temperature or weather, including use on sea even during storms! Made from a heavy aluminum spinning, having a base of heavy aluminum casting. Has special non-corrosive Aluminum casting; baked chromatic Undercoat Finish plus outside lacquer finish. Uses latest type of driver units. Supplied with three-legged flush type mounting or U-bracket mounting. All Speakers have waterproof boxes for interior mounting of transformers. Regular and Midget marine speakers supplied blastproof to withstand gunfire and explosion, when requested, at additional charge.

Code	Stock No.	Size	Bell Diam.	Depth	Weight	Capacity (watts) Peak	Capacity (watts) Operating	Units	List Price
RADOF	MB-64M	Bull Marine	28″	21″	118 lb.	240	120	4-Master	$500.00
RADOT	MB-62M	Bull Marine	28″	21″	91 lb.	120	60	2-Master	400.00
REDIX	MR-30M	Regular Marine	14″	10″	25 lb.	60	30	1-Master	130.00
REDIT	MR-32M	Regular Marine	14″	10″	36 lb.	120	60	2-Master	185.00
RASOM	MG-21J	Midget Marine	9½″	6¾″	10½ lb.	60	30	1-Junior	55.00
RASOB	MG-21B	Midget Marine	9½″	6¾″	7½ lb.	35	20	1-Baby	40.00
REDUP	MN-15B	Miniature Marine	6¼″	4¾″	4¼ lb.	35	20	1-Baby	30.00

Bull Marine: For long range reproduction and pick-up.

Regular and Midget Marine: For long range reproduction and pick-up. Delivers 100 DB of sound 100 feet from horn with 1 watt input. Will pick up sound up to 100 feet. For Marine, General Public Address and Railroad work.

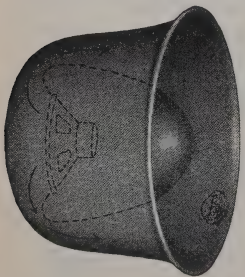
Miniature Marine: Has higher cut-off. Excellent for speech work in monitoring system, outdoor and indoor paging, intercom systems and railway work.

"Miniature Long Bell"

Miniature Marine Speaker with bell 10¼″ in diameter and 10½″ in depth—otherwise same characteristics as Miniature Marine MN-15B listed above:

Code REDIG Stock No. MN-16B List Price $32.50

CONE MARINE RE-ENTRANT SPEAKER HOUSINGS



A re-entrant speaker housing of the Marine type for cone operation. Owing to construction this housing can be used outdoors as well in all weather and temperatures without damage. Cone diaphragm is protected not only from direct contact of rain, but also from physical damage. Can be used for voice or music reproduction.

IN ALL RACON CONE MARINE SPEAKER HOUSINGS bell is made of heavy gauge aluminum; cone mounting is made of aluminum casting; centre bullet is made of Patented Racon Acoustic material to prevent resonant effects. Material is stormproofed for all weather conditions. **Cone Speakers not supplied with housings.**

Code	Stock No.	Cone Size	Bell Diam.	Depth	Weight	List Price
RELIM	CM-12	12″	24″	15″	10 lb.	$36.00
REFIM	CM- 8	8″	17½″	11½″	4½ lb.	19.50
REKIM	CM- 5	5″	10½″	8½″	2¼ lb.	10.50
REPIM	CM- 3	4″&3″	7¼″	5¼″	2¼ lb.	8.00

Brackets are supplied with 5″ and 4″ housings at no additional charge.

UNITS **RACON** TRUMPETS

STRAIGHT TRUMPETS

RACON STRAIGHT TRUMPETS are the most efficient horns obtainable. Output from any straight trumpet is approximately 2 DB higher than any re-entrant type with the same input. This is because straight trumpets lack the attenuation from resistance and reflection which is inherent in all re-entrant horns. Will override extremely high noise level, indoors or outdoors.

RACON PATENTED ACOUSTIC TRUMPETS are made of Racon Acoustic cloth processed by a patented method which gives a non-vibratory wall, thereby increasing the output of the horn without loss due to wall vibration. Supplied for indoor use (DeLuxe type) and for outdoor use (Stormproof type)—guaranteed for life in all kinds of weather and temperature.

METAL TRUMPETS are made of heavy gauge aluminum spinning and cast aluminum throat sections with rolled beaded edge.

UNBREAKABLE TRUMPETS are made of heavy gauge aluminum spinning, reinforced and damped with Patented Racon Acoustic Material to prevent wall vibration.

Code	Stock No.	Air Column Length	Bell Diam.	Cut-off (cycles)	Material	Length of Casting	Number of Units	Weight	List Price
RIDER	ST-414A	6′	30″	115	Stormproof	34″	1	23 lb.	$95.00
RHYME	ST-414B	6′	30″	115	DeLuxe	34″	1	18 lb.	79.50
RYDOX	ST-424A	6′	30″	115	Stormproof	28″	2	25 lb.	103.50
RYPAN	ST-424B	6′	30″	115	DeLuxe	28″	2	21 lb.	88.00
RHINO	ST-417A	6′	30″	115	All Aluminum	34″	1	19 lb.	87.50
RHOMB	DT-427A	6′	30″	115	All Aluminum	28″	2	21 lb.	96.00
REGON	ST-415A	6′	30″	115	Unbreakable	34″	1	21 lb.	121.00
REGAY	ST-425A	6′	30″	115	Unbreakable	28″	2	23 lb.	129.50
RECUR	QT-444A	6′	30″	115	Unbreakable	25″	4	30 lb.	200.00
RABIB	NT-494A	6′	30″	115	Unbreakable	22″	9	48 lb.	335.00
RACEY	ST-412A	4½′	25″	145	Stormproof	25″	1	18 lb.	71.00
RANCH	ST-412B	4½′	25″	145	DeLuxe	25″	1	16 lb.	52.50
RIANT	ST-413A	4½′	25″	145	All Aluminum	25″	1	11 lb.	65.00
RIBES	DT-423A	4½′	25″	145	All Aluminum	25″	2	16½ lb.	73.50
REFIX	ST-418A	4½′	25″	145	Unbreakable	25″	1	15 lb.	93.50
RENEW	ST-411A	3½′	22″	195	Stormproof	12″	1	12 lb.	50.00
REMIT	ST-411B	3½′	22″	195	DeLuxe	12″	1	10 lb.	35.00
REPEX	ST-410A	3½′	22″	195	All Aluminum	14″	1	7 lb.	35.00
RISAT	ST-251A	2′	12″	250	Stormproof	4″	1	2¼ lb.	17.50
RIKAL	ST-251C	2′	12″	250	DeLuxe	4″	1	1¾ lb.	12.50
RIMAD	ST-251B	2′	12″	250	All Aluminum	4″	1	2 lb.	13.50

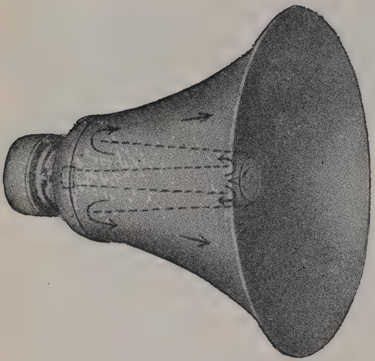
FLAT BELL TYPE

(to meet special conditions, such as truck mounting, where space available is not suited to round bell horn)

Code	Stock No.	Air Column Length	Bell Diam.	Cut-off (cycles)	Material	Length of Casting	Number of Units	Weight	List Price
ROBIN	ST-418A	6′	51″ x 12″	115	Stormproof	34″	1	28 lb.	$100.00
ROGUE	ST418B	6′	51″ x 12″	115	DeLuxe	34″	1	24 lb.	79.50

UNITS RACON TRUMPETS

RE-ENTRANT TRUMPETS



A compact trumpet of the double re-entrant type, made to occupy a small space, yet having a long air column and delivering highly concentrated sound with the greatest efficiency over long distances. Threaded to take all sizes of PM units.

ALL RACON RE-ENTRANT SPEAKERS have base and inside tone arm made of aluminum castings, outside bell of heavy gauge aluminum spinning, and center reflecting section of RACON ACOUSTIC material to avoid resonant effects prevalent in all metal reflecting surfaces. Sturdy construction makes them practically abuse-proof.

Finished in wrinkle or flat color.

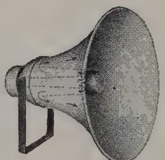
Code	Stock No.	Acoustic Length	Length	Bell Diam.	Cut-off (cycles)	Weight	List Price
REMOL	RE-60	6′	28″	25½″	115	20 lb.	$66.00
REMOM	RE-45	4½′	23½″	24½″	145	11 lb.	55.00
REMOX	RE-35	3½′	16″	18″	195	7 lb.	32.50
REMOD	RE-25	2½′	16″	12¾″	245	4¾ lb.	25.00
*REMOG	*RE-25C	2½′	16″	12¾″	245	5 lb.	27.50

*25C is Portable Type with demountable bell held by clips—ideal for shipping as bells nest in quantities.

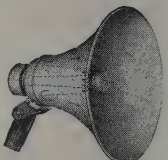
RE-ENTRANT SPEAKER ACCESSORIES

Stock No. TB-150

Stock No. CO-80.



Stock No. UB-1A



Stock No. RB-1B

RE-ENTRANT SPEAKER SWIVEL BRACKET—a three-legged base and ratchet for mounting Re-entrant Horns on wall or truck roof. Base is made of bronze casting, pipe and ratchet connection of steel. Overall height 9″.

Code RAMUG Stock No. TB-150 List Price $4.00

WATERTIGHT REAR HOUSING—for enclosure of driver unit and transformer when used. Will fit all Re-entrant Horns.

Code ROGET Stock No. CO-80. List Price $2.50

U-BRACKET AND SWIVEL RATCHET MOUNTINGS—choice of either of these mountings will be supplied, on request, with any of the Re-entrant Trumpets listed above. No additional charge.

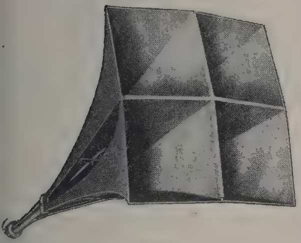
Specify stock number when ordering:

Stock No. UB-1A—U-Bracket Mounting

Stock No. RB-1B—Swivel Ratchet Mounting

UNITS **RACON** TRUMPETS

CELLULAR HORN



A new type of cellular horn for operation between 195 and 12,000 cycles, with an angular distribution of 60°.

Made only in blocs of 4 cells—of Racon unbreakable material, having heavy aluminum throat castings and unbreakable bell sections.

Overall length 42″. Total bell opening 14″ x 14″. Weight 18 lbs.

Code: RAGIN Stock No. QB-641-C List Price $120.00
Cellular Horn without unit

RADIAL RE-ENTRANT SPEAKER

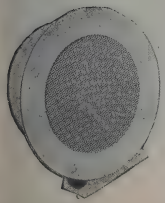
A 3½ foot re-entrant type horn designed to project sound over a complete circumference of 360°, distributing the sound with an even intensity. For all sound installations where complete coverage is desired.

Base and tone arm made of heavy aluminum castings, center deflector and deflecting bells made of RACON ACOUSTIC material to prevent all resonant effects. Material storm-proofed and guaranteed against all weather conditions. Brass loose couplings for easy unit connection.

Uses standard RACON Units.

Code: RADAK Stock No. SR-35-R List Price $40.00
Width 17″—Height 15″—Weight 7 lbs.

MONITOR AND INTERCOM SPEAKER—CONE TYPE



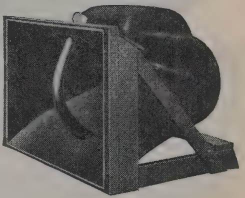
A compact 4″ cone speaker designed for voice and excellent music reproduction. Mounted on a small base in a steel case and completely enclosed with protective wire grill. For use where quality combined with small size is a requirement because of space limitation or esthetic appearance.

Overall dimensions: 5¼″ diameter. 2¾″ deep. Wt.: 20 oz.

Complete with cone speaker.

Code: RYBOB Stock No. CS-4-N List Price $10.00

AUDITORIUM HORN



A 7 foot length horn folded to occupy a space 21½″ x 26½″ x 23½″.

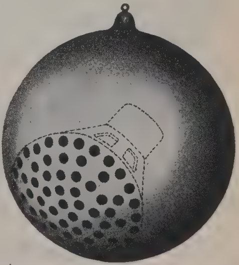
An excellent horn for auditoriums, small theatres, portable talkie equipment, etc., and for mounting in the proscenium arch of a large theatre. Small in size and light in weight.

A departure in standard horn design, giving excellent musical as well as speech reproduction out of all proportion to the small size of the horn.

Code: ROOST Stock No. FL-513-B List Price $66.00
Horn only—DeLuxe Type for indoor use—wt. 25 lbs.
Code: RETRO Stock No. FL-513-A List Price $88.00
Horn only—Stormproof Type—guaranteed for all climates and weather—wt. 29 lbs.

BALL TYPE CONE SPEAKER HOUSING

DESIGNED FOR 6″ OR 8″ CONE



A new type ball speaker to be used where directional sound is required and where the standard type of cone projections clash with the surrounding furnishings or architecture.

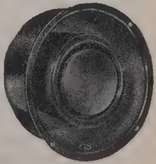
Will project a beam at an angle of 45°.

Will operate with 6″ and 8″ cone speakers, and can be used for paging systems (voice reproduction) as well as for musical reproduction.

Made of steel, with hanging lamp fixture. Finished as desired.

Ball Diameter	Weight	Code	Stock No.	List Price
		For 6″ Cone		
14″	9 lbs.	RESAL	BC-6	$16.00
		For 8″ Cone		
14″	9 lbs.	REBAL	BC-8	16.00

DWARF RE-ENTRANT



A small re-entrant speaker designed for speech reproduction only.

Very highly efficient, using dwarf unit.

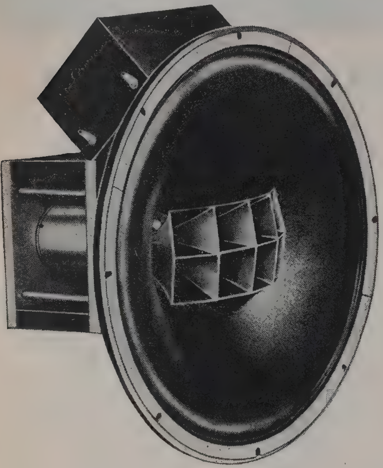
Flange around bell for flush mounting.

Complete with unit and transformer housing. Can be supplied with ratchet mounting.

Bell Diam. 5″—Depth 2¼″ —Weight 24 oz.

Code: REDOX Stock No. DW-9-R List Price $27.50

TRU-SONIC SPEAKERS



COAXIAL SPEAKER

Living Vibrant Realism

The Stephens Manufacturing Company proudly presents its new Series 52 TRU-SONIC Coaxial Speakers. Combined in a single assembly are a Low-Frequency unit of the cone type, a High-Frequency unit of the multicellular type and the complementary 2-channel Dividing-Network. By means of this Dividing-Network, or electrical crossover, the large cone, specially designed for efficient bass response, receives only the lower portion of the audible spectrum. The High-Frequency reproducer receives the energy carrying the treble tones and distributes them throughout the entire listening area without loss of level. A unique feature is the unusual design, which permits the use of 8 cellular horns in a compact assembly. This provides the widest angle high-frequency distribution available in a reproducer of this size. These factors, and others, make the TRU-SONIC Coaxial Speaker the ideal for AM and FM reception, broadcast station monitoring and sound-motion-picture reproduction.

SPECIFICATIONS

Electrical Characteristics

(1) Power input: 20 Watts
(2) Cross-over Frequency: 1200 C. P. S.
(3) Horizontal distribution angle: 80
(4) Vertical distribution angle: 40
(5) Field Excitation:
  a) 5.5 lb. copper coil 30 watts
  b) 6 lb. Alnico 5
(6) Field Resistance:1600 Ohms or to Specification
(7) Input impedance: 16 Ohms
(8) Frequency response: ±5 db. from 50 to 10,000 CPS
(9) Cone resonance: 55 cycles
(10) Diaphragm resonance: 400 cycles

Physical Characteristics

(1) Overall Diameter: 15½″
(2) Baffle Opening: 13½″
(3) Depth behind mounting Panel 10″
(4) Net Weight: 30 Pounds
(5) Cabinet Dimensions:
  26″ wide by 15″ deep by 34″ high.

Licensed under Western Electric Patents

SINGLE SPEAKER

• Model 52L Single Speaker

Realism From a Single Unit

A new presentation is this powerful 15″ speaker with curvilinear designed, highly efficient, seamless moulded and moisture-resistant cone. Suspension compliance has been carefully calculated to promote ideal piston-like action of the diaphragm. Effective driving area is approximately 125 sq. inches. Voice coil is 2 inches in diameter, treated with a refined temperature-resistant varnish, and wound with highly conductive copper wire.

SPECIFICATIONS

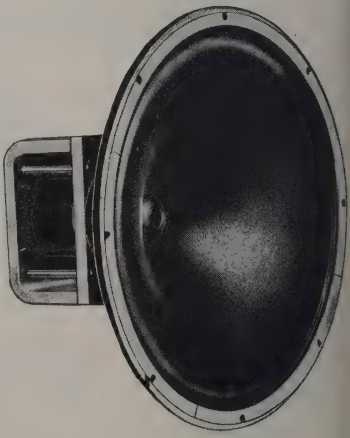
Electrical Characteristics

(1) Power Input: 20 Watts
(2) Field Excitation:
  (a) 4 pound copper coil: 20 watts
  (b) 4 pound Alnico 5 Permanent Magnet
(3) Input Impedance: 16 Ohms
(4) Field Resistance: 1700 Ohms or to specification
(5) Cone Resonance: 55 Cycles

Physical Characteristics

(1) Overall Diameter: 15⅛″
(2) Baffle Opening: 13½″
(3) Depth behind Mounting Panel: 8½″
(4) Net Weight: 25 Pounds
(5) Mounting Dimensions: RMA Standard

Licensed under Western Electric Patents.



STEPHENS MANUFACTURING CO. • **10416 NATIONAL BOULEVARD**
LOS ANGELES 34, CALIF.

TRU-SONIC

SEPARATE 2-WAY SPEAKER SYSTEM

SERIES 52

A NEW HIGH IN FIDELITY

In order to provide a deluxe presentation for the most discriminating audience, engineers of the Stephens Manufacturing Company have designed the TRU-SONIC Separate 2-Way Speaker System. Space requirements are greater than for the TRU-SONIC Coaxial unit, for in order to extend the tone range and permit the ultimate in realism, larger physical proportions are necessary.

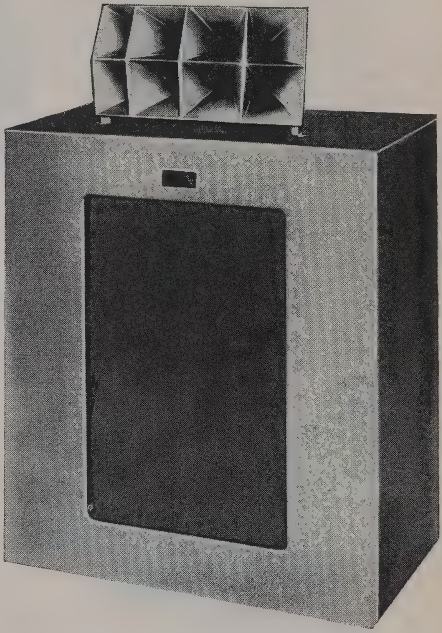
•

• 52HF Separate 2-Way System

LIST PRICES

Model E-52HF TRU-SONIC Separate 2-Way Speaker System *Electro-dynamic type, complete with field supply.*	$295.00
Model P-52HF TRU-SONIC Separate 2-Way Speaker System *Permanent magnet type* *System is supplied in Model 52U TRU-SONIC Bass-Reflex Utility Cabinet, finished in battleship gray.*	320.00
Model P-52A TRU-SONIC Permanent Magnet Unit Complete	205.00
Model E-52A TRU-SONIC Electrodynamic Unit Complete	175.00
Model 52S Field Supply for above	18.00
Model 52U TRU-SONIC Bass-Reflex Utility Cabinet *Finished in battleship gray or to specifications*	60.00
Model 52SD Period Design Bass-Reflex Cabinet	180.00
Model 52M Modern Design Bass-Reflex Cabinet *Available in Ebony Black, Mandarin Red and Moonstone Ivory—specify which.*	180.00
Model E-52L TRU-SONIC Single Speaker *Electro-dynamic type*	60.00
Model P-52L TRU-SONIC Single Speaker *Permanent Magnet type*	80.00

F.O.B. Los Angeles, Calif.



SPECIFICATIONS

Electrical Characteristics

(1) Power input: 20 watts
(2) Crossover frequency: 800 cycles
(3) Horizontal distribution angle: 80°
(4) Vertical distribution angle: 40°
(5) Number of high-frequency cells: 8
(6) Combined field excitation: 35 watts
Electro-dynamic type
(1) Combined field weights, Alnico 5: 6 lbs.
Permanent magnet type
(8) Input impedance: 16 ohms
(9) Cone resonance: 55 cycles
(10) Diaphragm resonance: 400 cycles
(11) Frequency response: ±5 db from 40 to 12000 cycles
(12) High Frequency Unit: (See Spec. for Model 15)
(13) Low Frequency Unit: (See Spec. for Model 52L)
(14) Multicellular Horn: (See Spec. for Model 800H)

Physical Characteristics

Cabinet Dimensions: 26″ wide by 15″ deep by 34″ high.

Overall height: 43″.

Net Weight: 90 pounds.

Licensed under Western Electric Patents.

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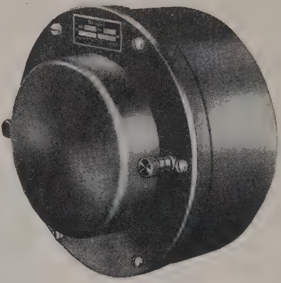
LOS ANGELES 34, CALIF.

TRU-SONIC

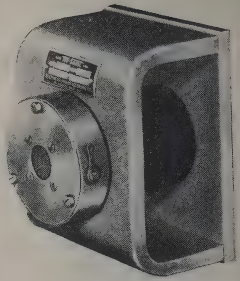
HIGH-FREQUENCY UNITS and SPEAKERS

Tru-Sonic High-Frequency Units Make Sound-Reproduction History

As generators of acoustic power in the upper end of the audible spectrum, the TRU-SONIC High-Frequency units present the perfect blend of sound-engineering design and listener preference. Acoustic response, in combination with L-F units, has been adjusted to levels picked as being most pleasing to a large majority of selected listeners. *Actual listening tests on scores of representative groups of living people* have dictated the design of the acoustic proportions in the critical compression chamber.



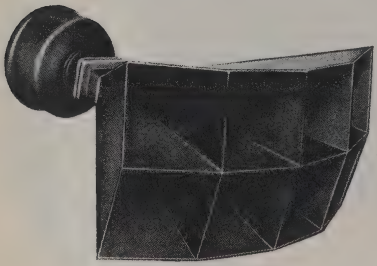
- **Type 40 H-F**



- **Type 15 H-F Unit**

● HORNS

Acoustic-loading and beam dispersion is accomplished by the complementary wide-angle 8 cell horns of the 400 and 800 series supplied as standard. Where special conditions call for wider angle distribution, horns of additional cells are available on request.



Model 40-424HX H-F Speaker

SPECIFICATIONS—Type 40 Unit

Electrical Characteristics

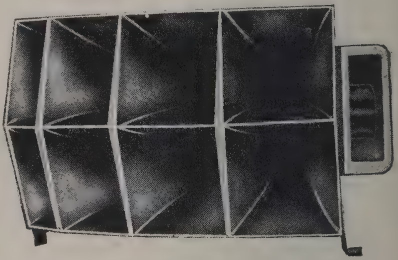
(1) Input Impedance: 16 ohms
(2) Input power: 40 watts above 800 cycles
(3) Field power: 30 watts
(4) Field resistance: 1700 ohms or to specification *Electro-dynamic Type*
(5) Alnico 5: 5 lbs. *Permanent Magnet Type*
(6) Diaphragm resonance: 250 cycles
(7) Frequency Range: 200 to 12000 cycles

Physical Characteristics

(1) Overall dimensions: 6½" dia. x 5" overall
(2) Throat diameter: 1¼"
(3) Weight: 25 lbs.

LIST PRICES

Model E-40 Tru-Sonic High-Frequency Unit *Electro-dynamic type*	$175.00
Model 52S Tru-Sonic Field Supply for above	18.00
Model E-40-424HX Tru-Sonic High-Frequency Speaker complete with 400 cycle crossover	385.00
Model P-40 Tru-Sonic High-Frequency Unit *Permanent magnet type*	200.00
Model P-40-424HX Tru-Sonic High Frequency Speaker complete with 400 cycle crossover	410.00
Model 424H Tru-Sonic H-F Horn only 21" l x 11" h x 19" w; 21 lbs.	150.00



Model 15-824HX H-F Speaker

SPECIFICATIONS—Type 15 Unit

Electrical Characteristics:

(1) Input Impedance: 16 ohms
(2) Input Power: 20 watts peak above 1000 cps.
(3) Field Power: 10 watts
(4) Field Resistance: 600 ohms or to specification *Electro-dynamic Type*
(5) Alnico 5: 3 lbs. *Permanent Magnet Type*
(6) Diaphragm Resonance: 400 cycles
(7) Frequency range: 300 to 12000 cycles

Physical Characteristics:

(1) Overall Dimensions: 5" x 4" x 5"
(2) Throat Diameter: ⅞"
(3) Weight: 12 lbs.

LIST PRICES

Model E-15 Tru-Sonic High-Frequency Unit *Electro-dynamic type*	$ 55.00
Model E-15-824HX Tru-Sonic High-Frequency Speaker complete with 800 cycle crossover. *Electro-dynamic type*	150.00
Model P-15 Tru-Sonic High-Frequency Unit *Permanent magnet type*	70.00
Model P-15-824HX Tru-Sonic High Frequency Speaker complete with 800 cycle crossover. *Permanent magnet type*	165.00
Model 824H Tru-Sonic Horn only 11" l x 9½" h x 15½" w; 10 lbs.	50.00

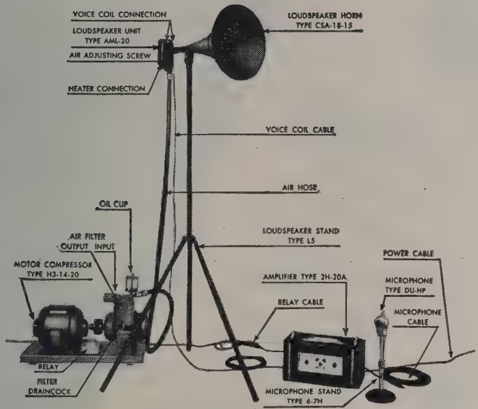
Adapters available to specification
F.O.B. Los Angeles, Calif.
Licensed under Western Electric patents

STEPHENS MANUFACTURING CO. ● 10416 NATIONAL BOULEVARD
LOS ANGELES 34, CALIF.

DISCOUNTS ON REQUEST

Vocal Aire

THE WORLD'S LOUDEST LOUD SPEAKER


VOICE COIL CONNECTION
LOUDSPEAKER UNIT TYPE AML-20
AIR ADJUSTING SCREW
HEATER CONNECTION
LOUDSPEAKER HORN TYPE CSA-18-15
VOICE COIL CABLE
AIR HOSE
OIL CUP
AIR FILTER
OUTPUT INPUT
MOTOR COMPRESSOR TYPE H3-14-20
LOUDSPEAKER STAND TYPE L5
POWER CABLE
AMPLIFIER TYPE 2H-20A
MICROPHONE TYPE DU-HP
RELAY CABLE
MICROPHONE CABLE
RELAY
FILTER DRAINCOCK
MICROPHONE STAND TYPE 6-7H

VOCAL-AIRE SOUND SYSTEM
TYPE AHS-1D1

1—18" horn
1—Vocal-Aire driver unit
1—20-watt amplifier
1—air compressor
1—microphone

add it up and it equals the audio output of a 500-watt system.

Compressed air and the patented *Voice-Valve* do the job.

VOCAL-AIRE is something new in sound . . . the answer to the outdoor sound problem . . . it utilizes natural forces to project speech over large areas . . . it can be heard one to one-and-a-half miles under average conditions . . . has been heard distinctly and with complete intelligibility at 5 to 10 miles under ideal conditions . . . it is a natural for any open-air set-up.

It doesn't blast your ears even at close range and has a remarkable 360° coverage with the 18" horn . . . only 10db drop-off directly in back of the horn . . . for use in stadiums, tracks, fairs, construction projects, railroad yards and on sound trucks for portable use.

It is now used by the U. S. Signal Corps, Floyd Bennett Field, New Haven Fire Department, Yale Bowl, University of Missouri, City of Huntingdon, W. Va., C. J. Dick Towing Co., Houston, Texas, and many others.

High intelligibility, penetrating clarity and full control of volume from zero to maximum make it ideal wherever voice must cover large areas over local noise . . . and simple to install . . . only two driver units needed to cover the huge Yale Bowl at New Haven.

Complete system weighs less than 250 pounds, easily portable. Systems available for 115/230 v. AC, 1-phase 50/60 cycle; 220/440 v. AC, 3-phase, 60 cycle; or gas engine drive with built-in compressor and generator for portable use.

Easy to demonstrate...no need to string up multiple speakers and run long wire lines.

Write for FREE descriptive literature.

Sold exclusively through wholesale distributors of sound equipment.

National Sales Representatives
Hutchins Industries, Inc.
325 West Huron St.
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VOCAL-AIRE IS MANUFACTURED BY DILKS, INCORPORATED, NORWALK, CONN.

for —

Political Gatherings
Schools - Colleges
Passenger Vessels
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Swimming Pools
Ferries - Tugs
Fishing Boats
Coast Guard
Race Tracks
Boat Clubs
Shipyards
Armories
Paging
Life Guards

TAYBERN "POWER VOICE" PORTABLE ELECTRIC MEGAPHONE

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&
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Depts.

EASY TO USE
WEATHERPROOF
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COMPACT

for —

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Truck Loading
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Industrial Yards
Construction Gangs
— and Many Other Uses

TAYBERN

EQUIPMENT COMPANY
120 Greenwich St., New York 6, N. Y.

ELECTRONIC EQUIPMENT MANUFACTURERS

University SPEAKERS

. . . unmatched in quality and adaptability

The UNIVERSITY line of super power speakers, reflex projectors, driver units, radial horns, and specialized marine and railroad speakers has a world-wide reputation for quality. It includes speakers with a *consistent* range of two miles, speakers that continue to function in a bath of *live steam* under 90 pounds pressure, and speakers that are *explosion proof*. All UNIVERSITY speakers are unconditionally guaranteed for a period of one year.

SUPER POWER SPEAKERS

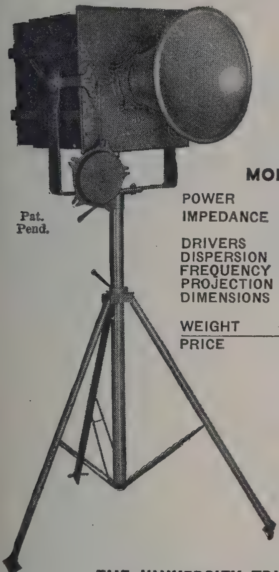
UNIVERSITY super power speakers are multi-driver, multiple sound channel types. In the model B-12, twelve PM-dynamic driver units are mounted circumferentially on a rugged "tone chamber" casting. This casting provides individual acoustic paths from each driver unit to a mixing chamber at the center of the casting. The model B-6 is of comparable construction to the B-12, but it is powered by six driver units. The patented design of the mixing chamber and the acoustic paths minimizes high frequency cancellation.

For marine application, the B-6 is available in a modified version, the model B-6M. This speaker differs from the B-6 in that it has a reflex air column, is made entirely of heavy aluminum castings, and is only 7½" deep. Designed for maximum compactness, its reflex construction makes it waterproof.

The model 4A4 has four driver units mounted on the back of a heavy cast mounting plate. Each of the drivers opens into a reflexed air column on the front of the mounting plate. The four air columns feed into a common bell.

These speakers are completely weatherproof, and capable of sending sound with high intelligibility to any part of the largest outdoor installations. Power ratings are conservative, and stated projection ranges are often exceeded in actual operation. All of these speakers are mounted by swivel joints on "U" brackets so that they may be swung vertically through approximately 120° and locked in any position.

For portable use, the "U" bracket is mounted on the Model TS-6 tripod by means of a locking collar which allows the speaker to be rotated horizontally through 360°. For permanent installation, the speaker may be used with a tripod or held in place by the "U" bracket alone. Type B and C horns also available with B-6 or B-12 for music. Type B, 24" diam., 100-6000 cps. Type C 30" diam., 85-6000 cps.



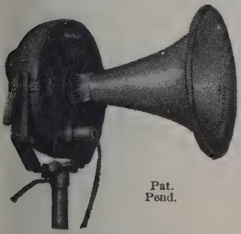
MODEL B-12

POWER	300 WATTS
IMPEDANCE	DOUBLE INPUT 90 OHMS EACH
DRIVERS	12 UNITS
DISPERSION	90°
FREQUENCY	250-6000 CPS
PROJECTION	2 MILES
DIMENSIONS	19" SQUARE 28" LONG
WEIGHT	120 LBS.
PRICE	$935.00

THE UNIVERSITY TRIPOD

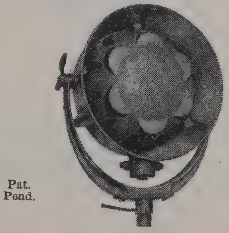
(Model TS-6 Illustrated)

Available separately in two styles. Model TS-10 for any reflex trumpet with 10 ft. max. height. Model TS-6 for super power speakers or reflex trumpets with 6 ft. max. height. Proof against 50 mph wind. Single lever control varies height through two foot range. Folded length less than 4 ft. ....Price $40.00



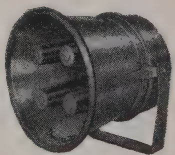
MODEL B-6

POWER	150 WATTS
IMPEDANCE	90 OHMS
DRIVERS	6 UNITS
DISPERSION	90°
FREQUENCY	200-6000 CPS
PROJECTION	1½ MILES
DIAMETER	16½"
LENGTH	23"
WEIGHT	60 LBS.
PRICE	$505.00



MODEL B-6M

POWER	150 WATTS
IMPEDANCE	90 OHMS
DRIVERS	6 UNITS
DISPERSION	80°
FREQUENCY	200-6000 CPS
PROJECTION	1½ MILES
DIAMETER	20"
LENGTH	7½"
WEIGHT	70 LBS.
PRICE	UPON REQUEST



MODEL 4A4

POWER	100 WATTS
IMPEDANCE	4, 16, 60 OHMS
DRIVERS	4 UNITS
DISPERSION	70°
FREQUENCY	200-6000 CPS
PROJECTION	1 MILE
DIAMETER	16"
LENGTH	17"
WEIGHT	40 LBS.
PRICE	$305.00

University SPEAKERS

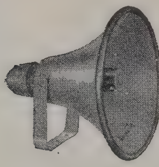
STANDARD REFLEX LOUDSPEAKERS

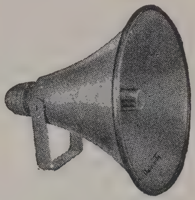
UNIVERSITY pioneered in making reflex horns available to the public address industry. The reflex horn represents a major advance over the straight horn in that it provides compactness and protection from the weather without any sacrifice in performance. This is accomplished by folding the air column back on itself twice. Close attention to the dimensions at the "bends" and an exponential taper modified on the basis of intensive research give these units a response equal to that of straight horns.

Heavy gauge metal fabrication and corrosion resistant finishes on both horns and hardware enable these units to withstand any degree of outdoor exposure or vibration, and rubber damped rims remove every trace of mechanical resonance. Standard UNIVERSITY "U" bracket mountings are provided to simplfiy installation.

Accessories include Model TS-6 and TS-10 tripod, PMA adapter, and 2YC connector.

The model GH, with an air column of six feet, has a low frequency cutoff well suited for the reproduction of the finest symphonic music. The model LH, with a somewhat higher cutoff, is designed for general applications, and particularly recommended for music reproduction. Model PH will serve for both music and speech where a smaller horn is required, and the SMH finds wide application for high clarity reproduction of speech.





	MODEL SMH	MODEL PH	MODEL LH	MODEL GH
DISPERSION	75°	80°	90°	90°
AIR COLUMN	2½ FT.	3½ FT.	4½ FT.	6 FT.
LOW FREQ. CUTOFF.	200 CPS	150 CPS	120 CPS	85 CPS
DIAMETER	15½ INCHES	20 INCHES	25½ INCHES	30 INCHES
LENGTH	12 INCHES	15 INCHES	18½ INCHES	25 INCHES
WEIGHT	6 LBS.	10 LBS.	15 LBS.	22 LBS.
PRICE (Horn only)	$20.50	$27.50	$44.50	

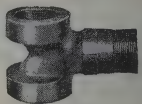
BREAKDOWN-PROOF DRIVER UNITS

Model PMA Adapter

For mounting any UNIVERSITY "U" bracket speaker on standard ½" pipe.

Price $1.50

MODEL PAH	MODEL SAH	MODEL MAH
25 WATTS CONTINUOUS	25 WATTS CONTINUOUS	12 WATTS CONTINUOUS
16 OHMS V.C. IMPEDANCE	16 OHMS V.C. IMPEDANCE	8 OHMS V.C. IMPEDANCE
80-6000 CPS	90-6000 CPS	100-6000 CPS
5¼" DIAM.	4½" DIAM.	3½" DIAM.
5" HIGH	5" HIGH	3" HIGH
9 LBS. WT.	5 LBS. WT.	2¼ LBS. WT.
PRICE $53.00	PRICE $37.00	PRICE $25.00



Model 2YC Connector

Use with two drive units to make 50 watt speaker of any UNIVERSITY trumpet or projector. Price **$10.00**

UNIVERSITY breakdown-proof driver units are PM-dynamic types made with the highest quality Alnico magnets and one-piece molded phenolic diaphragms. Exclusive UNIVERSITY "rim centering" construction eliminates aligning pins and permanently centers the voice coil and head assembly in a much closer magnetic gap, so that higher conversion efficiency is attained and misalignment due to shock or vibration is almost impossible. The entire assembly is enclosed in an hermetically sealed housing for complete protection from outdoor exposure.

The model PAH has the largest magnetic structure and, therefore a ***35% higher conversion efficiency*** and a better low-frequency response than the SAH or the MAH. Both the PAH and the SAH are suitable for higher power installations or for use involving occasional over-load hazard. The model MAH will give the most economical service where the power requirements are not over 12 watts. Note model 2YC connector above.

University SPEAKERS

INDUSTRIAL PAGING SPEAKERS

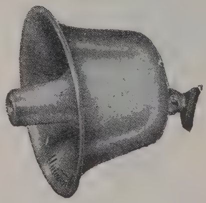
These speakers are reflex air column horns with built-in hermetically sealed driver units. Models CR, 1B8, and MIL are directional and models RCR and IBR have radial deflectors for uniform 360° dispersion. They are capable of continuous use for intercommunication on shipboard, docks, loading platforms, terminals and industrial plants.

Models CR and RCR can handle 18 watts of input power continuously, so that they are useful for high power alarm or announcing systems. Models IB8 and IBR have a continuous power handling capacity of 12 watts, which recommends them for paging or announcing in noisy industrial areas. The MIL with a 5 watt continuous power capacity is an efficient intercommunication speaker.

While capable of producing adequate volume with low power, these speakers can handle more power than any other speaker of comparable size and weight. Modernization of old sound systems is easily accomplished by replacement of obsolete speakers with these models. Standard voice coil impedances permit installation without changes in the existing line or amplifier.

DIRECTIONAL MODELS

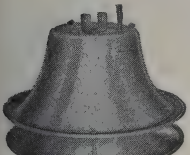
Pat. Pend.



	MODEL MIL	MODEL IB8	MODEL CR
POWER	5 WATTS	12 WATTS	18 WATTS
IMPEDANCE	8 OHMS	8 OHMS	16 OHMS (4 OHMS ON REQUEST)
DISPERSION	120°	90°	90°
FREQUENCY	400-9000 CPS	300-6000 CPS	250-6000 CPS
DIAMETER	6 INCHES	9 INCHES	11 INCHES
LENGTH	7 INCHES	9 INCHES	9 INCHES
WEIGHT	3½ LBS.	5 LBS.	9 LBS.
PRICE	$25.00	$30.00 (with bracket shown)	$42.00 (with bracket shown)

Heavy Duty Bracket for Mobile Use for Model IB8 or CR (specify)........................Price $3.75

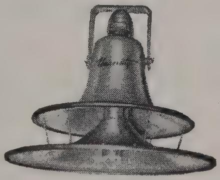
RADIAL MODELS



	MODEL RCR	MODEL IBR
POWER	18 WATTS	12 WATTS
IMPEDANCE	16 OHMS (4 OHMS ON REQUEST)	8 OHMS
FREQUENCY	250-6000 CPS	300-6000 CPS
DIAMETER	14 INCHES	9 INCHES
LENGTH	10 INCHES	11 INCHES
WEIGHT	10 LBS.	5 LBS.
PRICE	$48.50	$34.00

RADIAL REFLEX PROJECTORS

Air column horns with radial deflectors for uniform 360° sound distribution cover large areas and override high noise levels, without blasting. Both rims rubber loaded to minimize mechanical resonance. The long air column of the RLH and its low frequency cutoff make it well suited for music and general applications. The smaller model RPH, with a somewhat higher cutoff, will serve for both music and speech. The RSH finds wide application for high clarity reproduction of speech. Shipped complete with hardware but less driver unit.



MODEL	RLH	RPH	RSH
LOW CUTOFF	120 CPS	150 CPS	180 CPS
AIR COLUMN	5 FT.	4 FT.	3 FT.
DIAMETER	28½"	25"	18½"
HEIGHT	18½"	14"	11"
WEIGHT	21½ LBS.	18 LBS.	12 LBS.
PRICE (Horn only)	$59.00	$45.00	$29.50

RADIAL CONE-SPEAKER PROJECTORS

MODEL	RBP-12	RBP-8
FREQUENCY	UNIFORM DOWN TO 60 CYCLES	UNIFORM DOWN TO 90 CYCLES
DIAMETER	27 INCHES	18 INCHES
HEIGHT	11 INCHES	9 INCHES
WEIGHT	19 LBS.	9 LBS.
PRICE	$35.00	$19.60

These compact projectors consist of an acoustic chamber for housing a cone speaker and a radial deflector for uniform 360° dispersion. Of all metal, rubber cushioned construction, the model RBP-12, designed for a 12" cone speaker, provides uniform response down to 60 cycles and model RBP-8, designed for an 8" speaker, has a low frequency limit of 90 cycles. Any standard make of 8" or 12" cone speaker can be installed in these baffles. Both models are watershedding and may be used indoors or out. They are shipped complete with hardware but less cone speaker.

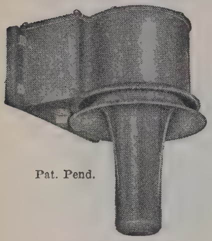
University SPEAKERS

MARINE AND RAILROAD TYPES

SUBMERGENCE, EXPLOSION, SHOCK, AND VIBRATION PROOF MODELS

UNAFFECTED BY LIVE STEAM

RADIAL MODEL



Pat. Pend.

MODEL MSR

POWER	15 WATTS
IMPEDANCE	16 OHMS DIRECT, TRANSFORMERS AVAILABLE
DISPERSION	360°
FREQUENCY	300-6000 CPS
HEIGHT	10½ INCHES
DEPTH	8½ INCHES
WIDTH	7½ INCHES
WEIGHT	12 LBS.
PRICE	$65.00

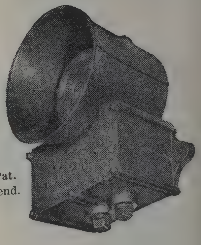
UNIVERSITY submergence and explosion proof speakers are reflex air column horns built of rugged castings and equipped with ALNICO V PM-dynamic driver units.

The model MSR has a radial deflector for uniform 360° dispersion, and the model MM-2TC is a directional speaker. Both have hermetically sealed housings with built-in driver units and space for volume control and line matching transformer. Tapped holes are provided in the housings for access to the volume control and for receiving a conduit.

Models MM-2 and MM-2F are directional speakers with built-in, hermetically sealed driver units. The MM-2 has a swivel jointed mounting bracket which allows it to be mounted anywhere, tilted in any direction, and locked in that position. The MM-2F has a flanged rim for flush mounting in panels or bulkheads.

These speakers will function under water! They will drain automatically in their operating position, and provide uninterrupted service with a minimum of maintenance. They will operate efficiently on ships, docks, in railroad yards or locomotive cabs, in laundries, mines, and mills, wherever there is dirt, salt spray, excessive humidity, explosive dusts, gases, or where live steam is used for cleaning.

DIRECTIONAL MODEL



Pat. Pend.

MODEL MM-2TC

POWER	15 WATTS
IMPEDANCE	16 OHMS DIRECT TRANSFORMERS AVAILABLE
DISPERSION	120°
FREQUENCY	250-6000 CPS
HEIGHT	10 INCHES
DEPTH	5¼ INCHES
WIDTH	7½ INCHES
WEIGHT	11 LBS.
PRICE	$65.00

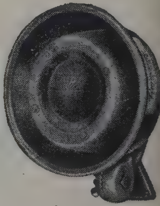
Pat. Pend.

MODEL MM-2F

POWER	15 WATTS
TYPE MOUNTING	FLUSH PANEL
IMPEDANCE	16 OHMS
DISPERSION	120°
FREQUENCY	300-6000 CPS
DIMENSIONS	3¼" DEEP 7½" O.D. 6" Mounting Hole Diameter
WEIGHT	4 LBS.
PRICE	$37.00

MODEL MM-2

POWER	15 WATTS
TYPE MOUNTING	SWIVEL BRACKET
IMPEDANCE	16 OHMS
DISPERSION	120°
FREQUENCY	300-6000 CPS
DIMENSIONS	3¼" DEEP 6" O.D.
WEIGHT	5½ LBS.
PRICE	$37.00

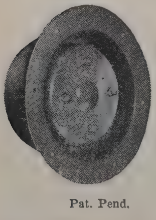


Pat. Pend.

COMPACT SPLASHPROOF MODELS

Models MM-1 and MM-1F, small, highly efficient, splashproof, marine type speakers are useful where space is lacking and high acoustic output is necessary. Their frequency characteristics enable them to cut through surrounding noise with a minimum input power. Immune to salt spray, coal dust, and extreme weather, these speakers will render economical trouble-free service.

Model MM-1 is equipped with a swivel jointed mounting bracket for tilting to any angle. Model MM-1F is provided with a flanged rim for flush mounting in cabinets, walls, or bulkheads. These speakers may be used in radio or communication equipment where efficiency, ruggedness, and weather resistance is required. Standard voice coil impedances permit installation without changes in the existing line or amplifier, when these models are used to replace low efficiency types.



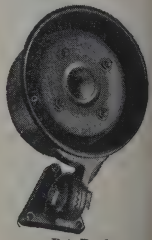
Pat. Pend.

MODEL MM-1F

POWER	8 WATTS
TYPE MOUNTING	FLUSH PANEL
IMPEDANCE	8 OHMS
DISPERSION	120°
FREQUENCY	400-8000 CPS
DIMENSIONS	2½" DEEP 6½" O.D. 4⅝" Mounting Hole Diameter
WEIGHT	2½ LBS.
PRICE	$24.00

MODEL MM-1

POWER	8 WATTS
TYPE MOUNTING	SWIVEL
IMPEDANCE	8 OHMS
DISPERSION	120°
FREQUENCY	400-8000 CPS
DIMENSIONS	3" DEEP 4¾" O.D.
WEIGHT	2½ LBS.
PRICE	$24.00



Pat. Pend.

CARRON CONES

'A CARRON CONE IMPROVES THE TONE'

Part No.	Model	List Price
1000	Atwater Kent 15142	$2.48
1035	Jensen D7	3.19
1058	Majestic G1	2.48
1059	Majestic G2	2.48
1078	Philco 36-3170	1.54
1079	Philco 36-3824	1.38
1124	Victor R32	1.93
1198	Quam 5"	1.38
1200	Magnavox 154D	2.48
1201	Utah 5D	1.38
1203	Philco 02861	1.10
1204	Operadio 222	1.65
1225	RCA R37	1.10
1236	RCA R28	1.10
1244	Philco 54	1.10
1245	Philco 36-3159	1.10
1246	Philco 36-3157	1.10
1248	Philco 02625	1.54
1254	Grunow 650	2.48
1281	Rola DP5B	1.65
1282	Rola DP4	1.38
1285	Jensen F6R	1.65
1286	Jensen F5R	1.38
1313	RCA 80	1.65
1315	Rola G12	3.19
1316	Magnavox 132	3.19
1322	Ariston 5	1.38
1343	Philco C32	1.10
1347	Rola K8 2 pt.	2.48
1348	Kola K10 2 pt.	2.75
1353	Oxford 5A 2 pt.	1.38
1366	Jensen A12	3.19
1372	Bosch 680	4.40
1377	Philco 817 (Ford 1937)	1.10
1384	Jensen PM12C	3.19
1387	Quam 5"	1.38
1388	Quam 6"	$1.65
1390	Lyric 412	3.19
1392	RCA 5T6	1.10
1400	Jensen G6R	1.65
1409	General Electric E61	1.38
1411	Jensen G8R	2.48
1415	Operadio 234A	1.38
1417	Operadio M5	1.38
1418	Arvin 467	1.38
1425	General Electric E61	2.20
1450	Crosley A157	1.38
1455	Philco F1540, etc.	1.10
1467	Philco 38-623	1.10
1470	Utah E12P	3.19
1471	Chevrolet 985283	2.20
1473	Airline 62-350	1.38
1474	Jensen PM12B	3.19
1483	Utah F12P	3.19
1488	Oxford 5"	1.38
1489	Philco 38-12	1.38
1491	Chevrolet 985425	1.38
1495	Zenith 49-162	1.65
1498	Motorola 65	2.48
1500	Philco 73-0026-2	1.10
1501	Philco C1550	1.38
1503	Chevrolet 985426	1.38
1505	Emerson BA199	1.38
1507	Jensen PM5D	1.38
1516	RCA RL761	2.20
1517	RCA RL70F3	2.20
1528	Quam 4"	1.10
1529	Philco 920	1.10
1532	Utah 3	1.10
1534	Philco 39-6	1.38
1539	Philco 36-4089	2.48
1540	Philco F1640	1.10
1542	Philco TH4	1.10
1549	Jensen H6S	$1.65
1552	Magnavox ID-1400	1.38
1555	RCA 9TX3	1.10
1556	Utah 5PX2	1.38
1557	Philco 1708	1.21
1562	Emerson 4XS324	1.10
1564	Zenith 49323	1.10
1566	Motorola 9-29	1.38
1567	RCA RL-79-4	1.10
1569	Motorola 17D	1.38
1571	Jensen PM6GS	1.65
1572	Jensen E6RS	1.65
1575	RCA 85BT6	1.10
1576	Jensen B15X	4.40
1580	Utah E8P	2.48
1581	Utah 6B103	1.65
1582	General Electric H508	1.10
1583	Chevrolet 985536	2.20
1584	Emerson DL330	1.38
1586	Crosley 519E	1.10
1587	Philco TP12	1.00
1589	Crosley 719	1.38
1591	RCA RL-78-3	1.10
1598	RCA 9X	1.00
1602	Jensen PM12B	3.19
1603	Jensen PM12GS	3.19
1604	Motorola 500	2.20
1606	Motorola 25F	1.65
1607	Motorola 35N	1.65
1609	Motorola 27-D	1.93
1611	Oxford 12AMP	3.19
1612	Philco AR-4	1.93
1614	Utah 4A100	1.10
1615	Utah H-12P	3.19
1616	Utah 4A106A	1.10
1617	Zenith 49AB341	1.93
1619	Zenith 49AG385	$1.10
1620	Zenith 49U334	1.10
1621	Zenith 49BJ203	1.38
1623	Belmont 510	1.10
1626	Chevrolet 985538	1.38
1627	Jensen G6RS	1.65
1629	Motorola 41-H	1.38
1630	Magnavox I-D1894	3.19
1634	Chevrolet 985538	1.38
1638	Motorola 27D	1.93
1639	Zenith 49H413	2.20
1640	Philco 73-0052-2	1.93
1641	Philco 73-0051-3	1.93
1642	Utah 12PG17-A	3.19
1643	Motorola 50B20198	2.20
1644	Motorola 50B26880-0	1.93
1645	Motorola 50B25642-0	1.65
1647	Utah 3P	1.10
1648	Motorola 50B26747-0	1.65
1653	Zenith 39-U-440	1.38
1655	Jensen A12PM	3.19
1658	Motorola 50B22637	2.20
1659	Motorola 50B24396-A	1.93
1664	Utah 12PH15C	3.19
1665	Utah H-15-LP	3.58
1666	Utah 12PG26A	3.19
1667	Chevrolet 985695	2.48
1668	Zenith 49H491	2.48
1669	Zenith 49U491	2.48
1670	Magnavox I-D2308	2.48
1671	Emerson 9HS549	1.65
1672	Philco 36-1533-4	1.65
1680	Wurlitzer 600	4.40
1681	Magnavox I-D2309	4.40
1682	Wurlitzer 750	4.40

CARRON UNIVERSAL FIELD COILS

Check maximum and minimum dimensions carefully. The winding must be physically close to the original. We have allowed a maximum variation of ⅛ inch spacing from coil to core, a variation in width of ¼ inch and we suggest that the universal coil selected should have a diameter as close to the original as possible. ⅜ inch smaller is the limit for safe operation. All of the wire in our universal field coils is in use at all times. Two resistance ranges are possible. One with the windings in parallel and the other with the winding connected in series. Complete directions furnished with each coil.

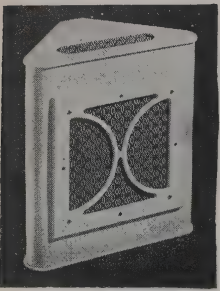
	Pole Piece	Inches	Length			
Cat. No.	Min. Max.	O.D.	Min. Max.	Parallel Resistance	Series Resist	List Price
U300	¾-1	2	¾-1	*	1000	$1.86
U301	¾-1	2	¾-1	*	1500	1.86
U302	¾-1	2	¾-1	*	2000	1.86
U303	¾-1	2	¾-1	*	2500	1.86
U304	¾-1	2	¾-1	*	3000	1.86
U309	¾-1	2	¾-1	*	450	1.86
U311	½-¾	1¾	⅝-⅞	*	450	1.24
U312	½-¾	1¾	⅝-⅞	*	1000	1.24
U313	½-¾	1¾	⅝-⅞	*	1500	1.24
U314	½-¾	1¾	⅝-⅞	*	2000	1.24
U315	½-¾	1¾	⅝-⅞	*	2500	1.24
U316	½-¾	1¾	⅝-⅞	*	3000	1.24
U305A	1-1¼	2½	1⅜-1⅝	375-460	1500-1800	3.84
U305B	1-1¼	2½	1⅜-1⅝	560-690	2250 2750	3.84
U305C	1-1¼	2½	1⅜-1⅝	675-825	2700-3300	3.84
U305D	1-1¼	2½	1⅜-1⅝	900-1100	3600-4400	3.84
U305E	1-1¼	2½	1⅜-1⅝	1125-1375	4500-5500	3.84
U306A	1-1¼	2½	1⅜-1⅝	375-460	1500-1800	3.84
U306B	13/16-1 1/16	2¼	1⅝-1⅞	560-690	2250-2750	3.84
U306C	13/16-1 1/16	2¼	1⅝-1⅞	675-825	2700-3300	3.84
U306D	13/16-1 1/16	2¼	1⅝-1⅞	900-1100	3600-4400	3.84
U306E	13/16-1 1/16	2¼	1⅝-1⅞	1125-1375	4500-5500	3.84
U307A	1 5/16-1 9/16	2½	1⅞-2⅛	375-460	1500-1800	3.84
U307B	1 5/16-1 9/16	2½	1⅞-2⅛	560-690	2250-2750	3.84
U307C	1 5/16-1 9/16	2½	1⅞-2⅛	675-825	2700-3300	3.84
U307D	1 5/16-1 9/16	2½	1⅞-2⅛	900-1100	3600-4400	3.84
U307E	1 5/16-1 9/16	2½	1⅞-2⅛	1125-1375	4500-5500	3.84
U308A	13/16-1 1/16	2	1¼-1½	375-460	1500-1800	3.84
U308B	13/16-1 1/16	2	1¼-1½	560-690	2250-2750	3.84
U308C	13/16-1 1/16	2	1¼-1½	675-825	2750-3300	3.84
U308D	13/16-1 1/16	2	1¼-1½	900-1100	3600-4400	3.84
U308E	13/16-1 1/16	2	1¼-1½	1125-1375	4500-5500	3.84
U310A	15/16-1 3/16	2¼	1⅛-1⅜	375-460	1500-1800	3.84
U310B	15/16-1 3/16	2¼	1⅛-1⅜	560-690	2250-2750	3.84
U310C	15/16-1 3/16	2¼	1⅛-1⅜	675-825	2700-3300	3.84
U310D	15/16-1 3/16	2¼	1⅛-1⅜	900-1100	3600-4400	3.84
U310E	15/16-1 3/16	2¼	1⅛-1⅜	1125-1375	4500-5500	3.84

*Single Winding, One Resistance Only.

CARRON MANUFACTURING CO.
407 SOUTH ABERDEEN STREET - CHICAGO 7, ILLINOIS, U. S. A.

VIBRALOC ACOUSTIC PRODUCTS

DESIGNED AND BUILT TO AN ACOUSTIC STANDARD . . . AND PRICED ACCORDINGLY



Streamline UNIVERSAL CABINET

Incorporating Patented ACOUSTICURVE Design.

Ideal for Sound Installations where an attractive cabinet and good tone quality is sought.

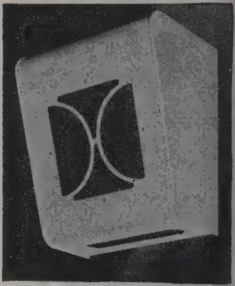
Dimensional Characteristics . . . Plus Natural Reproduction. Sturdy Construction . . . combining heavy plastic and wood. Complete with speaker mounting screws.

Model	Size and Finish	Price
5K	9¼"x10"x6½"—Unfinished Brown ....List	$6.00
5KS	9¼"x10"x6½"—Sprayed Ivory or Brown....List	8.00
5KSL	9¼"x10"x6½"—Two-Tone Leatherette ....List	10.00
	Unusual results may be expected from an average 5" speaker when used with above cabinets. A trial will convince.	
8K	14"x15"x9"—Unfinished Brown ....List	$10.00
8KS	14"x15"x9"—Sprayed Ivory or Brown ....List	12.50
8KSL	14"x15"x9"—Two-Tone Leatherette ....List	15.00
Reducer to accommodate 6" speaker	....Net	.25
12K	18"x20½"x10—Unfinished Brown ....List	$15.00
12KS	18"x20½"x10"—Sprayed Ivory or Brown....List	17.50
12KSL	18"x20½"x10"—Two-Tone Leatherette ....List	20.00
Reducer to accommodate 6, 8, or 10" Speakers	....Net	.25

Modern Design WALL BAFFLES

Designed and built for the wired music and phonograph trade . . . For Good Music Distribution.

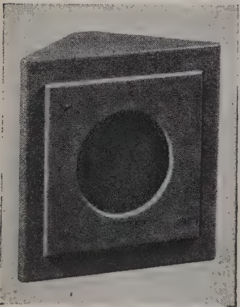
Sturdy construction . . . combining heavy plastic and wood. Complete with master baffle and speaker mounting screws.



Size: Top 12", Bottom 7½", Width 17", Height 20".

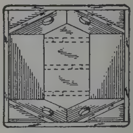
Model	Size and Finish	Price
1215 W	Unfinished Brown ....List	$15.00
1215 WS	Sprayed Brown or Ivory ....List	17.50
1215 WSL	Two-Tone Leatherette ....List	20.00
Reducer for 8", 10" Speakers	....Net	.25
12FWB	Similar to model illustrated but not sloping. Size: 15"x15"x8". May be mounted in a horizontal or vertical position with exceptional results and attractive appearance. Complete and Finished in Ivory or Brown ....List	$15.00
Reducer for 6", 8" or 10" speakers	....Net	.25
8W	Unfinished Brown ....List	$ 9.00
8WS	Sprayed Ivory or Brown ....List	11.00
	Size: Top 7", Bottom 5", Width 10", Height 12"	

Pressure Controlled LOUDSPEAKER ENCLOSURES



MODEL 8V—15"x15"x7½"

VIBRALOC acoustic pressure controlled loudspeaker enclosures achieve the ultimate in wide range, high level sound reproduction. Anti-Feedback characteristics contribute to unusual dimensional qualities. Original and basic Tri-angular design and small space requirements offer numerous and practical installation methods. Natural Voice Reproduction and True Tone Music Distribution may be accomplished with below average, or so-called inefficient speakers, when used with VIBRALOC enclosures. Thousands of installations have proved these baffles to be outstanding in high noise level installations, such as Roller and Ice Skating Rinks, Bowling Alleys, Drive-In Theaters, Baseball Parks, Factories, Hotel Lobbies, Dance Pavilions, etc.

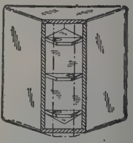


MASTER BAFFLES REMOVED

Model	Size	Finish	Price
5V	8"x 8"x 4¼"	Brown or Ivory leatherette ....List	$ 7.00
6V	10"x10"x 5"	Brown or Ivory leatherette ....List	8.50
8V	15"x15"x 7½"	Brown or Ivory leatherette ....List	15.00
10V	17"x17"x 8½"	Brown or Ivory leatherette ....List	17.50
12V	20"x20"x10"	Brown or Ivory leatherette ....List	20.00
15V	25"x25"x15"	Brown or Ivory leatherette ....List	50.00

Above cabinets are of heavy wood construction.

Model	Size and Finish	Price
5KVS	9¼"x10"x6½"—Sprayed Brown or Ivory ....List	$ 8.00
5KVL	9¼"x10"x6½"—Brown or Ivory Leatherette	9.00
	Exceptional Voice and Music Reproduction may be expected from this small baffle.	
8KVS	14"x15"x9"—Sprayed Brown or Ivory ....List	$15.00
8KVL	14"x15"x9"—Brown or Ivory Leatherette	17.50
Reducer for 6" speaker	....Net	.25
12KVS	18"x20½"x10"—Sprayed Brown or Ivory ....List	$20.00
12KVL	18"x20½"x10"—Brown or Ivory Leatherette	22.50
Reducer for 8" or 10" speakers	....Net	.25



LOWER CELL COVER REMOVED

The above models are of heavy plastic and wood construction and include "Pressure Control" network and "Acousticurve" design.

VIBRALOC ACOUSTIC PRODUCTS ARE PATENTED IN THE UNITED STATES, CANADA & GREAT BRITAIN. OTHERS PENDING. THE TRADE-MARK 'VIBRALOC' IS COPYRIGHTED.

PAT *Acoustic Products*
VIBRALOC
MANUFACTURING CO.
SAN FRANCISCO, CALIF.

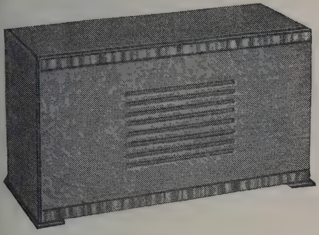
JACKSON INDUSTRIES

1708 SOUTH STATE STREET — CHICAGO 16, ILLINOIS

- PORTABLE AMPLIFIER CASES
- PORTABLE PHONOGRAPH CASES
- RECORD PLAYING CABINETS
- RADIO REPLACEMENT CABINETS
- SPEAKER CABINETS

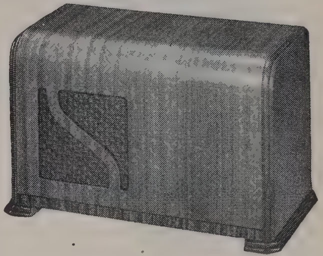
WRITE FOR PRICES AND CATALOG OF COMPLETE LINE

BLANK PANEL TABLE RADIO REPLACEMENT CABINETS



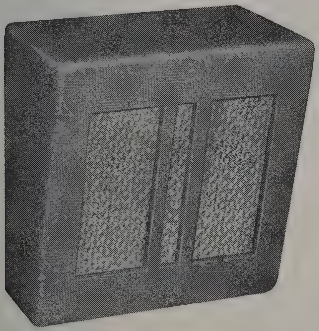
	L		H		D	Weight
No. 1A	9¼	x	6⅛	x	4½	1½ lbs.
No. 2A	10½	x	6¾	x	5⅛	1½ lbs.
No. 3A	14¾	x	8¼	x	6¼	2 lbs.

SPEAKER GRILLE IN CENTER



	L		H		D	Weight
No. 1½R	9½	x	6½	x	5½	1¾ lbs.
No. 2½R	10¾	x	7	x	6⅛	1¾ lbs.
No. 3½R	15	x	9⅛	x	7¼	2¾ lbs.

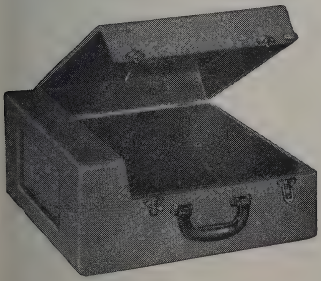
SPEAKER GRILLE ON LEFT



SPEAKER CABINETS

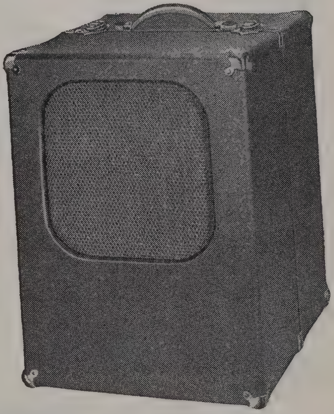
Covered in DeLuxe Fabricoid Leatherette

		Weight
No. 9L—for	5" Speaker	1½ lbs.
No. 10L—for	6" Speaker	1½ lbs.
No. 20L—for	8" Speaker	2 lbs.
No. 30L—for	10" Speaker	2½ lbs.
No. 40L—for	12" Speaker	2½ lbs.



No. 300 PORTABLE PHONOGRAPH CASE

Strong plywood case. Fine quality fabricoid leatherette covering. Post handle. Blank motor board; grille cut for 5" speaker. Plays 12" record with lid closed.
Outside dimensions: 17½" x 14¾" x 7". Wt. 10 lbs., packed.



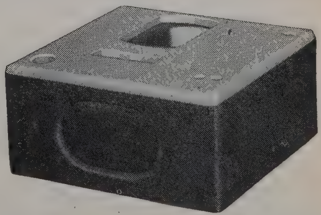
SPEAKER AND AMPLIFIER CASE

Strong plywood case. Substantially made with interlocked corners. Good quality leatherette covering. Genuine leather handle. Well constructed grille. Fine grade, highly polished hardware.

No. S30AS. For single 10" speaker and amplifier.
Size: 18" x 15½" x 9". Weight 14 lbs., packed.

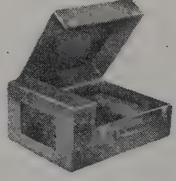
No. D40AS. Has 2 openings for 12" speakers.
Size: 20¼" x 16" x 15". Weight 20 lbs., packed.

No. 602 MANUAL RECORD PLAYING CABINET



Strong plywood base. Interlocked corners. Fine leatherette covering. Top cut to fit Alliance motor; grille cut for 5" speaker. Size: 11½" x 12½" x 5½". Weight 3 lbs., packed.
No. 601. Same as above, blank.

RMS RADIO & PHONO Cabinets



PORTABLE RECORD CHANGER & AMPLIFIER PALC-300

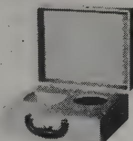
Accommodates any type record changer and amplifier. All wood construction, leatherette covered, matching hardware.
OUTSIDE DIMENSIONS: 21" L, 16½" W, 9¾" H.
MOTOR BOARD SIZE: 15" x 16⅜".
DEPTH BELOW PANEL: 3".
HEIGHT ABOVE PANEL: 5½".

"MIGHTY MIDGET"

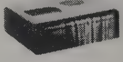
Phono-Amplifier

CARRYING CASE

Model D-1

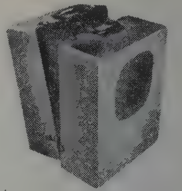


Wood construction, finished in colored leatherette. Several shades available. Plastic handle. Motorboard cut out for Alliance, GI and similar motors. Overall size 12¼x10¾x5½". For 10" and 12" records.



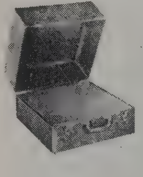
VENEER TABLE MODEL D-5

Made in walnut and mahogany veneers. Motorboard cut out as above. Overall size 12½x10⅞x3⅞".



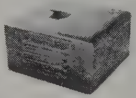
PORTABLE SPEAKER PSD-12

This unit can be separated for use in two different locations. Finished in Leatherette on a sturdy wood body.
OUTSIDE DIMENSIONS: 20¼" H, 16¼" W, 14½" H.
ACCOMMODATES 2—12" Speakers.



AUTOMATIC RECORD CHANGER PAC-100

Mounting panels in blank for any required adaptation.
OVERALL DIMENSIONS: 16½" L, 16½" W, 11¾" H.
MOUNTING PANEL: 15¾" x 15¾".
INSIDE DEPTH OF LID: 6¼".

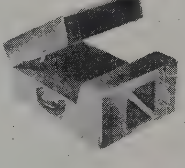


RECORD PLAYER RPA-300

Where there is a demand for deLuxe appearance, this model is outstanding. Built on solid wood construction with handsome Veneer finish, inclusive of motor panel board. Amplifier mounts on base board.
OUTSIDE DIMENSIONS: 6⅞" D, 11½" W, 12" L.
Accommodates 5" Speaker.

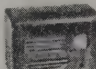
RECORD CHANGER ARC-600

Any record changer, together with an amplifier and a 5" or 6" speaker can be mounted in this universal record changer base. Lustrous finish, veneer wood construction.
INSIDE DIMENSIONS: 17" L, 14½" W, 6" H.



PORTABLE PHONO & AMPLIFIER PA-12

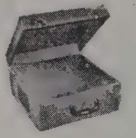
Mounting panels in blank for any required adaptation,
ACCOMMODATES 10" and 12" RECORDS.
OUTSIDE DIMENSIONS: 19" L, 13¾" W, 7½" H.
MOUNTING PANEL: 13" x 14".



RMS EXACT REPLACEMENT CABINETS

These Replacement Cabinets for Standard Models are very well built on solid wood and plywood base, with reinforced corners, tongue and groove construction. They are handsomely finished with beautifully marked Veneers.

Detrola Jr.
Emerson CU, CR
Emerson 108
Emerson AX211
Emersonette
Emerson U48-199
Emerson 414
Emerson 330
Emerson DW 330B
Fada L56
Fada 209
GE L-500
GE GD60
Motorola 51A
Philco PT-25
Philco 40-115
Philco 38-14
RCA 9TX
RCA 45X1
RCA 15X
Emerson 301-78W
Emerson EP
Detrola 443



PORTABLE PHONO & AMPLIFIER PC-12

Mounting Panel in blank for any required adaptation, size, 13⅝" x 13⅞".
OUTSIDE DIMENSIONS: 14¾" L, 14½" W, 8¼" H.
ACCOMMODATES 10" and 12" Records with lid closed.
5" SPEAKER.

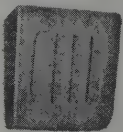
BLANK CABINETS

Solid wood construction, rich veneer finish. Six different models to accommodate all types of chassis, from 4-tube to 10-tube.

INSIDE	OUTSIDE
No. 1—4 Tube Chassis	
8-5/16" L	9⅜" L
5-7/16" W	6" W
4½" D	4½" D
No. 2—5 to 6 Tube Chassis	
10-3/16" L	11" L
6-5/16" W	7" W
5⅛" D	5-5/16" D
No. 3—7 to 10 Tube Chassis	
13¾" L	14-13/16" L
7⅝" W	8-5/16" W
6¼" D	6½" D
No. 4—5 to 6 Tube Chassis	
10-3/16" L	11" L
6-5/16" W	7" W
5⅛" D	5-5/16" D
No. 5—7 to 10 Tube Chassis	
12¼" L	13⅛" L
7¼" L	7⅞" W
6¼" D	6½" D
No. 6—7 to 10 Tube Chassis	
12¼" L	13⅛" L
7¼" W	7⅞" W
6¼" D	6½" D

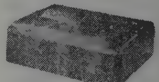
TABLE RECORD CHANGER & AMPLIFIER TRC-250

An attractive, well-made polished veneer cabinet. Accommodates any record changer, amplifier and 5" or 6" speaker. Suitable for Phono-Radio combination.
DIMENSIONS: 14" H, 16¼" L, 18" W.
DEPTH BELOW PANEL: 6".
HEIGHT ABOVE PANEL: 6¼".



WALL BAFFLES

Designed along neat and simple lines, to fit any requirements for plant, office, store or public auditorium.
In Leatherette or veneer.
5", 6", 8", 10", 12" SPEAKERS.



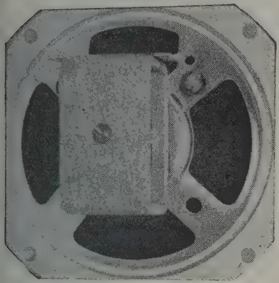
RECORD PLAYER RP-100

These Record Players have proven extremely successful. Strong, trim and good-looking, they are popular items at all times.
CUTOUT FOR ALLIANCE MOTOR.
OUTSIDE DIMENSIONS: 3⅞" D, 10⅞" W, 12½" L.

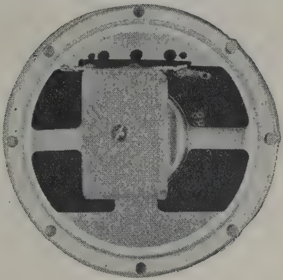
CRESCENT RADIO COMPONENTS

"CRESCENT SPEAKERS"

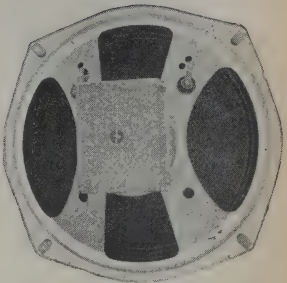
Once Tried . . . Never Denied



MODEL 42



MODEL 51



MODEL 60

We are small speaker specialists and because we concentrate on few models, can make a better product at a lower cost. You can always count on CRESCENT speakers; they are designed and engineered for the finest reproductions—perfection in performance..

CRESCENT speakers are built to R. M. A. standards. Our structures are cadmium plated and voice coils completely dustproofed. Our line is most complete for replacements in table model radio receivers, lower power public address systems, etc.

Unchallenged for Quality ***Unequalled for Price***

Dia.	Model	Magnet Size	List Price
4″	42QK2	.68 oz Alnico 5	$3.15
4″	42PL2	1.00 oz Alnico 5	3.35
4″	42VM2	1.47 oz Alnico 5	3.60
4″	42VN2	2.15 oz Alnico 5	3.95
5″	51QK2	.68 oz Alnico 5	3.25
5″	51PL2	1.00 oz Alnico 5	3.40
5″	51VM2	1.47 oz Alnico 5	3.65
5″	51VN2	2.15 oz Alnico 5	4.05
6½″	60QK2	.68 oz Alnico 5	3.70
6½″	60PL2	1.00 oz Alnico 5	3.85
6½″	60VM2	1.47 oz Alnico 5	4.10
6½″	60VN2	2.15 oz Alnico 5	4.40

Voice coil impedance 3.5 ohms at 400 cycles. All speakers are less transformer, with transformer mounting bracket.

CRESCENT AUTOMATIC RECORD CHANGER

Physical size, 15¾″ x 12½″, has noiseless mechanism, crystal cartridge and can be disturbed during any operating cycle without damage thereto. The CRESCENT automatic record changer, while one of the newcomers in the field, is already being used as a component by many of the large set manufacturers in their combination console sets.

Finished in neutral biege Hammeroid (a brown gloss) and has plenty of eye-appeal. Designed to operate on 110 volts 60 cycles A. C. current.

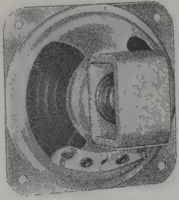
CRESCENT automatic record changer Model C-200 will handle twelve 10″ or ten 12″ records.

— OTHER ITEMS —

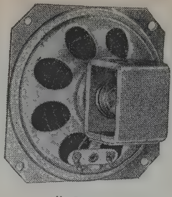
C-200	"CRESCENT" Automatic Record Changer, plays 12 10″ or 10 12″ records, crystal cartridge, reject button, Hammeroid finish	$36.00
S-250	Wooden Base, Walnut Finish, 3½″ high, top cut out to receive Crescent changer	8.15
H-302	Wooden Base, Brown Leatherette covered, to fit Crescent changer, 6″ high, with grille for 5″ spkr.	9.90
V-365	Wooden Base, Walnut finish to fit Crescent changer, 6″ high, with grille for 5″ speaker	11.25
L-158*	1 tube Amplifier, using 117L7 tube	5.00
L-225*	2 tube Amplifier, using 50L6 and 35Z5	7.50
L-338*	3 tube Amplifier, using 50L6, 12SQ7 and 35Z5	10.65
L-405*	4 tube Amplifier, using 12SL7, 35Z5 and 2 35L6	12.50

*All less tubes

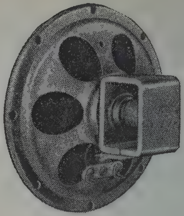
MODEL C-200



3″ Group



4″ Group



5″ Group

This Space Reserved

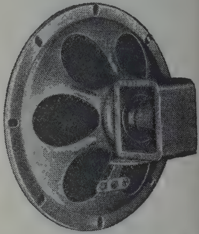
for

New Design 15″ Group

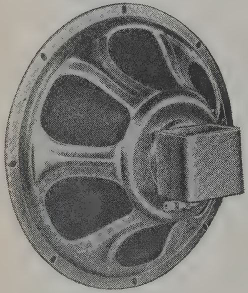
utah

STANDARD GROUPS

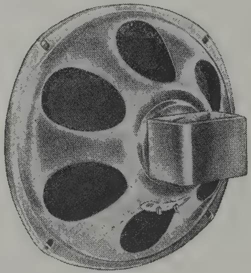
ALNICO V PM SPEAKERS



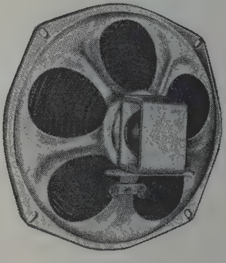
6″ Group



12″ Group

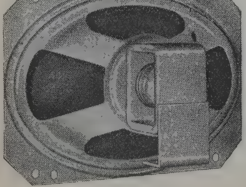


10″ Group

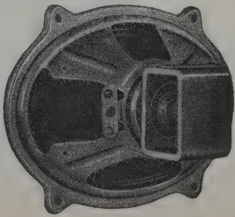


8″ Group

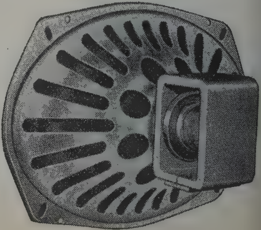
UTAH RADIO PRODUCTS DIVISION
International Detrola Corporation
CHICAGO 5, ILLINOIS



4″ x 6″ Group



5″ x 7″ Group



6″ x 9″ Group

UTAH RADIO PRODUCTS DIVISION
International Detrola Corporation

STANDARD GROUPS ALNICO V PM SPEAKERS

Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Magnetic Force Factor	Index of Magnetic Efficiency	Overall Depth Inches	List Price Each
3″	**Mounting Square Required 3.437″. Diameter Between Mounting Centers 3.978″.**								
	*SP-3A	3-4	9/16	2-4	.68	25.8	.386	1 57/64	
	*SP-3B	3-4	9/16	2-4	1.00	31.1	.467	2 9/64	
	*SP-3C	3-4	9/16	2-4	1.47	37.6	.680	2 9/64	
4″	**Mounting Square Required 4.109″. Diameter Between Mounting Centers 4.686″.**								
	*SP-4A	3-4	9/16	2-4	.68	25.8	.386	2 9/64	
	*SP-4B	3-4	9/16	2-4	1.00	31.1	.467	2 17/64	
	*SP-4C	3-4	9/16	2-4	1.47	37.6	.680	2 17/64	
5″	**Mounting Square Required 5.000″. Diameter Between Mounting Centers 4.687″.**								
	*SP-5A	3-4	9/16	2-4	.68	25.8	.386	2 9/64	
	*SP-5B	3-4	9/16	2-4	1.00	31.1	.467	2 25/64	
	*SP-5C	3-4	9/16	2-4	1.47	37.6	.680	2 25/64	
6″	**Mounting Square Required 6.511″. Diameter Between Mounting Centers 6.093″.**								
	*SP-6C	3-4	9/16	2-4	1.47	37.6	.680	2 53/64	
	*SP-6D	3-4	¾	4-9	1.47	43.1	.623	3 3/32	
	*SP-6E	3-4	¾	4-9	2.15	52.2	.894	3 3/32	
	SP-6F	3-4	¾	4-9	3.16	61.5	1.270	3 3/32	
8″	**Mounting Square Required 8.086″. Diameter Between Mounting Centers 7.625″.**								
	*SP-8E	3-4	¾	4-9	2.15	52.2	.894	3 3/32	
	SP-8F	3-4	¾	4-9	3.16	61.5	1.270	3 3/32	
	*SP-8J	3-4	1	6-12	6.80	86.0	3.650	3 31/32	
	*SP-8K	8	1¼	12-20	6.80	83.5	3.380		
	*SP-8L	8	1¼	12-20	10.00	103.4	4.780		
10″	**Mounting Square Required 9.500″. Diameter Between Mounting Centers 9.692″.**								
	*SP-10G	3-4	1	6-12	3.16	61.9	1.600	4 49/64	
	*SP-10H	3-4	1	6-12	4.64	73.1	2.240	4 49/64	
	*SP-10J	3-4	1	6-12	6.80	86.0	3.650	4 49/64	
	*SP-10L	8	1¼	12-20	10.00	103.4	4.780	5	
12″	**Mounting Square Required 12.808″. Diameter Between Mounting Centers 11.562″.**								
	SP-12G	3-4	1	6-12	3.16	61.9	1.600	6 1/16	
	*SP-12H	3-4	1	6-12	4.64	73.1	2.240	6 1/16	
	*SP-12J	3-4	1	6-12	6.80	86.0	3.650	6 1/16	
	*SP-12K	8	1¼	12-20	6.80	83.5	3.380	6 19/64	
	*SP-12L	8	1¼	12-20	10.00	103.4	4.780	6 19/64	
15″	**Mounting Square Required 15.125″. Diameter Between Mounting Center 14.562″.**								
	SP-15P	8	1½	20-30	21.50				
	SP-15Q	8	2	30-40	31.80				

OVAL GROUP

Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Magnetic Force Factor	Index of Magnetic Efficiency	Overall Depth Inches	List Price Each
4″x6″	**Mounting Rectangle Required 4.094″ x 6.094″. Diameter Between Mounting Centers 3.625″ x 4.625″.**								
	*SP-46B	3-4	9/16	2-4	1.00	31.1	.467	2 5/8	
	*SP-46C	3-4	9/16	2-4	1.47	37.6	.680	2 5/8	
5″x7″	**Mounting Rectangle Required 5.000″ x 7.250″. Diameter Between Mounting Centers 4.343″ x 4.343″.**								
	*SP-57C	3-4	9/16	2-4	1.47	37.6	.680	3	
	*SP-57D	3-4	¾	4-9	1.47	43.1	.623	3 17/64	
	*SP-57E	3-4	¾	4-9	2.15	52.2	.894	3 17/64	
	SP-57F	3-4	¾	4-9	3.16	61.5	1.270	3 17/64	
6″x9″	**Mounting Rectangle Required 6.375 x 9.125″. Diameter Between Mounting Centers 4.625″ x 6.562″.**								
	*SP-69D	3-4	¾	4-9	1.47	43.1	.623	3 25/32	
	*SP-69E	3-4	¾	4-9	2.15	52.2	.894	3 25/32	
	SP-69F	3-4	¾	4-9	3.16	61.5	1.270	3 25/32	

* Types marked with an asterisk will be available first.

Mounting Square Required—is the smallest square that will accomodate the face of the speaker.

Diameter Between Mounting Centers—is the distance between mounting holes measured across the center of the face of the speaker.

Optimum Audio Watts—gives the range of audio input power in watts that can be safely dissipated by the voice coil structure before overheating will occur and cause mechanical damage to the speaker.

Magnetic Force Factor—is a rating of the flux density in the air gap, but does not take into account the usage made of this by the voice coil. The force factor rating is included to make it possible to compare the new speaker types with the older types which were rated as to force factor only.

Index of Magnetic Efficiency—is a rating which indicates the efficiency and sensitivity of one **Utah** speaker relative to other **Utah** speakers. This also applies to comparing Permanent Magnet with Electro-Dynamic speakers. This rating takes into account the combined effect of Magnet, Pole piece, Air gap, Voice Coil, etc.

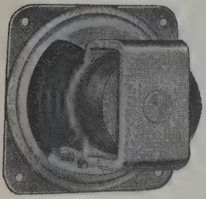
For instance, two Utah speakers rated at 1.000 each would be equal to each other in magnetic efficiency regardless of size or type; while a speaker rated at .500 would be only half as efficient and one at 2.000 would be twice as efficient, etc.

The Index of Magnetic Efficiency, more than any other single factor, indicates the actual value of the speaker to the user as to conversion of electrical energy to sound, versus cost.

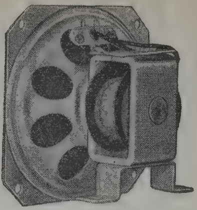
Standard Groups—of each size speaker have been designed and selected to have characteristics which recommend them for the widest possible range of applications; such as Sound Reinforcement work, Public Address work, Record Players, Radio Reproduction and many other types of service.

Transformer Mounting Brackets—are provided on the smaller speakers and the frame of the larger speakers are punched to provide mounting of transformers.

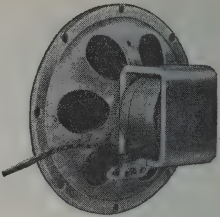
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.



3″ Group



4″ Group



5″ Group

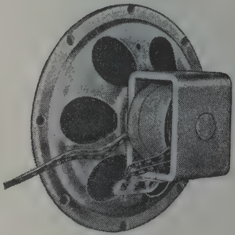
This Space Reserved

for

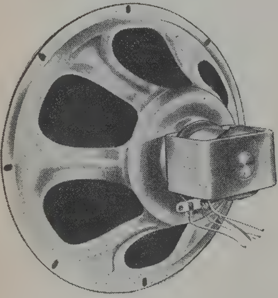
New Design 15″ Group

STANDARD GROUPS

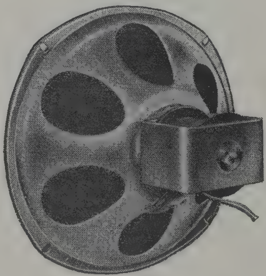
ELECTRO-DYNAMIC SPEAKERS



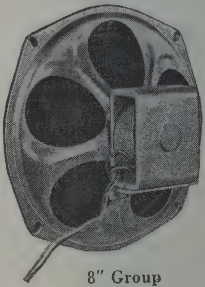
6″ Group



12″ Group



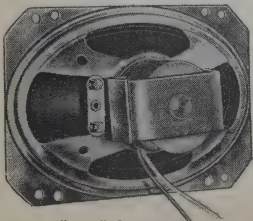
10″ Group



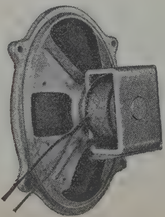
8″ Group

UTAH RADIO PRODUCTS DIVISION

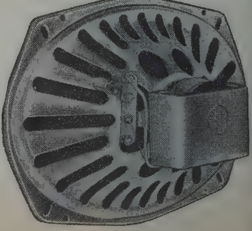
International Detrola Corporation
CHICAGO 5, ILLINOIS



4″ x 6″ Group



5″ x 7″ Group



6″ x 9″ Group

UTAH RADIO PRODUCTS DIVISION
International Detrola Corporation

STANDARD GROUPS ELECTRO-DYNAMIC SPEAKERS

Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	Maximum Field Volts	Maximum Field Ma.	Index of Magnetic Efficiency	Overall Depth Inches	List Price Each
3″	**Mounting Square Required 3.437″. Diameter Between Mounting Centers 3.978″.**									
	*SE-345	3-4	9/16	2-4	450	39	89	.408	1 29/32	
	SE-310	3-4	9/16	2-4	1,000	59	60	.408	1 29/32	
	SE-318	3-4	9/16	2-4	1,800†	79	45	.408	1 29/32	
	*SE-327	3-4	9/16	2-4	2,750	98	36	.408	1 29/32	
4″	**Mounting Square Required 4.109″. Diameter Between Mounting Centers 4.686″.**									
	*SE-445	3-4	9/16	2-4	450	39	89	.408	2 3/16	
	SE-410	3-4	9/16	2-4	1,000	59	60	.408	2 3/16	
	SE-418	3-4	9/16	2-4	1,800†	79	45	.408	2 3/16	
	*SE-427	3-4	9/16	2-4	2,750	98	36	.408	2 3/16	
5″	**Mounting Square Required 5.000″. Diameter Between Mounting Centers 4.687″.**									
	*SE-545	3-4	9/16	2-4	450	39	89	.408	2 5/16	
	SE-510	3-4	9/16	2-4	1,000	59	60	.408	2 5/16	
	SE-518	3-4	9/16	2-4	1,800†	79	45	.408	2 5/16	
	*SE-527	3-4	9/16	2-4	2,750	98	36	.408	2 5/16	
6″	**Mounting Square Required 6.511″. Diameter Between Mounting Centers 6.093″.**									
	*SE-645	3-4	3/4	4-9	450	48	105	.895	2 23/32	
	*SE-610	3-4	3/4	4-9	1,000	70	70	.895	2 23/32	
	SE-618	3-4	3/4	4-9	1,800†	95	53	.895	2 23/32	
	*SE-625	3-4	3/4	4-9	2,500	110	46	.895	2 23/32	
8″	**Mounting Square Required 7.646″. Diameter Between Mounting Centers 7.686″.**									
	*SE-810	3-4	3/4	4-9	1,000	70	70	.895	2 7/8	
	SE-818	3-4	3/4	4-9	1,800†	95	53	.895	2 7/8	
	*SE-825	3-4	3/4	4-9	2,500	110	46	.895	2 7/8	
10″	**Mounting Square Required 9.500″. Diameter Between Mounting Centers 9.692″.**									
	SE-1010	3-4	1	6-12	1,000	100	100	2.840	5 9/32	
	*SE-1015	3-4	1	6-12	1,500	122	83	2.840	5 9/32	
	*SE-1025	3-4	1	6-12	2,500	158	64	2.840	5 9/32	
12″	**Mounting Square Required 12.082″. Diameter Between Mounting Centers 11.562″.**									
	SE-1210	3-4	1	6-12	1,000	100	100	2.840	6 21/64	
	*SE-1215	3-4	1	6-12	1,500	122	83	2.840	6 21/64	
	*SE-1225	3-4	1	6-12	2,500	158	64	2.840	6 21/64	
15″	**Mounting Square Required 15.125″. Diameter Between Mounting Centers 14.562″.**									
	SE-1510	8	1 1/2	20-30	1,000					
	SE-1515	8	1 1/2	20-30	1,500					
	SE-1525	8	1 1/2	20-30	2,500					

OVAL GROUP

Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	Maximum Field Volts	Maximum Field Ma.	Index of Magnetic Efficiency	Overall Depth Inches	List Price Each
4″x6″	**Mounting Rectangle Required 4.094″ x 6.094″. Diameter Between Mounting Centers 3.625″ x 4.625″.**									
	*SE-4645	3-4	9/16	2-4	450	39	89	.408	2 19/64	
	SE-4610	3-4	9/16	2-4	1,000	59	60	.408	2 19/64	
	SE-4618	3-4	9/16	2-4	1,800	79	45	.408	2 19/64	
	*SE-4627	3-4	9/16	2-4	2,750	98	36	.408	2 19/64	
5″x7″	**Mounting Rectangle Required 5.000″ x 7.250″. Diameter Between Mounting Centers 4.343″ x 4.343″.**									
	*SE-5745	3-4	3/4	4-9	450	48	105	.895	3 3/64	
	SE-5710	3-4	3/4	4-9	1,000	70	70	.895	3 3/64	
	SE-5718	3-4	3/4	4-9	1,800	95	52	.895	3 3/64	
	SE-5727	3-4	3/4	4-9	2,750	110	46	.895	3 3/64	
6″x9″	**Mounting Rectangle Required 6.375″ x 9.125″. Diameter Between Mounting Centers 4.625″ x 6.562″.**									
	SE-6945	3-4	3/4	4-9	450	48	105	.895	3 1/2	
	SE-6910	3-4	3/4	4-9	1,000	70	70	.895	3 1/2	
	SE-6918	3-4	3/4	4-9	1,800	95	53	.895	3 1/2	
	SE-6927	3-4	3/4	4-9	2,750	110	46	.895	3 1/2	

* Types marked with an asterisk will be available first. † Tapped at 300 ohms.

Mounting Square Required—is the smallest square that will accomodate the face of the speaker.

Diameter Between Mounting Centers—is the distance between mounting holes measured across the center of the face of the speaker.

Optimum Audio Watts—gives the range of audio input power in watts that can be safely dissipated by the voice coil structure before overheating will occur and cause mechanical damage to the speaker.

Index of Magnetic Efficiency—is a rating which indicates the efficiency and sensitivity of one **Utah** speaker relative to other **Utah** speakers. This also applies to comparing Permanent Magnet with Electro-Dynamic speakers. This rating takes into account the combined effect of Magnet, Pole piece, Air gap, Voice Coil, etc.

For instance, two Utah speakers rated at 1.000 each would be equal to each other in magnetic efficiency regardless of size or type; while a speaker rated at .500 would be only half as efficient and one at 2,000 would be twice as efficient, etc.

The Index of Magnetic Efficiency, more than any other single factor, indicates the actual value of the speaker to the user as to conversion of electrical energy to sound versus cost.

Maximum Field Volts—Milliamps—provides information as to the proper field excitation for Electro-Dynamic speakers. The voltages given are measured directly across the speaker field and the current in milliamps is measured in series with the speaker field.

Bucking Coils—are an integral part of all Utah Standard Group, Electro-Dynamic speakers. The bucking coils design has been improved to give greater reduction of hum.

Field Coils and Pot Structure—of all Utah Standard Groups, Electro-Dynamic speakers have been designed to give maximum sensitivity as will be noted by the high Index of Magnetic Efficiency rating.

Transformer Mounting Brackets—are provided on the smaller speakers, and the frame of the larger speakers are punched to provide for mounting suitable output or line transformers.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

The MARK *of Fine Speakers*

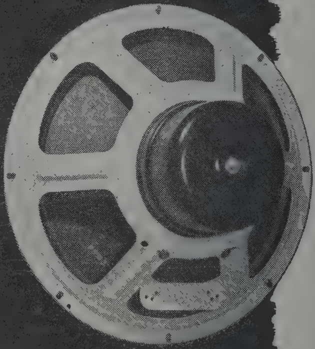
OXFORD SPEAKERS LEAD

1. Available only in OXFORD Speakers, the new, patent-pending pressure-thread centering device which positions pole piece and magnet with over 800 lbs. psi pressure.

2. Available only in OXFORD Speakers, higher sensitivity for the same weight magnet because of pressure exerted by the new and exclusive pressure-thread construction.

3. Available in OXFORD Speakers, unit production controlled by sound-pressure curves run on every type speaker manufactured. Laboratory curves furnished on request.

4. Available in OXFORD Speakers, the background of engineering research which has consistently made the unit a popular choice with over 77 radio set manufacturers.



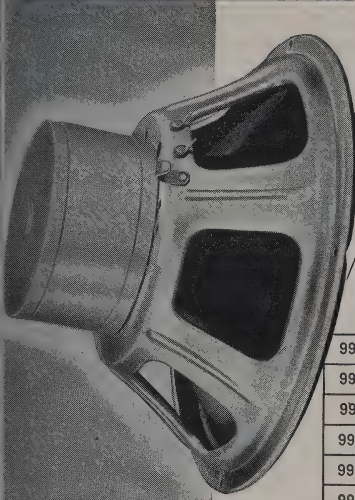
OXFORD Speakers represent the most advanced engineering development in the field. New, precision-built dies are used in their construction, and many wartime improvements are included. Available in sizes from 2 to 15 inch.

OXFORD RADIO CORPORATION
3911 SOUTH MICHIGAN AVE., CHICAGO

OPERADIO

SPEAKERS

MODELS TO MEET ALL REQUIREMENTS



HIGH FIDELITY PUBLIC ADDRESS SPEAKERS

Operadio Manufacturing Co. pioneered in the field of quality Public Address Speakers and became one of the largest producers of loudspeakers in the world. Operadio engineers are engaged in constant research to improve the already high level of Operadio performance. Now, a complete new line of Operadio high fidelity, permanent magnet speakers is available for every application.

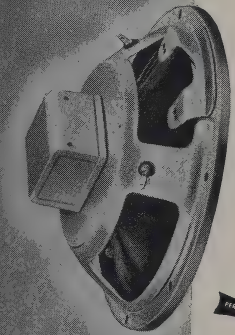
All models are boxed in compact, individual, shipping cartons. All speakers have transformer mounting brackets.

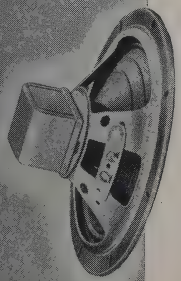
Model Number	Speaker Diameter	Magnet Weight	Alnico Magnet	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Capacity Watts	Shipping Weight	Price Each
9930-6	6"	1.47 oz.	#5	7	9/16"	3	5	1#	$ 6.90
9935-8	8"	3.16 oz.	#5	7	¾"	5	8	2#	$10.20
9940-8	8"	4.64 oz.	#5	8	1"	8	10	3#	$13.90
9945-12	12"	6.8 oz.	#5	8	1"	8	12	4#	$17.45
9950-12	12"	3 lbs.	#3	8	1¼"	12	16	7¼#	$27.50
9955-12	12"	4¾ lbs.	#3	8	1½"	15	20	11½#	$41.00
9960-15	15"	7 lbs.	#3	8	1½"	15	25	15¾#	$54.00

RADIO REPLACEMENT SPEAKERS

The engineering and production experience, gained by Operadio in the building of millions of speakers for radio set manufacturers, qualifies this company as the logical source for Radio Replacement Speakers. Radio repairmen recognize this fact, appreciate the outstanding quality and are demanding Operadio Radio Replacement Speakers.

All four and five-inch speakers are packed 36 speakers to a case. Six-inch speakers are packed 24 to a case.





Model Number	Speaker Diameter	Alnico #5 Magnet Weight or Pounds of Copper	Impedance of Field	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Price Each
10300-4	4"	1.00 oz.		3.2	9/16"	3	5	$4.75
* 10345-4	4"	1.47 oz.		3.2	9/16"	3	5	$5.25
10325-5	5"	1.00 oz.		3.2	9/16"	3	5	$4.95
10340-6	6"	1.47 oz.		3.2	9/16"	3	5	$5.90
10305-4	4"	.21 lb	450	3.2	9/16"	3	5	$5.50
10310-5	5"	.21 lb.	450	3.2	9/16"	3	5	$5.60
10315-5	5"	.18 lb.	1000	3.2	9/16"	3	5	$5.60
10320-5	5"	.29 lb.	2500	3.2	9/16"	3	5	$6.10
10330-6	6"	.33 lb.	450	3.2	9/16"	3	5	$6.30
10335-6	6"	.29 lb.	1000	3.2	9/16"	3	5	$6.30

** The 10345 is a weatherproof speaker designed for such installations as outdoor theaters, etc. It will stand exposure to weather if shielded from rain, snow and sleet.*

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OPERADIO MANUFACTURING CO. — ST. CHARLES, ILL.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

VR2 DYNAMIC MICROPHONE

A Microphone with a NEW IDEA and a NEW USEFULNESS

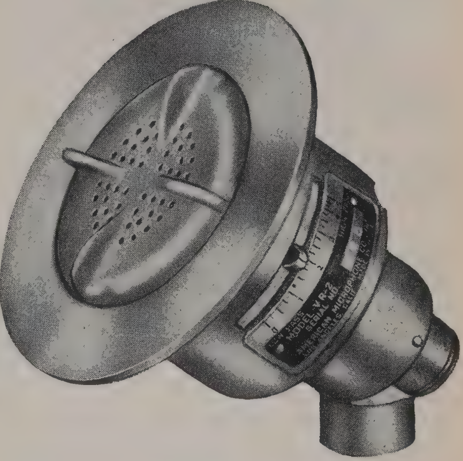
For the first time, the many desirable characteristics found only in several different types of microphones have been combined in a single unit. The VR2 has an easily accessible external adjustment of the most important acoustical reactors in the dynamic microphone. A smooth change from a communication-type response, with a cutoff below 500 c. p. s., through a flat response to an augmented bass, attained by a simple, positive adjustment.

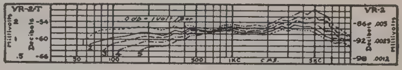
The response adjustment on the VR2 has a very broad effect and does not introduce narrow peaks. It is different from anything previously introduced.

Complete with 12½' cable and plug at microphone providing balanced line. Dull chrome finish. Net wt. less cable, 15 ozs. Hgt. 4". Greatest diameter 3".

VR2T Dynamic (38,000 ohms), Code: VARIT. List **$42.15**
Available on order in 200 or 500 ohms........List **$42.15**
(Complete with 12½' cable)

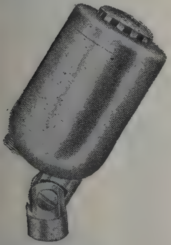
VRT Dynamic (30-50 ohms), Code: VARIA......List **$39.15**
(Complete with 12½' cable)





The above graph illustrates the average response characteristics for the various settings as indicated on the scale.

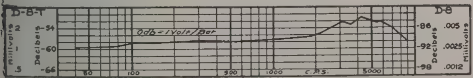
D8T DYNAMIC MICROPHONE



THE D8T DYNAMIC MICROPHONE has been carefully designed to have a consistent, well-balanced response. It is exceptionally rugged and assures the user of trouble-free service over a long period of time.

The D8T is particularly useful for all types of public address installations, orchestra pick-up, as well as solo work and straight announcing.

The D8T is 3¼" long, 2" in diameter, weighs only 13 ozs. A swivel mounting permits either nondirectional or semidirectional pick-up. Comes complete with 12½' cable and plug at microphone and ⅝" x 27 thread for suspension or stand mounting. Platinum Chrome Finish.



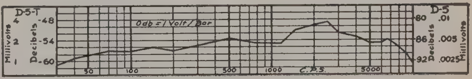
D82 Dynamic (38,000 ohms), Code DATAH....List **$30.10**
Available on order in 200 or 500 ohms...........List **30.10**

D8 Dynamic (30-50 ohms), Code: DATAL........List **$27.10**

D5T DYNAMIC MICROPHONE

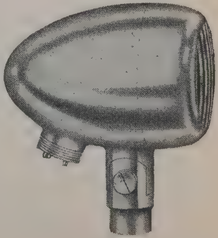
IN FOURTH YEAR PRODUCTION

THE D5T DYNAMIC MICROPHONE is well known. An excellent, diversified-purpose microphone. The dynamic is the most rugged type microphone and its life of trouble-free operation is indefinite. Being a pressure-operated instrument, the response is unaffected by either a close or distant sound source. The D5T approaches the ideal microphone for general use due to its versatility and dependability. Sensitivity: 52 db below 1 V/bar.



D5T Dynamic, 38,000 ohms, Code: DYHIM........**LIST PRICE $39.15**
Available on order in 200 or 500 ohms............**LIST PRICE $39.15**
D5 Dynamic, 30-50 ohms, Code: DYLOM **LIST PRICE $33.15**

Moving-Coil, Permanent Magnet Dynamic ● Semidirectional ● Close or Distant Pick-up ● Excellent Frequency Response ● Freedom from Wind Noises ● High Output, Low or High Impedance ● Immune to Temperature Changes ● Minimum Feed-Back (Flat Response) ● Low-Level Mixing ● Exceptionally Rugged.



American MICROPHONES

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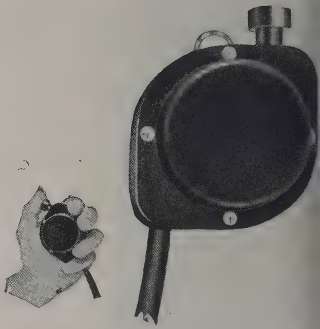
AT2 *Specialized* COMMUNICATION-TYPE MICROPHONE

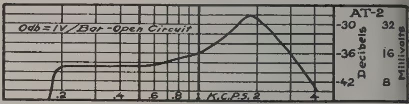


THE AT2 CARBON HAND MICROPHONE has been designed for a specific purpose. The response characteristics are such that the greatest efficiency covers the important voice frequencies. Frequencies below 200 c.p.s. and above 3500 c.p.s. do not contribute to intelligibility. The AT2 has a sharp cut off above and below the intelligibility band; therefore equipment used with the Model AT2 will operate at greatly increased efficiency. The graph illustrates the high output of the AT2. For a 10-bar signal the output is —12 db.

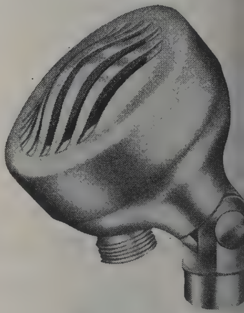
As a hand microphone it will pick up efficiently in any position with minimum variance in level. A positive switch, for the operation of a relay and the microphone unit, is built into the case. The beryllium-copper switch blades, with rare metal contacts, wiping action, assure long life. Recommended current 15 ma. and load impedance 100-150 ohms. Four-foot length three-conductor, cloth-covered cable supplied with each microphone. Finish: Natural black plastic. Weight with cable 7½ oz.

AT2 Microphone, Code: ATMIK ....List Price **$19.70**

The case fits the hand comfortably and the convenient thumb switch requires but four ounces of pressure to operate. Prolonged use of the switch does not tire the thumb. The case and insulating parts are molded from an indestructible plastic. All circuits are thoroughly insulated from the hand. A convenient hanger eye is provided.



C6 CRYSTAL MICROPHONE



EXTREME SENSITIVITY. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure.

BROADER RESPONSE. Results of new construction include extension of both low and high end.

BASS END IMPROVED. Naturalness insured by improvement in low frequency response.

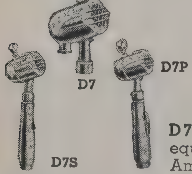
LONGER LINES. By increasing the voltage output, the cable length may be increased proportionately. In laboratory tests, regular cables 250 feet in length have been used with a net voltage sufficient to operate any standard high gain amplifier.

MECHANICAL NOISE REDUCED. Mechanical and stand noise is no longer a factor. The C6 method of crystal mounting reduces mechanical noises by 12 db.

LESS AMPLIFIER AND INDUCED NOISE. The high output of this microphone assures a very desirable signal-to-noise ratio.

SWIVEL HEAD. All angles for semidirectional and nondirectional pick-up are provided by the 5/8" x 27 (standard) mounting connector.

Complete with 7' cable and plug at microphone. Polished chrome finish. Net weight 8 oz. Over-all height 3". Diameter 2 3/8". 5/8x27 thread provided for suspension or stand mounting.
C6 Crystal, Code CESIX ....List PRICE **$18.05**



THE
"Clipper"
DYNAMIC

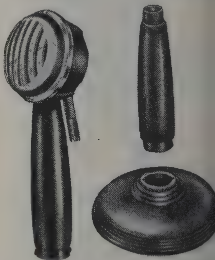
D7 and D7T MICROPHONES equipped with 12½' R/J cable and Amphenol plug. Chrome finish. 5/8-27 connector. Over-all height, 2½". Diameter, 1½". Net weight, 8½ ozs.

APPLICATIONS: Excellent for communication purposes, airplane use, Marine safety-at-sea installations, police broadcasting, amateur communication, public address, indoor and outdoor installations.

D7T—High Imp., 38,000 or 500 or 200 Ohms;
Code: DISET ....List Price **$27.10**
D7TP (Press-contact Switch),
Code: DIMAT ....List Price **$31.20**
D7TS (Slide Switch), Code: DIAHT....List Price **$30.10**

D7—Low Impedance, 50 Ohms,
Code: DISEV ....List Price **$24.10**
D7P (Press-contact Switch),
Code: DIMAR ....List Price **$28.20**
D75 (Slide Switch), Code: DIAHL......List Price **$27.10**

RC
CRYSTAL
MICROPHONE



Complete with
NON-BREAKABLE
PLASTIC STAND
and 7 foot Cable

RC Crystal Microphone may also be mounte on any stand equipped with standard 5/8" x 2 thread: . . . An excellent microphone for Com munication, Public Address or Amateur Radi

HOME RECORDING OR BROADCASTING
HIGH OUTPUT, GOOD QUALITY

Base easily removed by quarter turn, releasing bayon lock. Cable replacements accomplished by releasin set screw in back of microphone and pulling gently o spring cable protector ....List Price **$10.9**

American MICROPHONES

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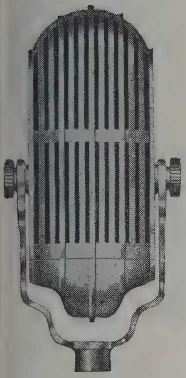
D9A *Unidirectional* MICROPHONE

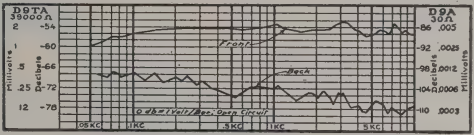


GUARANTEED to produce 30% MORE VOLUME (power) than any microphone at twice the list price. UNIDIRECTIONAL, True CARDIOID pattern pickup, frequency response good to 10,000 c. p. s.

Actual Tests are Convincing   Arrange for Test with your Jobber

THE D9A DYNAMIC, a pressure-velocity combination microphone, with pick-up from front only, broad frequency response and high output, plus the usual dynamic microphone qualities of ruggedness, immunity to weather conditions, and circuit adaptability, should fill the majority of requirements.

The D9A Microphone is recommended for public address and general sound installations because its energy response field (cardioid of revolution) excludes extraneous pick-up and reduces feed-back by two-thirds. May be used for close talking due to the modified velocity section which also reduces wind noises to a minimum.



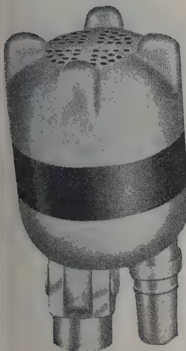
The above graph illustrates the average response characteristics for the D9A and D9AT. Voltage output levels, for 1 bar sound pressure (1 bar=1 dyne per sq. cm.) of the high and low impedance models. For 10 bar signal the output will be 20 db. higher.

Net weight, 2½ lbs. Packed weight, 4 lbs. Height, 7″; depth, 2¼″; breadth, 2½″. Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Satin Chrome.

25′ Shielded Rubber-Jacketed Cable Supplied with each Micropnone.

D9A, Low Imp. (50 ohms). Code: LOWEL	List **$42.15**
D9AT, High Imp. (38,000 ohms). Code: HIWEL	List **$45.15**
Available on Order in 200 or 500 ohms	List **$45.15**

D4T DYNAMIC MICROPHONE

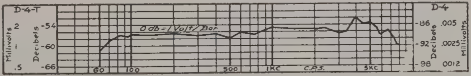


A QUALITY, LOW-PRICED, MOVING-COIL MICROPHONE. For general use where clear speech and natural music reproduction is required. This new AMERICAN microphone is a very efficient instrument, having a broad range, from 60 to 7500 c.p.s., and high output of —56 db (O db=1 v/bar). The utility value lies not only in the quality and type of response but also in mechanical features, such as light weight (approximately 10½ oz.), a full 180° vertical angular setting, and positive friction lock at the swivel.

The **D4T,** high impedance, is equipped with a single-contact, shielded plug. The 50, 200 and 500 ohm models are equipped with a two-conductor plug and have a balanced line out.

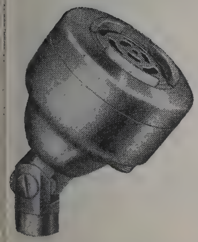
The **D4** model is of voice-coil impedance, approximately 30 ohms. Lines up to several hundred feet may be used on all models except the high impedance, where line should be restricted.

The complete assembly includes 12½ feet of shielded, rubber-covered cable and shielded plug. Finished in platinum chrome. Standard mounting, ⅝″ x 27 thread.



D4T Dynamic (38,000 ohms) Code: DFORT	**LIST PRICE $24.10**
Available on order in 200 or 500 ohms	**LIST PRICE $24.10**
D4 Dynamic (30-50 ohms) Code: DEFOR	**LIST PRICE $21.65**

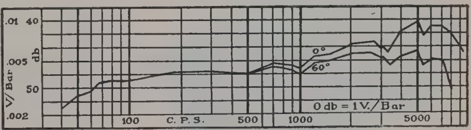
D6T DYNAMIC MICROPHONE



Ideal for general public address including stage sound-reinforcement, both permanent and portable installations. It is entirely suitable for playground and athletic field direction, police and amateur broadcasting, and recording.

Net weight, 1¾ lbs. Packed weight, 2 lbs. Height, 3¾″, diameter 2½″. Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Polished Chrome. 12½′ Shielded Rubber - Jacketed Cable supplied with each microphone.

Typical field calibration for the D6T. A choice of frequency characteristics may be had by varying the angle of the microphone to the source of sound. For nondirectional horizontal pick-up, the response is substantially flat.



D6T Dynamic (38,000 ohms) Code: DIXIT	**List $33.10**
Available on order in 200 or 500 ohms	**List $33.10**
D6 Dynamic (30-50 ohms) Code: DIXIE	**List $30.10**

American MICROPHONES

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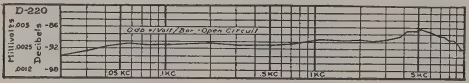
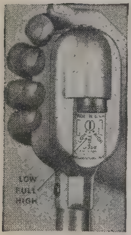
D220 DYNAMIC MICROPHONES

A WIDE RANGE HIGH FIDELITY MOVING-COIL MICROPHONE

- ★ **Two Dynamic Generators each with Specific Frequency Response.**
- ★ **Combined Outputs Elecrically and Acoustically Coupled Produce an Ideal Response.**
- ★ **Total Band 25 to above 10,000 cps. Broad Crossover from 150 cps. to 5000 cps.**
- ★ **Crossover Band an Average for Both Generators Eliminates Peaks.**





THREE TYPES OF RESPONSE FOR ALL PURPOSES

HIGH—For all purposes requiring richness in the higher frequencies. Slightly rising characteristic. (From 150 to 10,000 cps.)

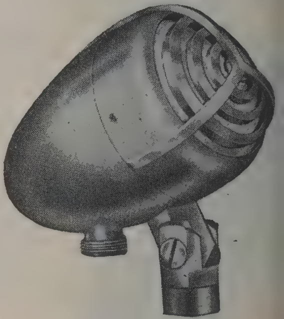
FULL—For high fidelity requirements where smooth, flat response and broad range are necessary. (30 to above 10,000 cps.)

LOW—For pickup systems requiring embellished lows and good intermediate range. (25 to 5000 cps.)

Complete with 25′ cable. Balanced lines on low impedance models.

D220T Dynamic (38,000 ohms),
Code: CROST .... LIST **$71.00**
Available on order in 200-
250 or 500 ohms .... LIST **$71.00**
D220 Dynamic (30-50 ohms),
Code: CROSS ....LIST **$65.50**

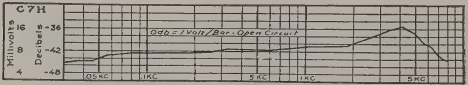
C7 CRYSTAL MICROPHONES

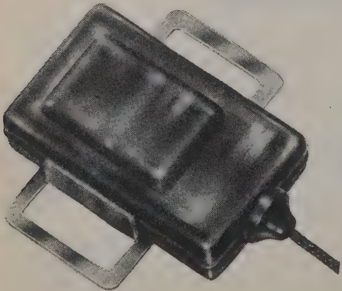


The development of the new American Crystal Microphones, Model C7H and Model C7L, represents many features which have been available only in several previous types. The response characteristics have been chosen so that the C7 can be used equally well for recording with a minimum amount of amplifier equalization and also for public address. **A new system of coupling the crystal element to the diaphragm is employed which produces a smoother response and 100% greater efficiency equivalent to double the output of usual direct drive type of coupling.**
High or low impedance may be had in the Model C7. An efficient transformer is used to reduce the inherent high impedance of the crystal generator to standard line impedances. Long lines with negligible losses may be used.

Complete with 12½ ft. cable

C7H High Imjedance. Code: CSEVN .... LIST **$24.50**
C7L Available in 50 ohm or 200-250 ohm or 500 ohm.
Code: CSEVL .... LIST **$29.00**





HB1 CONTACT MICROPHONE

A light-weight, high output crystal microphone excellent for amplification of stringed musical instruments and detection of heart and chest sounds. Crystal element mechanically protected and sealed inside a moisture and acid resistant plastic covering. Construction materially reduces feedback difficulties. Weight—less than 2 ounces. Dimensions—½″ x 1″ x 1⅝″. Complete with metal clip for strap fastening in position and seven feet of small, highly flexible, plastic covered shielded cable.

CODE: HEART .... LIST **$25.00**

American PHONOGRAPH PICKUPS

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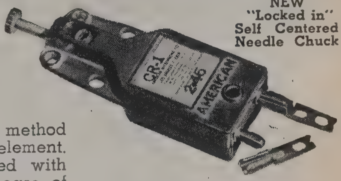
J-1 PHONOGRAPH PICKUP

LIST PRICE

$5.50

The curved arm with off-set head was designed to provide optimum tracking for both ten and twelve inch records with minimum wear of record and stylus. Base of the arm is designed for single hole mounting. Assembly includes CR-1A Crystal Cartridge, twenty-four inch single conductor shielded wire, arm rest, mounting hardware and complete mounting instructions.

CRIA CRYSTAL CARTRIDGE

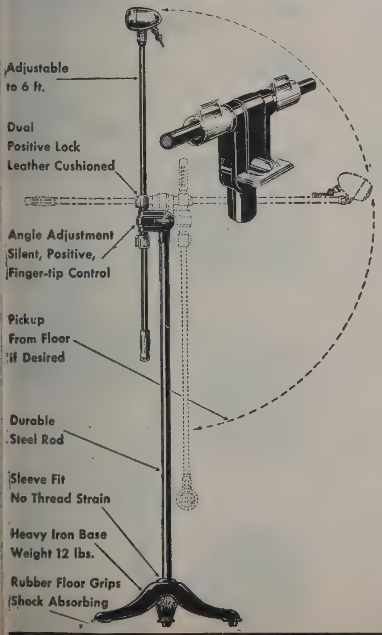

CR-1
2446
AMERICAN

NEW "Locked in" Self Centered Needle Chuck

CR-1A Cartridge is a high output, wide range unit, which incorporates a number of new developments in cartridge design. High output and improved response are obtained by a unique method used to drive the crystal element. The cartridge is supplied with pin plug connectors for ease of assembly into the arm—no soldering iron is required. The needle chuck design incorporates a "locked-in" feature whereby the chuck is prevented from moving when tension or pressure is applied to the needle screw. This feature also insures that the needle socket will remain centrally located in its opening in the cartridge. High needle point compliance and minimum record chatter are thereby guaranteed. The cartridge will operate satisfactorily with any conventional needles; however, its high-frequency response will vary somewhat with the type needle used. Best operation will be obtained with off-set needles using sapphire or precious metal stylii.

Model	**CR1A**	**CR2A**	**PNCR**
Needle Pressure Ounces	1¼	1¼	1½
*Output Voltage	4.	3.	2.
Response	50-6000	50-6000	50-6000
Terminals	Pin Plug	Pin Plug	Pin Plug
Needle Screw	Thumb	Thumb	Thumb
Needle	Optional	Optional	Optional
Code	Cream	Creep	Crest
List	**$4.00**	**$4.00**	**$8.00**

American FLOOR STAND


Adjustable to 6 ft.
Dual Positive Lock Leather Cushioned
Angle Adjustment Silent, Positive, Finger-tip Control
Pickup From Floor if Desired
Durable Steel Rod
Sleeve Fit No Thread Strain
Heavy Iron Base Weight 12 lbs.
Rubber Floor Grips Shock Absorbing

New! FLOOR STAND WITH MANY USES

PLACE THE MIKE ADVANTAGEOUSLY
FOR EFFICIENT PICKUP
EXCELLENT FOR RECORDING
AND ORCHESTRA PICKUP

HB3 ....List Price **$24.50**

Upper rod and fittings, polished chrome. Lower rod and angle adjustment, satin black. Microphone mounting, standard 5/8" x 27 thread.

Total net weight 16 lbs. Code: BOOME

Upper Assembly, including 34" chrome rod, as illustrated at right of stand.

B3 .... List Price **$8.75**

Microphone Mounting, Standard 5/8" x 27
Stand Mounting, Standard 1" x 27.

Code: TOPSE

American MICROPHONES

1. **C6 CRYSTAL MICROPHONE.** The best buy in a crystal microphone. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure. Long cables, 250 feet or longer, may be used with this microphone. The increased output voltage assures only slight proportional losses in cable lengths. Provided with plug at microphone and mounting swivel with standard 5/8"x27 thread. Chrome finish. Net weight 8 ozs. Complete with 7′ cable and microphone plug. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this model.
   C6 Crystal Microphone, Code: CESIX........**List Price $18.05**

2. **AG CRYSTAL MICROPHONE.** Preferred by crystal buyers for four years. Communication-type response. Equipped with mounting yoke, providing rear or through cable outlet. Standard 5/8" x 27 thread. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone.
   AG Crystal Microphone, Code: AGTAL........**List Price $24.65**

3. **B9 CRYSTAL MICROPHONE.** Semi-directional. Recommended for public address. Chrome finish. 5/8"x 27 thread. Complete with 8′ cable and plug at microphone. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone. Code: BENIN........**List Price $24.65**

4. **CL2 CRYSTAL LAPEL MICROPHONE.** Built especially for lapel use. Maximum sensitivity in voice range. 2½" diameter. Weight 1½ ozs. Complete with 25′ cloth-covered, shielded cable and clip for attaching to clothing.
   CL2 Crystal Lapel Microphone, Code: LATAL........**List Price $27.40**

5. The B9 as a hand microphone. Chrome finish. Available with two types of switches. 8′ cord. B9P with press-contact switch in handle, and B9S with slide switch in handle.
   B9P Crystal Hand Microphone, Code: BECON........**List Price $28.45**
   B9S Crystal Hand Microphone, Code: BEHAN........**List Price $27.40**

6. The AG as a hand microphone. Chrome finish. Available with two types of switches. 8′ cord. AH using slide switch, and AGP using press-contact switch.
   AH Crystal Hand Microphone, Code: AHTAL........**List Price $27.40**
   AGP Crystal Hand Microphone, Code: AGPAH........**List Price $28.50**

7. **AG DESK STAND.** Consists of upright (handle) and base. Chrome finish Code: AGESK........**List Price $2.75**

8. **AG HANDLE.** Upright of AG Stand. Easily attached to AG Base by half turn, bayonet lock. Chrome finish. Code: AGHAN........**List Price $1.65**
   AG BASE. For use with AG Handle. Code: AGBAS........**List Price $1.10**

9. **AH HANDLE.** Upright of AG Stand with **slide switch.** Chrome finish. Code: SHAND........**List Price $3.00**

10. **DH HANDLE.** Upright of AG Stand with **press-contact switch.** Chrome finish. Code: DEPAH........**List Price $4.10**

12. **SUSPENSION EYE.** For suspending any microphone with standard 5/8"x27 thread. Chrome finish. Sturdy. Code: DYEYE........**List Price $1.20**

13. **BS BANQUET STAND.** Round base 8" in diameter. Rods 12". Extended height 24". Satin Black finish. Code: FUDAS........**List Price $9.30**

14. **FH3 and FL3 FLOOR STANDS.** Approved by the best sound studios. Positive, leather, friction-lock clutch. Noiseless operation. Rods 38". Extended height 6′. Three-contact, "floor grip," rubber-mounted base. FH3, studio model, net weight 15 lbs. FL3, public address model, net weight 10 lbs.
    FH3 Floor Stand, Code: FUHET........**List Price $18.60**
    FL3 Floor Stand, Code: FLEXR........**List Price $12.60**

15. **EL4 CARBON MICROPHONE.** Double button. Semi-stretched diaphragm. Good quality. Mounting yoke included. No ring or springs necessary. Code: LITEG........**List Price $8.75**

16. **DD DESK STAND.** Round base, 4" upright. Net weight 1¼ lbs. 5¼" base. Chrome finish. Code: DYNES........**List Price $3.00**
    DS Desk Stand. Same as DD Stand except with 4¼" base. Chrome finish. Code: DINAC........**List Price $3.00**

17. **SJ CARBON MICROPHONE.** Single button. Sensitive. Chrome finish. Code: JOHNE........**List Price $6.00**

18. **FP CARBON MICROPHONE.** New single-button, sensitive, carbon microphone. Operates in any position. For use in French phones and other types of telephone and listening devices. Code: FRONE........**List Price $3.55**

19. **CARBON HAND MICROPHONES WITH SLIDE SWITCH.** Chrome finish.
    DB2, Double-button, Hand Mike, Code DBTWO........**List Price $18.05**
    SB2, Single-button, Hand Mike, Code: SUTRO........**List Price $12.05**
    Either above models with press-contact switch list $1.00 extra.

Licensed under Patents of The Brush Development Co., and Licensed by Electrical Research Products, Inc., under United States Patents of A. T. & T. Co. and Western Electric Co., Inc., for use only in Public Address Systems.

AMERICAN MICROPHONE CO., INC.

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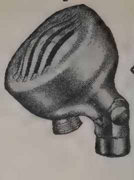

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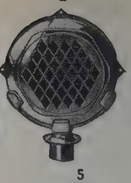

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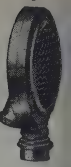

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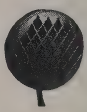

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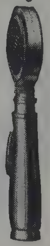

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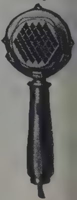

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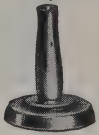

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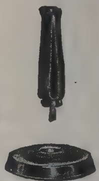

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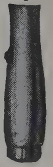

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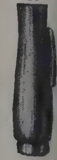

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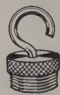

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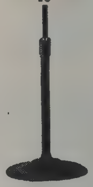

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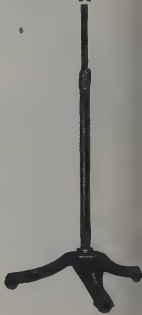

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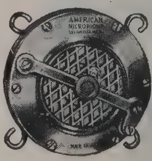

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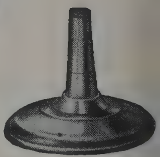

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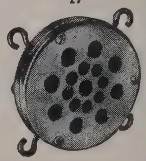

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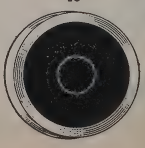

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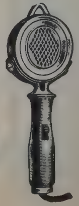
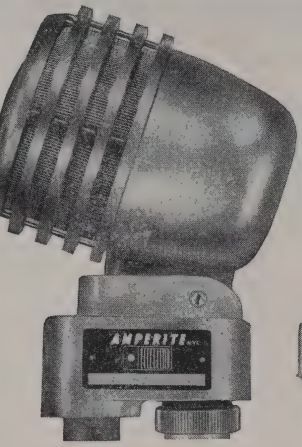


VELOCITY AMPERITE MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER

P.G.
PRESSURE GRADIENT
DYNAMIC



•UNI-DIRECTIONAL

NEW SUPERIOR ELIPSOID PICKUP PATTERN

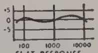
•ELIMINATES FEEDBACK

TROUBLE BECAUSE IT HAS LOWEST FEED BACK POINT OF ALL DIAPHRAGM TYPE MICROPHONES

•FLAT RESPONSE.

FREE FROM ANNOYING PEAKS, GIVING STUDIO QUALITY REPRODUCTION

ELIPSOID
PICKUP
PATTERN

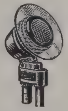


FLAT RESPONSE OF P.G. DYNAMIC

The P.G. diaphragm follows air particle velocity where amplitude is a **GRADIENT** of the **PRESSURE.** In ordinary dynamics amplitude is restricted from following air particle velocity. The **P.G. DYNAMIC** is a radical improvement in this type of microphone. You can actually hear the difference. Case is designed according to modern acoustic principles. Rugged, not affected by temperature, altitude or humidity. **Has unusually high output.**

Model PGH —hi-imp.
Model PGL —50 ohms } **$32.00 List**

Output	—55 db
Freq. Resp.	40-10000 CPS
Cable Length	25 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2½ lbs.



PLASTIC BAFFLE FOR P.G. DYNAMIC

Increases output of the microphone 4 db. Especially useful when performer is at distance of 12″ or more. Excellent for picking up entire stage, bands, etc. Snaps into place.
Model PG.....List $1.50

Model PGAH —hi-imp.
Model PGAL —50 ohms } **$25.00 List**

Output	—60 db
Freq. Resp.	70-8000 CPS
Cable Length	12 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2½ lbs.

AMPERITE MICROPHONE STANDS

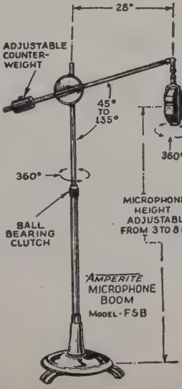
Scientifically designed, Amperite stands feature:

1. Positive, non-sliding clutch. Will never wear out, never require adjustment. Will not "creep".
2. Shock-absorbing rubber bottom.

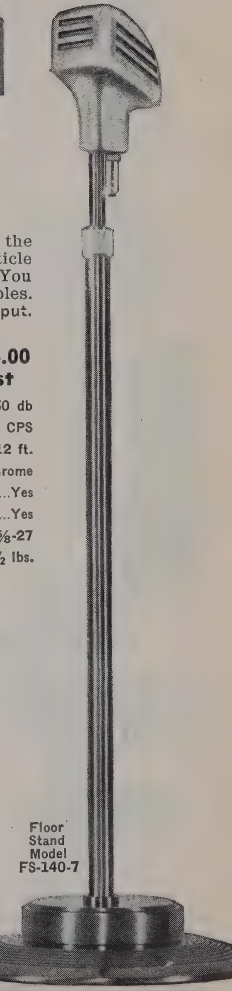
The microphone can be rotated without loosening clutch. The action up and down is **smooth, pneumatic-like.**

AMPERITE MICROPHONE STANDS—SPECIFICATIONS

Model	Description	Base Wt.	Base Spread	Height Range	Thread	List Gunmetal or Chrome	Ship. Wt.
FS-14	Floor Stand	14 lb.	12″	37″-55″	½-27″	$18.00	15 lb.
FS-25M	Studio 3-legged Floor Stand	16 lb.	17″	42″-69″	½″ pipe	26.00	25 lb.
DS-M	Comb. desk & Banquet	6 lb.	7½″	16″-24″	5/8-27″	12.00	11 lb.
DS	Desk only	6 lb.	7½″	3″	5/8-27″ & ½″ P.	6.00	11 lb.
5D	Desk Stand	1½ lb.	5″	6″	5/8-27″	4.00	3 lb.
FSB	Boom	21 lb.	17″	36″-96″	½″ pipe	70.00	43 lb.


28″
ADJUSTABLE COUNTER-WEIGHT
45° TO 135°
360°
360°
BALL BEARING CLUTCH
MICROPHONE HEIGHT ADJUSTABLE FROM 3 TO 8 FT

AMPERITE MICROPHONE BOOM MODEL-FSB



Floor Stand Model FS-140-7

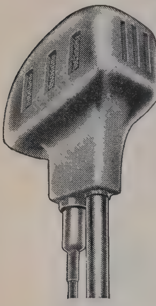
VELOCITY AMPERITE MICROPHONES

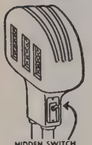
PREFERRED BY LEADING P. A. MEN THE WORLD OVER

New STUDIO "*Ribbon*" MICROPHONE

Models R80H—R80L

A "Blastproof" Velocity





Eliminates Feedback Troubles

The finest in microphones, regardless of price. Reproduction is of the very highest type. Excellent for broadcasting, recording and public address. Eliminates feedback troubles. Will not become "boomy" on close talking. An entire orchestra can be faithfully reproduced.

Pick-up angle 120° front and back with practically no frequency discrimination. In spite of the wide pick-up angle, feedback is reduced to a minimum.

Not affected by temperature, altitude or humidity. Will operate under any climatic conditions—indoors or outdoors. Not affected by wind.

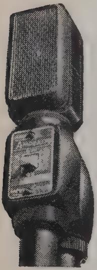
Frequency range 40-14,000 cps. Output —56 db. Complete with switch, (optional), cable connector, and 25′ cable. Finish — Chrome. Stand thread, Standard ⅝″—27.

Model	List
R80L—200 ohms output	$80.00
50 ohms available	
R80H—High impedance	80.00

Shipping Weight 10 lbs.

COMPACT VELOCITY, ACH—ACL

The smallest complete velocity ever made



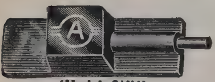
Compact—yet a complete Amperite "Ribbon" Microphone including transformer, switch and cable connector. Recommended wherever a compact microphone is a necessity. Can be used either as a hand microphone or on a stand. Frequency range 120 to 8,000 cps. Output —65 db.

Complete with switch—cable connector—12′ cable. Stand thread—Standard ⅝″—27.

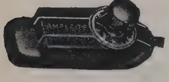
Model	List
Model ACH—High impedance	$32.00
Model ACL—200 ohms output	32.00
50 ohms available	

Shipping Weight 5 lbs.

AMPERITE KONTAK MIKE



(Model SKH)



(Model KKH)

FOR MUSICAL INSTRUMENTS

Gives natural reinforcement without peaks. Easily attached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, —40 db.

Shipping Weight 2 lbs.

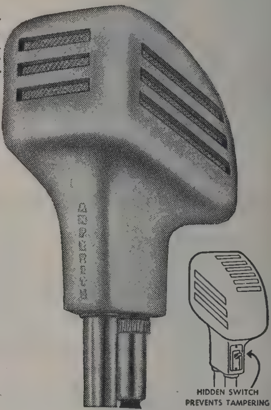
Model	List
Model SKH—Hi-impedance	List $12.00
Model KKH—With Hand Volume Control	List 18.00
Model KF —Foot Pedal Only	List 18.00

Low impedance available in model SKH at same price.

New "RIBBON" MICROPHONE, RBHG—RBLG

Automatically Adjusted for Close or Distant Pick-Up

A "Blastproof" Velocity



Studio reproduction — low feedback. A "ribbon" microphone that brings broadcast quality within everyone's reach. **Perfectly natural reproduction on close talking—you can even shout into it.** Will also faithfully reproduce an entire orchestra.

Pick up angle front and back—120° with practically no frequency discrimination. In spite of wide pick-up angle—feedback is reduced to an absolute minimum. Low feed back is due to flat response of the microphone.

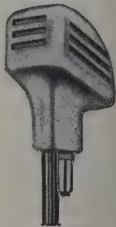
Excellent for studio—P. A. or recording. Not affected by temperature, altitude or humidity. Can be used under all climatic conditions, and will withstand rough handling. Not affected by wind.

Frequency range 50-11,000 cps. Output —62 db. Complete with switch, cable connector, and 25′ cable. Finish — Chrome. Stand thread—Standard ⅝″—27.

Model	List
Model RBHG—High impedance	$42.00
Model RBLG—200 ohms output	42.00

50 ohms available. Shipping Weight 8 lbs.

New RSHG—RSLG "RIBBON" MICROPHONES



Although low in price the RSHG and RSLG are excellent "ribbon" microphones built to Amperite standards. Can be used for P.A. or recording. Feedback very low. Not boomy on close talking—you can shout into it—or pick up an entire orchestra.

Not affected by temperature, humidity or altitude. Not affected by wind.

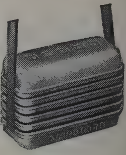
Output: —60 db. Frequency response—70 to 8,000 cps. Complete with switch, cable connector, and 12′ cable. Finish—Baked Enamel. Stand thread—Standard ⅝″—27.

Model	List
Model RSHG—High impedance	$32.00
Model RSLG—200 ohms output	32.00

50 ohms available. Shipping Weight 8 lbs.

Amperite 7JH—7JL VELOCITY MICROPHONE

"Lapel" Type

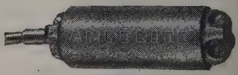


Reproduction is so perfect—you can hardly tell a microphone is working. Free from annoying peaks or mechanical reproduction. Output does not change with any position of the head. It can be concealed in clothing. Will operate under all climatic conditions. Unusually low feedback. Frequency range 60-7,000 cps. Output: —63 db. Cable length 25′. Rubber case.

Model	List
Model 7JH—High impedance	List $32.00
Model 7JL—200 ohms output	List 32.00

50 ohms available. Shipping Weight 3 lbs.

Model LGP—Input Transformer (Cable Type)



Enables the use of low impedance microphones and cable lengths up to 5,000′ with amplifiers having high impedance input. Special shielding eliminates hum pick-up. Can be used with 25, 50, or 200 ohm microphones. Output connects directly into high impedance input of amplifier.

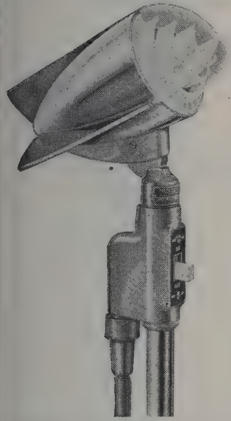
Standard grade recommended for speech. Laboratory grade for music.

Model	List
Model LGP—Standard—60 to 2,000 cps.	List $8.00
Model LGP—Lab—40 to 14,000 cps.	List 10.00

Shipping Weight 3 lbs.

CONNEAUT, OHIO

ASTATIC KNOWN THE WORLD OVER *Crystal* MICROPHONES



The CONNEAUT

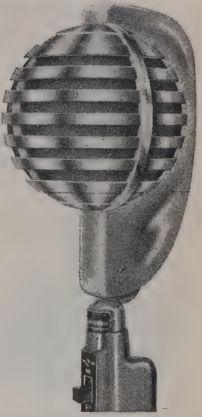
● The "Conneaut," Model No. 600, is a new, streamlined, semi-directional crystal microphone with relatively high output and wide frequency range. Ideal for public address and paging systems, amateurs' rigs and other communication uses. Overall frequency response is exceptionally smooth up to 10,000 c.p.s. and will satisfy the most critical demands for high fidelity performance. The Conneaut is of modern, streamlined design and beautifully finished in bright chrome with light blond plastic grille. Standard equipment includes 25 ft. cable and spring protector. Three models are available.

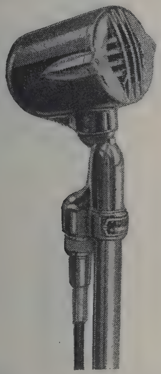
	List Price
600 —Code ASUFZ	**$30.00**
600-S—Code ASUFY, with S-Switch	**32.70**
G-600—Code ASUFX, with G Stand	**35.45**

The GLOBE

● In this attractively modern new model, Astatic has designed a crystal microphone engineered to render the highest degree of service in a wide field of general usage applications. "The Globe" employs Astatic's exclusive, patented, dual-diaphragm principle of advanced design and cannot be acoustically overloaded. Satin and bright chrome finish 25 ft. cable. Model 820 utilizes two dual-diaphragm crystal cartridges with four diaphragms. Model 840 employs four dual-diaphragm cartridges with eight diaphragms, and can be used with extra long cables.

	List Price
820 —Code ASUGZ	**$40.00**
840 —Code ASUGY	**50.00**
820-S—Code ASUGX, with S-Switch	**42.70**
840-S—Code ASUGW with S-Switch	**52.70**





The N-SERIES

● N-Series Crystal Microphones are especially desirable for modern public address installations. Swivel joint, tilting head permits adjustment to either semi-directional or non-directional position. Four models are available. N-30 Models with output level —52 db, are high fidelity, wide range microphones, 30 to 10,000 cycles. N-80 Models are voice range microphones, output level —49 db, with rising response to 3,000 cycles. Finished in opalescent gray with bright chrome grille. Complete with 15-ft. cable and spring protector.

	List Price
N-30 —Wide Range, Code ASVJR	**$19.15**
N-80 —Voice Range, Code ASVJP	**19.15**
N-30-S—with S-Switch, Code ASVJN	**21.90**
N-80-S—with S-Switch Code ASVJL	**21.90**

MODEL D-104

● For close talking applications, such as radio amateur communications and similar uses, Model D-104 is a microphone that has long proved its efficiency and dependability. With high output level —48 db, Model D104 possesses definitely reduced R.F. feedback tendencies. New type yoke-driven, bridge-mounted Graphoil crystal element, improved shock-proof mounting and barometric compensation. Speech range frequency response from 30 to 7,500, rising 500 to 4,000 c.p.s. Bright chrome finish. Standard equipment includes interchangeable plug and connector, spring cable protector.

	List Price
D-104 —Code ASUPA	**$24.60**
GD-104—Code ASVAX, with G-Stand	**30.10**
D-104-S—Code ASUPB with S-Switch	**27.35**

The WR-SERIES

● The WR-Series, Multi-Unit Microphones, are highly recommended for studio, public address and high quality recording purposes. Substantially flat frequency response up to 10,000 cycles. Due to their special interior assembly design, the WR-Series Microphones are practically transparent to sound waves and cannot be acoustically overloaded. Model WR-20 may be used on cable up to 100 ft. with negligible loss of output and Model WR-40 is more than able to handle cable twice this length. Output level —56 db. Finish, bright chrome with satin chrome grille. Cable length, 25 ft.

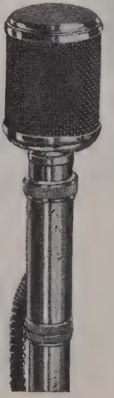
	List Price
WR-20—Code ASVGZ	**$32.30**
WR-40—Code ASVAL	**43.25**

(Available with S-Switch or G-Stand)

MODEL K-2

● Because of its smooth, undistorted reproduction and the fact that it cannot be acoustically overloaded, Astatic Model K-2 Crystal Microphone is favored and extensively used. In this model, Astatic provides a small size, dual-diaphragm type crystal microphone for studio use, recording, dance bands, public address installations and general applications where quality performance is required. With dual crystal unit design, Model K-2 has twice the capacitance of the usual crystal microphone and correspondingly longer cable lengths may be used. Standard equipment includes plug and socket connector and 25-ft. cable. Bright chrome finish.

	List Price
K-2 —Code ASURX	**$30.10**
K-2-S—Code ASURW, with S-Switch	**32.85**
GK-2 —Code ASUZA, with G-Stand	**35.55**



Astatic Crystal Devices manufactured under Brush Development Co. patents.

CONNEAUT, OHIO

ASTATIC KNOWN THE WORLD OVER *Microphones* AND STANDS

The JT-SERIES

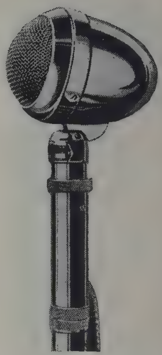
● Because of its wide range of usefulness, excellent performance and low price, Astatic JT-Series Crystal Microphones are used extensively for amateur, public address and home recording. JT-Series Microphones are available in both wide and voice range models and, in addition to standard equipment, are furnished complete with concentric cable connector, convenient wood handle, interlocking metal base and 15-ft. shielded cable. Wood handle may be removed and microphone used on floor stand. Output level —52 db provides ample reserve for use with high gain amplifiers. Opalescent gray with bright chrome grille.

	List Price
JT-30—Wide Range, Code ASVLG	**$16.95**
JT-40—Voice Range, Code ASVLD	**16.95**

The MODEL T-3

● Definitely established by long and continued popularity, Model T-3 Crystal Microphone is highly practical for many and varied applications. Its use is suggested for studio set-ups, with amateur rigs, intercommunicating systems, public address installations and for high class recording purposes. Microphone head may be tilted with ease on unique swivel mounting and pickup pattern made semi- or non-directional, as desired. Output level —52 db. Frequency response substantially uniform from 30 to 10,000 cycles. Equipped with interchangeable plug and socket connector and 25 ft. cable. All chrome finish.

	List Price
T-3 —Code ASVCX	**$27.35**
T-3-S—Code ASVCW, with S-Switch	**30.10**
GT-3—Code ASUZD, with G-Stand	**32.85**



LAPEL TYPE MODEL L-1

● This very small dual-diaphragm crystal microphone was developed to meet especially difficult pickup conditions. Equipment includes lapel-type spring clip and over-shoulder cord to permit wide latitude of movement. Output level —62 db. Frequency response uniform from 30 to 10,000 c.p.s. Finish, statuary bronze. Furnished with 25-ft. cable.

	List Price
Model L-1—Code ASUSN....	**$27.35**

The DYNAMIC

● Model "DN" is a semi-directional, all-purpose dynamic microphone incorporating a new unitary moving coil system, and carefully proportioned acoustic circuit to highly damp the natural resonance of the moving system and provide a response characteristic substantially flat from 50 to 7,000 cycles. The "DN" design employs all features necessary for wide applicability, including Astatic's tilting-head, swivel mount, permitting semi- or non-directional positions. Opalescent gray and bright chrome finish.

	List Price
DN-50 —(50 ohms) Code ASVNJ	**$21.90**
DN-200—(200 ohms) Code ASVNI	**24.60**
DN-500—(500 ohms) Code ASVNH	**24.60**
DN-HZ —(5 Meg.) Code ASVNG	**24.60**

All Models available with G-Stand

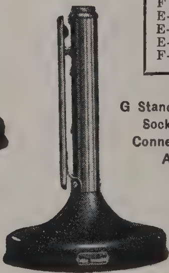
E-1
Code ASVCZ
⅝"—27
Thread

E-5B Code ASUZJ
E-5G Code ASUZK
⅝"—27 Thread

F Stand with
Socket
Connector
Code ASUZO

MODEL	FINISH	PRICE
G Grip-to-Talk	Chrome & Gray	$10.95
F Desk	Chrome & Gray	6.55
E-1 Desk	Chrome & Gray	3.25
E-5B Desk	Chrome & Brown	2.70
E-5G Desk	Chrome & Gray	2.70
F-11 Adapter	Chrome	3.50

G Stand with
Socket
Connector
ASVBH



Astatic MICROPHONE STANDS AND ADAPTERS

F-11 with
8-ft. Cable
Code ASUWU

Astatic Crystal Devices manufactured under Brush Development Co. patents.

Crystal PICKUPS KNOWN THE WORLD OVER **ASTATIC**

CONNEAUT, OHIO

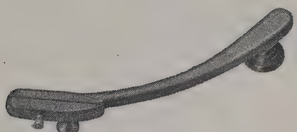
TRANSCRIPTION PICKUP ARMS

MODEL B-16 PICKUP

- Professional type pickup for use on lateral transcriptions of all sizes. Time tested and proven studio model. Rotating head for easy needle loading. Ball-bearing swivel base. Employs B-2 Crystal Cartridge.

List Price

Model B-16—Code, ASWKG $25.00

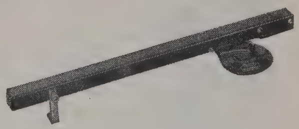


STUDIO MASTER "400"

- This new, streamlined crystal pickup is intended primarily for broadcast and recording studio use, and incorporates all the advantages of low pressure design and operation. For use with all lateral transcriptions. New type, adjustable-height, swivel base.

List Price

Model Nylon 400—Code ASBCF........ $25.00
Model 400—Code ASBCE.................. 25.00



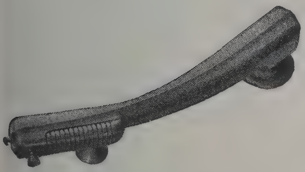
MODEL HP-16 PICKUP

- This is a long, slender, straight-arm crystal pickup of the Low Pressure type, for use on all lateral transcriptions. Ball-bearing swivel base. One-ounce needle pressure. Employs LP-21 Crystal Cartridge with permanent, jewel-type stylus.

List Price

Model HP-16—Code ASXIB $27.85

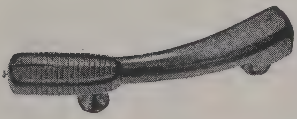
PICKUP ARMS



MODEL 508 PICKUP

- Newest Astatic Crystal Pickup designed for quality reproduction of 10″ and 12″ records on manually operated phonographs, or as replacements for existing equipment. Model 508 employs Astatic's new and dependable L-71 replaceable needle type crystal cartridge.

Model Nylon-508—Code ASAYJ $18.35
Model 508—Code ASAYI.................... 16.10

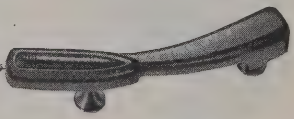


MODEL 510 PICKUP

- Model 510 Crystal Phonograph Pickup is ideally designed for use with manually operated players using 10″ and 12″ records. Short mounting centers. Ideal for compact or portable equipment. Axial cushioned arm. Flanged base. New Design. Light brown finish.

List Price

Model 510—Code ASAYK $7.50



MODEL 507

- In this newly styled, carefully designed Crystal Phonograph Pickup, Astatic combines low cost with high performance standards. Intended primarily for new applications in manual record player or the improvement of existing equipment. Employs L-40 Crystal Cartridge.

List Price

Model 507—Code ASAYH..................... $5.50

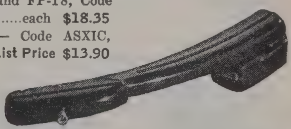
MODEL B-10 CRYSTAL PICKUP

- For Standard records. Code ASWKH. List Price $19.50

MODEL FP-8

- Code ASXIF, and FP-18, Code ASXIE, ...each $18.35

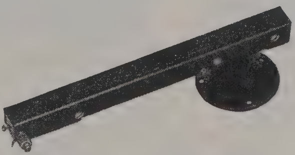
MODEL FL-48 — Code ASXIC, List Price $13.90



MODEL AB-8M PICKUP

- For mobile equipment. Hinged head. Code ASXEA.

List Price $13.90



MODEL S-8 PICKUP

- Popular straight-arm pickup. Type B cartridge. Code ASWCA.

List Price $11.15

MODEL AB-8

- Code ASXFZ, and AB-8B, Code ASXFW, Crystal Pickups. Employ B-2 Crystal Cartridge.

List Price $11.15

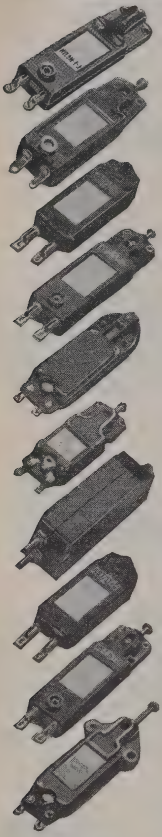
Astatic Crystal Devices manufactured under Brush Development Co. patents.

Crystal PRODUCTS

KNOWN THE WORLD OVER

CONNEAUT, OHIO

ASTATIC



TYPE "NYLON 1-J"

TYPE "L"

TYPE "MLP-1-J"

TYPE "L-70 SERIES"

TYPE "LP"

TYPE "M"

TYPE "B"

TYPE "MLP-3" Special P N

TYPE "L-73" & "L-74" Special P N

TYPE "401-A"

CRYSTAL REPLACEMENT CARTRIDGES

Model No.	List Price	Arm-Rest Button	Minimum Needle Pressure (Ounces)	Needle Type	Output Voltage	Cutoff Frequency c. p. s.	Terminals	Needle Screw No.	Code
L-22A	(Discontinued—Replace with L-26A)								
L-24A	$ 5.55	Yes	2¾	Optional	2.95	6500	Lug	3258	ASWVY
L-25A	(Discontinued—Replace with L-70A)								
L-26A	4.45	Yes	2¾	Optional	1.4	4500	Lug	3258	ASWVZ
L-27A	(Discontinued—Replace with L-26A)								
L-32A	(Discontinued—Replace with L-26A)								
L-36A	(Discontinued—Replace with L-24A)								
L-40A	4.45	Yes	1¼	Optional	0.6	4500	Lug	3530	ASWUA
L-41A	(Discontinued—Replace with L-40A)								
L-46A	6.65	Yes	1¼	Optional	3.5	4000	Lug	3258	ASWUB
L-50A	(Discontinued—Replace with L-72A								
401A	4.45	Yes	2¾	Optional	1.4	4500	Lug	3267	ASWTA
LP-6	8.90	No	1	Permanent	0.85	4500	Lug	None	ASWUM
LP-21	8.90	No	1	Permanent	0.85	7000	Lug	None	ASWUL
LP-23	(Discontinued—Replace with LP-21)								
M-22	5.55	Yes	2¾	Optional	2.9	6500	Lug	3258	ASWJM
M-23	(Discontinued—Replace with M-22)								
B-1	(Discontinued—Replace with B-2)								
B-2	5.55	No	2¾	Optional	2.5	4000	Universal	3205 or 3207	ASWHJ
B-3	(Discontinued—Replace with B-2)								
B-4	5.55	No	2¾	Optional	2.5	4000	3" Pigtail	3205 or 3207	ASWHH

NEW NYLON AND L-70 SERIES CARTRIDGES

Model No.	List Price	Arm-Rest Button	Minimum Needle Pressure (Ounces)	Needle Type	Output Voltage	Cutoff Frequency c. p. s.	Terminals	Needle Screw No.	Code
Nylon 1-J	$ 8.90 With Needle	Yes	1¼	Sapphire Tipped Nylon	1.0	8000	Pin	None	ASWWA
L-70	$ 5.55	No	1¼	Optional	1.00	4000	Pin	3258	ASWVU
L-70A	5.55	Yes	1¼	Optional	1.00	4000	Pin	3258	ASWVT
L-70S	5.55	No	1¼	Optional	1.00	4000	Lug	3258	ASWVS
L-70AS	5.55	Yes	1¼	Optional	1.00	4000	Lug	3258	ASWVR
L-71	6.65	No	1	Optional	1.00	8000	Pin	3258	ASWVQ
L-71A	6.65	Yes	1	Optional	1.00	8000	Pin	3258	ASWVP
L-71S	6.65	No	1	Optional	1.00	8000	Lug	3258	ASWVO
L-71AS	6.65	Yes	1	Optional	1.00	8000	Lug	3258	ASWVN
L-72	6.66	No	1¼	Optional	3.5	4000	Pin	3258	ASWVM
L-72A	6.65	Yes	1¼	Optional	3.5	4000	Pin	3258	ASWVL
L-72S	6.65	No	1¼	Optional	3.5	4000	Lug	3258	ASWVK
L-72AS	6.65	Yes	1¼	Optional	3.5	4000	Lug	3258	ASWVJ
L-75	5.55	No	1¼	Optional	0.75	6000	Pin	3258	ASWVA
L-75A	5.55	Yes	1¼	Optional	0.75	6000	Pin	3258	ASWWZ
L-75S	5.55	No	1¼	Optional	0.75	6000	Lug	3258	ASWWY
L-75AS	5.55	Yes	1¼	Optional	0.75	6000	Lug	3258	ASWWX
L-76	5.55	No	1¼	Optional	1.00	3000	Pin	3258	ASWWW
L-76A	5.55	Yes	1¼	Optional	1.00	3000	Pin	3258	ASWWV
L-76S	5.55	No	1¼	Optional	1.00	3000	Lug	3258	ASWWU
L-76AS	5.55	Yes	1¼	Optional	1.00	3000	Lug	3258	ASWWT
MLP-1-J	8.90	No	1	Permanent	1.00	10000	Pin	None	ASWUG

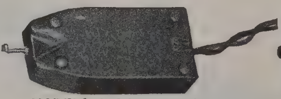
SPECIAL CARTRIDGES (P. N. TYPES)

These cartridges are used by certain manufacturers in equipment especially designed for their use and are listed here for replacement purposes *only*. They *are not* interchangeable with standard Rochelle Salts type cartridges and The Astatic Corporation can accept no responsibility for their performance in the event they are wrongly used.

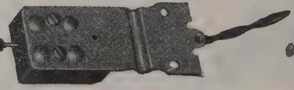
Model No.	List Price	Arm-Rest Button	Minimum Needle Pressure (Ounces)	Needle Type	Output Voltage	Cutoff Frequency c. p. s.	Terminals	Needle Screw No.	Code
L-73	$11.15	No	1	Optional	1.00	5000	Pin	3258	ASWVI
L-73A	11.15	Yes	1	Optional	1.00	5000	Pin	3258	ASWVH
L-73S	11.15	No	1	Optional	1.00	5000	Lug	3258	ASWVG
L-73AS	11.15	Yes	1	Optional	1.00	5000	Lug	3258	ASWVF
L-74	10.00	No	1½	Optional	1.4	4000	Pin	3258	ASWVE
L-74A	10.00	Yes	1½	Optional	1.4	4000	Pin	3258	ASWVD
L-74S	10.00	No	1½	Optional	1.4	4000	Lug	3258	ASWVC
L-74AS	10.00	Yes	1½	Optional	1.4	4000	Lug	3258	ASWVB
MLP-3	13.90	No	1	Permanent	.5	10000	Pin	None	ASWUI

ASTATIC RECORDING HEADS

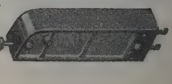
ASTATIC TONE EQUALIZER



MODELS X-26 and X-29A



MODEL M-41



MODEL C-42

E4P Tone Equalizer

Adjustable tone compensation network to be connected between Crystal Pickup and amplifier. Code ASVHD. **List Price $3.30**

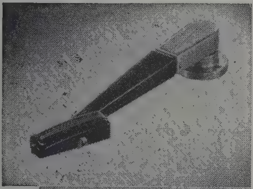
Model	Type	Driving Voltage	Useful Upper Limit	Finish	Dimensions	Net Weight	Code	List Price
X-26	Crystal	75 V. RMS	5,000 c. p. s.	Oxidized	1⅜"x⅝"x3¼"	5½ oz.	ASXMI	$12.80
X-29A	Crystal	120 V. RMS	6,500 c. p. s.	Oxidized	1⅜"x⅝"x3¼"	5½ oz.	ASXMH	12.80
C-42	Crystal	75 V. RMS	5,000 c. p. s.	Oxidized	9/16"x13/16"x3"	1½ oz.	ASXMG	12.80
M-41-8 (8 ohms)	Magnetic	3 V. RMS	7,000 c. p. s.	Oxidized	1⅜"x1 1/16"x3¾"	3½ oz.	ASXMF	12.80
M-41-500 (500 ohms)	Magnetic	22 V. RMS	7,000 c. p. s.	Oxidized	1⅜"x1 1/16"x3¾"	3½ oz.	ASXME	12.80
MATCHING TRANSFORMER . . . LINE TO CRYSTAL CUTTER								
T-26	Matching Transformer	Primary Impedance 15/500 Ohms	Secondary Impedance 60.000 Ohms	Tel.-Blk.	2 3/16"x3¼"x2¾"	1 lb. 4 oz.	ASXNO	7.80

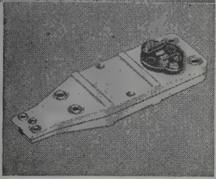
Astatic Crystal Devices manufactured under Brush Development Co. patents.

Brush CRYSTAL PRODUCTS

The Brush PL-20 crystal phonograph pickup is a high quality instrument for use with all lateral cut records including broadcast transcriptions. Low stylus force (30 grams—approximately 1 ounce) virtually eliminates record wear and background noise. Permanent sapphire stylus has shown no measurable wear after 250 hours of continuous use—about 5,000 playings.

BRUSH MODEL "PL-20" CRYSTAL PICKUP





High impedance equalizers No. 3761-B at List Price **$2.75**

For low impedance applications No. 3761-A equalizer for 50, 200, 500 ohm line available. List Price . . . . $15.00 Net Wt. 5 oz. Shipping Wt. 1 lb. Code Laped.

Designed for records up to 17¼ in dia. Black molded plastic arm with satin chrome metal parts. Pickup complete with 3761-B equalizer and arm rest.

List Price **$50.00**

Net Wt. 2 lbs. 4 oz. Shipping Wt. 3 lbs. Code Payle.

PL-2Z CARTRIDGE—heart of PL-20 crystal pickup.

Response: Flat within 2.5 db. up to approx. 6,000 cps; slight rise to 10,000 cps.

Output Voltage: .3 volts per .001" stylus displacement at 400 cps. to "Constant Velocity" recordings (with No. 3761-B equalizer). Sufficient to drive conventional two stage amplifier. 1.7 volts per .001" stylus displacement for "Constant Amplitude" recordings. List . . . **$16.70**

BRUSH MODEL "RC-20" CRYSTAL CUTTER

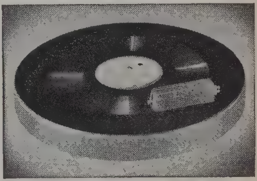
The Brush RC-20 Crystal Cutter has been designed to satisfy the demand for high quality, low cost recordings in the home, school and studio. Due to its inherent stiffness, the RC-20 will cut lateral type records in virtually all hard or soft disc materials. Being of simple and compact design, it is readily adaptable to all types of transcription equipment. A three watt amplifier is sufficient to satisfactorily drive the RC-20 cutter Frequency response—flat within plus or minus 3 db. from 50 to 9,000 cps.

Cuts "Constant Amplitude" without equalization, and "Constant Velocity" or other desired frequency characteristics with suitable equalization. Complete technical data sent on request.

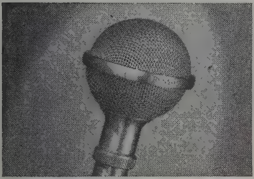
Cutter (less stylus)

List Price **$25.00**

Net Wt. 4 oz. Shipping Wt. 2 lbs. Code Reco



BRUSH MODEL "BR2S" MICROPHONE



A non-directional, high quality microphone incorporating the well-known floating-crystal SOUND-CELL*.

Performance is unaffected by vibration, shock, or low frequency wind noise. Ouput level—65 db. (based on 1 volt per bar reference level).

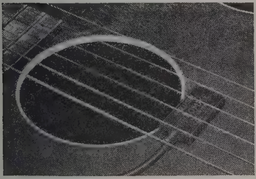
Flat from 30 to 2,000 cps. with gradual rise to 4 db. maximum.

Especially suitable for public address systems, monitoring, recording, amateur radio, and industrial or institutional applications.

Microphone complete with plug and socket. List Price $29.50

Net Wt. 7 oz. Shipping Wt. 2 lbs. Code Maple

BRUSH MODEL "VM-1" "VIBROMIKE"



The VM-1 or "Vibromike" is a miniature CONTACT-TYPE microphone with high sensitivity and unusually wide-range frequency response (30 to 6,000 cps.) Output voltage from .05 to .1 volt or higher. Size of microphone ⅞" x ¾" x ⅝".

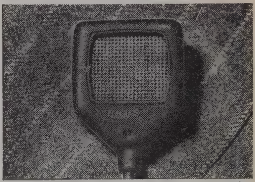
Designed for a broad field of reproduction applications through direct contact. Adaptable to musical instruments, industrial uses—detecting mechanical vibrations. Hermetically sealed in black rubber covered case.

Microphone complete with mounting clamp and 25' of cable.

List Price $17.50

Net Wt. 6 oz. Shipping Wt. 2 lbs. Code Music

BRUSH MODEL "BL-1" LAPEL MICROPHONE



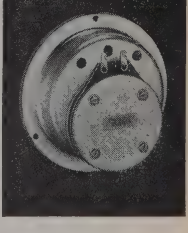
A non-directional SOUND-CELL* lapel microphone designed to allow freedom of movement for public speakers.

The BL-1 is small (1½" x 2¼") rugged and durable, soft rubber covering gives added protection against shock. Output level—68 db. (based on 1 volt per bar reference level).

Microphone complete with 25' of cable. List Price . . . $25.00

Net Wt. 8 oz. Shipping Wt. 2 lbs. Code Maize

BRUSH SM-37 MICROPHONE-SPEAKER



For use in cases where one unit serves as microphone and speaker. Natural and faithful reproduction. Microphone response from 200 to 5,000 cycles—output level approx. 35 db. (zero reference—one volt per dyne per sq. cm.)

Speaker range from 1,500 to 5,000 cycles. Sensitivity in order of 5 volts for conversational level. Impedance is capacitive reactance. Size 3¾" in diameter, 1⁷⁄₁₆" deep overall. Case finished in cadmium.

List Price $8.25

Net Wt. 7 oz. Shipping Wt. 12 oz.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Complete technical data on request
*Trade Mark Reg. U. S. Pat. Off.

THE BRUSH DEVELOPMENT CO.

Brush CRYSTAL PRODUCTS

BRUSH
ACOUSTICEL
BA-106

Brush Crystal Microphones

Model BA-106

The Brush Model BA-106 is a high quality microphone incorporating the hermetically sealed Acousticel*. This microphone offers unexcelled response in microphones of this type and price range.

Vibration, shock or low frequency wind noise do not affect the performance of this microphone.

Unexcelled for home recording, public address systems, ham shacks, monitoring and institutional and industrial applications.

Special Features of the BA-106 Microphone are:

Flat from 40 to 6000 c.p.s.

Non-directional.

Load resistance recommended: 5 megohms.

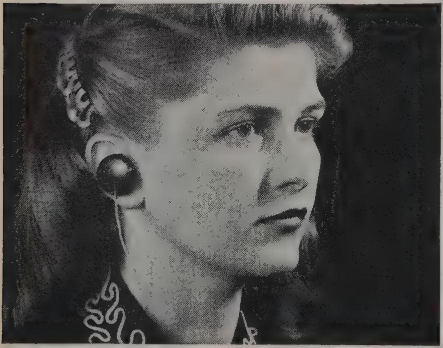
Output impedence equivalent to approximately .002 mfd. (0.8 megohms @ 100 cycles).

Output level Minus 50 db below 1 volt/bar.

Microphone shipped complete with 8′ shielded cable and plug, and desk stand with removable base.

List Price . . . $16.75

Net Wt. 1¼ lb. Shipping Wt. 3¼ lbs. Code ACEL



PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Brush Miniature Receivers

Model BA-201 Receiver

The model BA-201 is a miniature radio insert earphone, designed for use with personal vest-pocket radio receivers. Its small size, ($1\frac{3}{16}$" diameter and $\frac{5}{16}$" thick) and its extremely light weight, (¼ oz.) makes it most comfortable to wear with any standard ear mold. The light weight, "Bimorph"* crystal drive element insures uniform response and high sensitivity. Normal loudness results when the receiver is driven with only 1 volt and a power requirement of 10 microwatts. Due to its rugged construction, a maximum of 50 volts may be applied without damage to the receiver. No parts to wear, loosen, or become detached.

Furnished in flesh color or black as standard, substantial quantities can be supplied in any anodized color to match your receiver.

List Price . . . $5.00

Net Wt. ¼ oz. Shipping Wt. 6 oz. Code MIREC

Complete technical data on request

*Trade Mark Reg. U. S. Pat. Off.

THE BRUSH DEVELOPMENT CO.

No finer choice than **Electro-Voice** Microphones

Cardioid Unidirectional Microphones

NEW CARDYNE DYNAMIC

E-V Mechanophase* Principle gives true Cardioid
erformance . . . smooth, wide-range Response . . . High Output

ew, rugged, single-head moving-coil construction. Virtually eliminates ıwanted sounds . . . gives you the sound you want, with greater defini- on and fidelity. Substantially reduces background noise and reverbera- on effects. Increases effective working distance from microphone. Stops edback. Permits increased loudspeaker volume. Simplifies sound in- allations. Provides extremely accurate pick-up and reproduction of usic and speech, indoors and outdoors.

New E-V *Mechanophase** principle of unidirectivity gives wide-angle ck-up at front of microphone. Dead at rear. New E-V *Acoustalloy* aphragm insures wide flat response, withstands extremely severe erating conditions. Used for the most exacting sound pick-up work, studio and remote broadcasting, disc and film recording, public ldress and communications.

Trim, modern functional design, finished in rich satin chromium. iltable head. Built-in cable connector. Internal shock-absorber mount- g. "On-Off" switch. 5/8"-27 thread. *Output level:* 53 db below 1 volt/ yne/cm^2. Voltage developed by normal speech .0024 volt. Equipped ith 20 ft. shielded cable. Available in 50, 250, 500 ohms impedance or i-Z (direct-to-grid, 25,000 ohms). Low impedances balanced to ground. ize 2½" x 3½" x 9" including stud. Net weight, 2½ lbs.

ARDYNE II. Model 731. List Price........................**$75.00**
requency response, substantially flat, 30-12,000 c.p.s.

ARDYNE I. Model 726. List Price........................**$55.00**
requency response, substantially flat, 40-10,000 c.p.s.

NEW CARDAX CRYSTAL

For the first time, a Cardioid Crystal Microphone
with Dual Frequency Response and Relatively High Output

asily solves everyday sound problems. New E-V *Mechanophase** prin- ple provides true cardioid unidirectional performance and relatively igh output. Wide angle front pick-up. Dead at rear. Exclusive E-V *ual Frequency Response Selector* gives you flat response for high fidelity oice and music pick-up, or rising characteristic for extra crispness f speech.

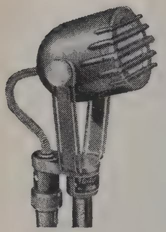
The Cardax is especially valuable in overcoming acoustic feedback, ickground noise and reverberation. Simplifies microphone and speaker acement. Permits greater loud-speaking volume levels. Highly useful for loist or orchestra, for single speaker or group work—in public address, cording, remote broadcast, communications, paging and dispatching. *Output level:* wide range high fidelity (Selector screw OUT): 57 db elow 1 volt/dyne/cm^2, open circuit: wide range rising characteristic Selector screw IN): 48 db below 1 volt/dyne/cm^2, open circuit. Con- enient, compact size for easy portability. Smartly styled and finished rich satin chromium. High capacity, moisture sealed crystal. Tiltable ead. 5/8"-27 thread. Built-in cable connector. "On-Off" switch. Rugged onstruction assures dependable service. Equipped with 20 ft. shielded ıble. Size 2½" x 2⅞" x 6¼" including stud. Net weight, 1¾ lbs.

ARDAX. Model 950. List Price........................**$37.00**

'atents Pending

No finer choice than Electro-Voice Microphones

Dynamic Microphones

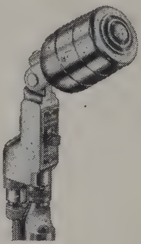


Model 640—High Quality General-Purpose Dynamic

Professional in performance and appearance. Combines high output with substantially flat response from 35-10,000 c.p.s. Reproduces both voice and music with remarkable accuracy. Has exclusive new E-V *Acoustalloy* diaphragm. Exceptionally rugged for outdoor or indoor use. Steel reinforced cradle, with built-in cable connector, permits 135° tilting for directional or non-directional operation. ⅝″-27 thread. Pressure cast case, finished in satin chromium. Output level: 53 db below 1 volt/dyne/cm². Equipped with 20 ft. shielded cable. Net weight, 2 lbs. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance. Low impedances balanced to ground.

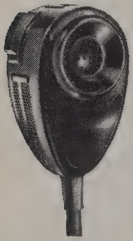
Model 640-C. List Price **$35.50**

Model 630—High Fidelity, High Output Dynamic



Finer performance than ever . . . in a moderatey priced moving-coil dynamic! E-V *Acoustalloy* diaphragm provides exceptionally smooth response from 40-9000 c.p.s. Assures high quality reproduction of speech and music, indoors and outdoors. Compact, rugged . . . withstands heat, humidity and other severe operating conditions. Tilting head for directional or non-directional use. Built-in cable connector. ⅝″-27 thread. "On-Off" switch. Widely used in all types of applications. Highest purity pressure-cast case, finished in lustrous satin chromium. Output level 53 db below 1 volt/dyne/cm². Equipped with 20 ft. shielded cable. Net weight, 1½ lbs. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance. Low impedances balanced to ground.

Model 630-C. List Price **$32.85**

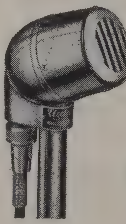


Model 600-D—Widely Used Hand-Held *Speech* Dynamic

Specially designed for clear, crisp speech transmission in communications, public address, call systems, and recording. Frequency response, substantially flat, 100-6000 c.p.s. Gives higher articulation, provides more usable power level, and is less fatiguing to the listener. Output level: 55 db below 1 volt/dyne/cm². High impact black phenolic case. E-V *Acoustalloy* diaphragm. Extremely rugged. May be used indoors and outdoors in any kind of weather. Withstands temperature from −40° to +185° F. Press-to-talk switch operates microphone and relay simultaneously. Panel mounting bracket on rear of case. Equipped with 6 ft. shielded cable. Size 2¼″ x 2″ x 4″. Net weight, 9 ounces. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250 or 500 ohms impedance. Low impedances balanced to ground.

Model 600-D. List Price **$30.10**
Model 600-DL. With switch lock. List Price **$31.75**

Model 605—Durable, General-Utility Dynamic



A natural leader in the low-priced field. Attractive—dependable—highly satisfactory for general sound work, paging and call systems, dispatching, recording, communications. Frequency response 50-7500 c.p.s., substantially flat. Output level 57 db below 1 volt/dyne/cm². Exclusive E-V *Acoustalloy* diaphragm. Pressure cast case. with 22° fixed tilt. ⅝″-27 thread. Built-in cable connector. Satin Chromium finish. Net weight, 12 ounces. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, or 250 ohms impedance. Low impedances not balanced to ground.

Model 605-8. With 8 ft. cable. List Price **$21.90**
Model 605-20. With 20 ft. cable. List Price **$23.50**

Model 610—Modern, Low-Priced Dynamic

Outstanding quality and value. Adds smartness to economical public address and paging systems, ham rigs, or similar installations. Fine reproduction of voice and music. Compact, convenient to use. Upright pressure cast case has 15° fixed tilt. Finished in rich satin chromium. Ruggedly built for durable service, indoors and outdoors. E-V *Acoustalloy* diaphragm. Frequency response, substantially flat 50-8000 c.p.s. Output level 53 db below 1 volt/dyne/cm². Built-in cable connector. ⅝″-27 thread. Net weight 1¾ lbs. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 250, or 500 ohms impedance. Low impedances not balanced to ground.

Model 610-8. With 8 ft. cable. List Price **$26.00**
Model 610-20. With 20 ft. cable. List Price **$27.50**

Crystal

Model 910—High Quality Crystal Microphone

Deluxe appearance and performance—at low cost. Smooth, wide-range response, and high output assure fine reproduction of voice and music. Suitable for economical public address, paging, amateur communications. Compact, easy to handle and use. Ruggedly built for durable service, indoors and outdoors. Upright pressure cast case has 15° fix
tilt. Satin chromium finish. Built-in cable co
nector. ⅝″-27 thread. High capacity, moistu
sealed crystal. Frequency response, substa
tially flat, 50-8000 c.p.s. High impedance. O
put level 48 db below 1 volt/dyne/cm². N
weight 1½ lbs.

Model 910-8. With 8 ft. cable. List . . **$19.**
Model 910-20. With 20 ft. cable. List . **$21.**

Model 902 COMET—Combination Crystal Microphone and Stand

Modern, air-flow design and fine performance in a unique low-priced combination. Microphone and stand are functionally integrated into one unit, and perfectly balanced. Made of high impact, non-breakable molded butyrate plastic, in deep lustrous gray. Light weight. Easy to use as a hand mic
phone . . . or stands firmly on its base. Smoo
wide-range response and high output. Ex
lent reproduction of speech and music,
home recording, small public address syste
paging, and amateur radio communicatio
High capacity, moisture-sealed crystal. F
quency response, substantially flat, 70-7C
c.p.s. Hi-Z. Output level: 48 db below 1 vo
dyne/cm². 7½ ft. shielded cable. Net weig
15 ounces.

Model 902. Comet. List Price . . . . . . **$13.**

Model 905—Crystal Microphone

New value leader! Same design as the Mo
605 Dynamic. E-V engineered response gi
quality reproduction of voice and music. F
choice for low-cost public address, paging
call systems, amateur communications .
indoors and outdoors. Ruggedly built. F
quency response, substantially flat, 50-7
c.p.s. High impedance. Output level: 54
below 1 volt/dyne/cm². High capacity m
ture sealed crystal. 22° fixed tilt. ⅝-27 thre
Built-in cable connector. Satin chromi
finish. Net weight 11 ounces.

Model 905-8. With 8 ft. cable. List . . **$13.**
Model 905-20. With 20 ft. cable. List **$14**

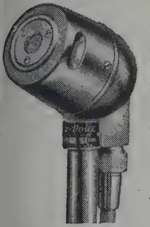
No finer choice than Electro-Voice Microphones

Differential*

lectro-Voice close-talking, noise-cancelling DIFFERENTIAL* microphones are specially engineered for maximum intelligibility speech transmission in high noise fields. For effective operation, they should be worked to closely within ¼″ to ⅜″.

By the DIFFERENTIAL principle, ambient or distant sound is fed into dual apertures in correct phase relationship to provide virtually complete cancellation. Only the speech that originates close to one of the apertures is fully reproduced. Average discrimination against noise is approximately 20 db (100:1 in intensity).

Model 606
DIFFERENTIAL* DYNAMIC



Effectively used in airport control towers, police dispatching, special events broadcasting, close-talking public address, and high noise industrial applications—indoors and outdoors. Through exclusive E-V DIFFERENTIAL* principle, surrounding or distant sounds are cancelled out. Transmitted speech gets through clearly and completely. *Frequency response,* substantially flat 100-6000 c.p.s. *Output level:* 57 db below 1 volt/dyne/cm². E-V *Accoustalloy* diaphragm. Withstands severe service. Built-in cable connector. Pressure cast metal case, finished in satin chromium. Head at 22° fixed tilt. ⅝″-27 thread. Net wt., 12 ounces. Available in Hi-Z (direct-to-grid 25,000 ohms), 50, 200, or 250 ohms. Low impedances not balanced to ground.

Model 606-8. With 8 ft. cable. List Price................**$32.50**

Model 606-20. With 20 ft. cable. List Price..............**$34.10**

Model 602—Hand-Held
DIFFERENTIAL* DYNAMIC

Close-talking, noise-cancelling speech microphone for convenient use where ambient noise is 100 db or more. Assures high articulation. Especially suitable for marine, industrial and emergency communications, high power sound projection, and for speech in any windy, wet or extremely hot or cold location—indoors or outdoors. *Frequency response,* substantially flat, 100-6000 c.p.s. *Output level:* 55 db below 1 volt/dyne/cm². E-V *Acoustalloy* diaphragm. High impact phenolic case. Press-to-talk switch, operates microphone and relay control circuit. Panel mounting bracket. Size 2¼″ x 2″ x 4″. Net weight, 9 ounces. Equipped with 6 ft. shielded cable. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance.

Model 602. List Price..............................**$35.00**

Model 602-L. With switch lock. List Price.............**$36.65**

Model 205-S—Hand-Held
DIFFERENTIAL* CARBON

Close-talking, noise-cancelling microphone designed for maximum intelligibility under intense noise. Used in police, aircraft, marine, industrial and other communications applications; also in high power sound projection. Fits comfortably in the hand. Operates in all positions. High impact phenolic case, with panel mounting bracket on back. Blast proof, waterproof, shock resistant. Wind filter. Withstands temperatures from −40° to +185° F. Interchangeable with conventional carbon microphones. Frequency response, substantially flat from 100-4000 c.p.s. *Output level:* 10 db below 1 volt/100 dynes/cm². 10-50 m. a. button current. Press-to-talk switch actuates button and relay. Equipped with 5 ft. cable. Size 2¼″ x 2¼″ x 4″. Net weight, 8 ounces.

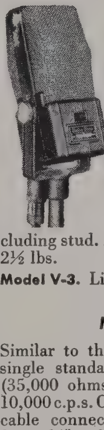
Model 205-S. List Price..............................**$27.35**

Model 205-SL. With switch lock. List Price............**$29.00**

Velocity

Proved E-V design makes the most of the ribbon velocity's high fidelity, bi-directional characteristics. It provides superb pick-up and reproduction of voice and music, for indoor public address, broadcasting and recording. That's why these Velocity Microphones are favorites of well-known orchestras and sound engineers. Response is substantially flat over a wide frequency range. Bi-directional polar pattern gives equal front and back pick-up and longer pick-up range; zero pick-up at sides, top and bottom. Proper tilting and placement of microphone reduce feedback and random noise—permit increased volume levels. Open-type, reflection-free housing. Internal shock absorber mounting. One-piece frame and internal mounting structure give extra ruggedness. Pole pieces scientifically designed to insure adequate high frequency reproduction, and yet provide ample output.

Model V-3
All Impedance Velocity



Combines all popular impedances in one microphone. Vari-Z selector on back gives ready choice of 50, 250, 500 ohms, or Hi-Z (35,000 ohms). Permits the use of short cables up to 40 feet direct-to-grid, or long lines with matching transformer. Low impedances balanced to ground. Substantially flat response 40-10,000 c.p.s. Output −58 db. Locking cradle for tilting microphone. Built-in cable connector. ⅝″-27 thread. Bronze gun metal finish. Size 3½″ x 2¾″ x 8″ including stud. Equipped with 20 ft. shielded cable. Net weight, 2½ lbs.

Model V-3. List Price...........................**$54.75**

Model V-2 Velocity Microphone

Similar to the V-3, but without Vari-Z selector. Choice of single standard impedance: 50, 250, 500 ohms, or Hi-Z (35,000 ohms). Frequency response, substantially flat, 40-10,000 c.p.s. Output −62 db. Locking cradle mounting. Built-in cable connector. ⅝″-27 thread. Bronze gun metal finish. Size 3½″ x 2¾″ x 8″ including stud. Equipped with 20 ft. shielded cable. Net weight, 2½ lbs.

Model V-2. List Price...........................**$41.05**

Model V-2A. Same as V-3, but in choice of one standard impedance, without Vari-Z selector switch. Output −58 db. List Price....................................**$46.00**

Model V-1
Compact, Smaller Size Velocity

Unsurpassed for excellence of design and performance at such moderate cost. Gives you high fidelity, bi-directional advantages in a compact, smaller size velocity microphone. Highly satisfactory for public address, recording and remote broadcasting. Substantially flat response 40-9000 c.p.s. Output −65 db. Locking cradle mounting. Built-in cable connector. ⅝″-27 thread. Satin chromium finish. Size 2¾″ x 2⅛″ x 6½″ including stud. Equipped with 20 ft. shielded cable. Net weight, 2 lbs. Available in Hi-Z (35,000 ohms), 50, 250 or 500 ohms impedance. Low impedances not balanced to ground.

Model V-1. List Price...........................**$32.85**

Model V-1A. Similar to V-1, but with higher output level (−59 db). List Price...........................**$34.75**

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*Patent Number 2,350,010

No finer choice than Electro-Voice Microphones

Popular Carbon Microphones

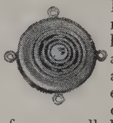
Model 210-S—Hand-Held Single-Button Carbon

Gives high intelligibility speech transmission for police, fire, airport, utility, marine and amateur communications, mobile public address, paging, dispatching, and speech recording. May be used indoors and outdoors, in any kind of weather. Withstands temperature from −40° to +185°F. Frequency response substantially flat 100-4000 c.p.s. Output level 27 db below 6 milliwatts for 10 dynes/cm^2 pressure. High impact black phenolic case. Press-to-talk switch actuates button circuit and relay simultaneously. Button current 10-50 m.a. Equipped with 5 ft. cable. Size 2¼″ x 2″ x 4″. Net weight, 8 ounces.

Model 210-S. List Price **$19.15**

Model 210-SL. With switch lock. List Price. . **$20.80**

Model 50 For Ring Mounting



Efficient carbon microphone for low-cost paging and call systems, and for experimenters. Designed to give clear reproduction for unusually long time. High output to work into low gain amplifier. Metal case. For ring mounting. Chromium finish. Dimensions, 3″ x 1⅛″. Net weight, 10 ounces.

Model 50-C. Double Button. List Price **$6.55**

Model 50-CS. Single Button. List Price **$4.90**

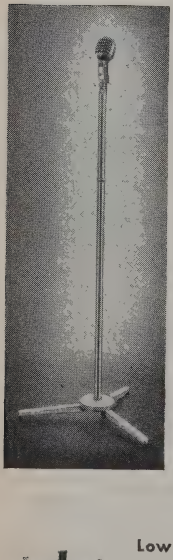
Model 75—With Internal Shock Absorber

Streamlined carbon microphone with internal shock absorber. Standard ⅝″-27 thread, for use with handle or stand. Metal case. Gun metal finish. 5 feet of unshielded cable. Widely used in amateur communications, call and paging systems. Dimensions, 2¾″ x 1⅛″ x 4″, including stud. Net weight, 12 ounces.

Model 75. Double Button. List Price **$8.75**

Model 75-S. Single Button. List Price **$7.10**

ELECTRO-VOICE FLOOR AND DESK STANDS



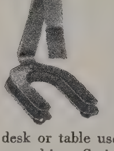
Model 425—Unique New Floor Stand

In this amazing new microphone floor stand, all dead weight is eliminated, but full stability retained. Simply press a convenient red button with one finger—and you raise or lower the shaft with same one hand. Automatically locks securely in any position by releasing button. Shaft can be rotated without touching any adjustment device. New type 3-legged die cast base with unique locking feature gives solid support; two adjustable legs permit stand to be placed flush against a wall, pulpit or speaker's stand. Folds conveniently into a small compact package for easy portability. High pressure die casting gives metal base extra strength and beauty. Entire stand is simple to assemble or take apart—easy to transport. No loose ends to worry about. Modern streamline design and rich satin chrome finish make it suitable for the most deluxe installation. Height adjustment, 37″ to 66″. 3-leg spread, 17″. Net weight, 7½ lbs. Shipping weight, 9 lbs.

Model 425. Floor Stand. List Price **$22.50**

Electro-Voice Patents Pending

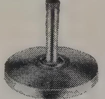
Model 424 Desk Stand



Small lightweight desk-type stand designed especially for use with *Electro-Voice* hand-held microphone models 600-D, 602, 210-S, and 205-S. Made of aluminum. Easily lifted with microphone in hand—no need to detach when moving around. Also very stable for desk or table use. Rubber base buttons prevent surface scratching. Satin finish. Size 4⅝″ x 4½″ x 3¾″. Net weight, only 4 ounces.

Model 424. Desk Stand. List Price **$4.00**

Model 423 Utility Desk Stand

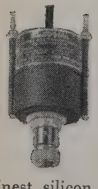


Sturdy, attractive microphone stand for desk or table use. New design, round die-cast base of highest quality pressure-cast metal, in rich satin chromium finish. Rests firmly. Rubber buttons prevent surface scratching. Matching stem riser. Standard ⅝″-27 thread. Base diameter, 4⅝″. Net wt., 1 lb.

Model 423-A6. Desk Stand. with 6″ stem riser. List Price **$3.25**

Model 423-A3. Desk Stand. with 3″ stem riser. List Price **$3.25**

MICROPHONE ACCESSORIES



Low Impedance Microphone-to-Grid Matching Transformers

The windings of these transformers have low distributed capacity and are amply shielded against inductive hum by a high permeability shield, inside a pressure cast case. Designed for mounting on amplifier chassis or in series with the microphone line.

Model 500—A small, shielded carbon microphone transformer with universal mounting. Finest silicon core. Tapped primary for single or double button. Three wire lead input (no connector). 36″ shielded lead output. List Price **$4.35**

Model 502—Designed for 50 and 250 ohm (500 ohms optional) microphones. Broadcast fidelity. Frequency response 40-20,000 c.p.s. ±1 db, for either speech or music. MC-4 input connector. List Price **$12.00**

Dynamic Microphone Baffle—Increases directivity at high frequencies. Available for microphone Models 630 and 605. Chromium finish.

Model 330-C. List Price **$2.15**

Suspension Bracket—Convenient for suspending microphone in inverted position (stage or orchestra installation). Standard ⅝″-27 thread.

Model 340. List Price . . . . **$ .55**

Microphone Handle—Easily converts light weight microphone to a hand type. Turned from hard maple. Gun metal finish. Standard ⅝″-27 thread coupling.

Model 320. List Price . . . . **$ .65**

St. Louis Dynamic MICROPHONES

ST. LOUIS AMATEUR MIKE

"It Can't Be Beat"

Low Priced With Superior Performance

50-7000 CYCLES (± 6DB)

Flat response without holes or peaks. Level —54 DB at high impedance output. Ideal for ham rigs. Tops in music or voice response, streamlined styling and rugged dependability.

ESPECIALLY DESIGNED FOR

Crisp, clear, clean reproduction of voice or music. Use where a low-priced microphone must give good performance, such as:

Amateur Radio
Sound Systems
Home Recording
Intercommunication, etc.

SPECIFICATIONS

- 8 Ft. Single conductor shielded cable.
- High grade of Alnico Magnet (has highest residual induction available as well as available energy.
- Screw-on type of coupling.
- Ruggedly constructed dynamic unit.

AVAILABLE IN	Code
BRONZE FINISH, low impedance (used with any length line)	POLARIS
BRONZE FINISH, 200, 500, or high impedance	DUBHE
CHROME FINISH with switch for adjusting to low, 200, 500 ohms or high impedance	SPICA

OUTDOOR RUGGED MICROPHONE

"Without Harmonics"

High Articulation—Superior Reproduction

40-9000 CYCLES (± 4DB)

Level —52DB at high impedance output. The mike built to take toughest treatment under the worst operating and climatic conditions.

ESPECIALLY DESIGNED FOR

Use in all weather, rain, snow, wind, tropics, arctic, coastal region, salty atmosphere, rough and extreme conditions.

Outdoor Remote Broadcasts
Outside Recording
Rugged Commercial
Ship Board (Vibration)
Sports Broadcasts
Public Address, etc

Or wherever it may be subjected to knocks or falls.

SPECIFICATIONS

- 15 Ft. Double Conductor Shielded Cable (adaptable to either balanced or unbalanced line). Amphenol Plug.
- Alnico 5 Magnet (with a store of magnetic energy about 5 times that of other grades of Alnico).
- Tilting Head, for semi or non-directional operation.
- Ruggedly constructed streamlined case dynamic unit.
- Dust and sand proof; fungus treated.
- Unbreakable diaphragm.
- Variable output impedance switch (output impedance adjustable to low, 200, 500 or high by means of a screwdriver).

AVAILABLE IN	Code
Gunmetal grey	ALTAIR
Black lacquer	ANTARES
Olive drab	JUPITER

ST. LOUIS HAND MICROPHONE

Rugged in Construction

For Voice or Music

Attractive, serviceable mike with case of high impact, tough plastic. Can be handled while in operation without producing unwanted sounds in output. Special close talking control reduces background noise (for use in high noise levels). Its light weight adapts it to countless applications for voice or music. Good frequency response.

50-8000 CYCLES (±4DB)

Level —52 DB at high impedance output.

RECOMMENDED APPLICATIONS

Mobile Radio
Amateur Sound Systems
Public Address
Home Recording
Remote Broadcast
Police
Aircraft
Shipboard
Outdoor Commercial, etc.

SPECIFICATIONS

- 10 Ft. Double Conductor Shielded Cable with Amphenol connector. Adaptable to balanced or unbalanced line.
- ALNICO 5 Magnet.
- Variable Impedance Output (adjustable to low, 200, 500, or high)
- Close Talking Control.
- Rugged Dynamic Unit.
- Unbreakable Diaphragm.
- Can Be Used in All Weather.
- Will Stand Sudden Blasts.
- Fungus Treated.

COLORS	Code
Brown	CANOPUS
Black	ALPHECCA

STANDARD BROADCAST MIKE

"We Dare You to Compare"

Moderately Priced—for Excellent Response

40-8000 CYCLES (± 5DB)

Offers extremely low phase and harmonic distortion with high output level. —53DB at high impedance output. Engineered for accurate reproduction with a smooth output that is clear and sharp.

ESPECIALLY DESIGNED FOR

Continuous hard use for both voice and music. Recommended particularly for

Studio
Church
Recording
Police
Commercial
Call Systems
Radio Communications
Amateur Broadcasts, etc.

SPECIFICATIONS

- 10 Ft. Double Conductor Shielded Cable (adaptable for either balanced or unbalanced line.) Amphenol Plug.
- High Grade Alnico Magnet (has highest residual induction available as well as available energy).
- Tilting Head for semi or non-directional operation.
- Beautiful Modernistic Design.
- Ruggedly Constructed Dynamic.
- Variable Output Impedance Switch (Output Impedance adjustable to low, 200, 500 or high by means of a screwdriver).

AVAILABLE IN	Code
Black Crackled Lacquer	ARCTURUS
Chrome	MARS

DIRECTIONAL CARDIOID MIKE

"It Can Be Used Outdoors"

Minimum Acoustic Feedback—
Reduces Reverberation

25-10,000 CYCLES

Level —57DB at high impedance output. Revolutionary new engineering principle develops heart shape or one cusped epicycloid directional pattern, giving complete flat response over a broad frequency range.

ESPECIALLY DESIGNED FOR

Superior, outstanding, high fidelity performance under adverse ACOUSTIC conditions where DIRECTIVITY is essential.

Banquet Halls
Band Concerts
Outdoor Symphonies
Studios
Auditoriums
Stadiums
Coliseums
P. A. Work, etc.

SPECIFICATIONS

- 20 Ft. Double Conductor Shielded Cable (adapted to balanced or unbalanced line) Amphenol Plug.
- ALNICO 5 (with a store of magnetic energy about 5 times that of other grades of Alnico).
- 20 to 1, front to back. Full Tilting Head.
- Attractive, streamlined case.
- Rugged construction.

AVAILABLE IN	Code
Low Impedance (Cardioid pattern)	REGULUS
Variable Impedance (low, 200, 500, or high (Cardioid pattern)	POLLUX
Four Position Switch permits choice of Non-Directional, Bi-Directional, Cardioid pattern or close talking adjustment for use under extreme noise levels. PLUS variable impedance output adjustable to low, 200, 500 or high	PROCYON

NOISE-CANCELLING DIFFERENTIAL DYNAMIC MICROPHONE

Articulation 90% Under
120 DB Ambient Noise Level

400-4000 CYCLES

FOR USE WITH VOICE ONLY

Under conditions of extremely high noise level when you want exceptionally high intelligibility with the very finest in articulation, buy VEGA.

RECOMMENDED FOR USE IN

Noisy Spots
Railroad Stations
Sports Events
Football Games
Police Stations
Factories
Boiler Shops
Engine Rooms
Mines, Ships
Wherever noise is a problem, etc.

SPECIFICATIONS

- 20 Ft. Cable, double conductor shielded, with Amphenol Plug. Adaptable to balanced or unbalanced line.
- ALNICO 5 Magnet (highest residual induction available).
- Head adjustable to any degree with gain in noise cancelling.
- Variable impedance, adjustable to low, 200, 500 ohms or high, with screwdriver.
- Rugged differential dynamic Unit.
- Beautiful 2 tone—gun metal and chrome finish case.
- Modernistic design.

Code .... **VEGA**

FM OR HIGH FIDELITY MIKE

"Tops in Performance"

"The Pepper Shaker"—A Really Hot Microphone

30-10,000 CYCLES (± 2DB)

Beautiful, attractive microphone with high output level —50DB (at high impedance). The mike with exceptionally high fidelity. Has extended high and low frequency range. True response without any distortion.

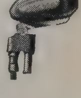
ESPECIALLY DESIGNED FOR

High Fidelity Recording, High Fidelity Studio Work, Frequency Modulation Broadcasts, all places where high quality, natural-like reproduction of voice and music are required.

SPECIFICATIONS

- 25 Ft. Double Conductor Shielded Cable (adaptable to balanced or unbalanced line). Amphenol plug.
- Alnico 5 (with a store of magnetic energy about 5 times that of other grades of Alnico).
- Ruggedly constructed dynamic.
- Tilting Head for semi or non-directional operation.
- Variable impedance output (impedance adjustable to low, 200, 500 or high by means of a screwdriver).
- Sensitive but rugged in beautifully styled case.

AVAILABLE IN	Code
Chrome	VENUS
Goldplated	SUN



ST. LOUIS COLORMIKE

Colored Plastic Streamlined

Mike With High Fidelity

Three-dimensional mike, with beauty, tone, performance. The Mike of the golden era of radio!

40-10,000 CYCLES (± 3DB)

Substantially flat. Level —51DB (at high impedance output). Case in glamorous shades of high impact, rugged plastic.

APPLICATIONS

Colored Television
Night Clubs
Concert Halls
Orchestras
Private Clubs
Recording
Broadcast
Home Intercommunications
Auto Radio
Hotels, etc.

SPECIFICATIONS

- 20 Ft. two-conductor shielded cable, adaptable to balanced or unbalanced line. Amphenol Plug.
- Alnico 5 (highest available residual induction)
- Variable Impedance output, adjustable to low, 200, 500 ohms or high impedance with screwdriver.
- Full tilting head.
- Tough, rugged case built to give service.
- Streamlined beauty in styling; gorgeous color.
- Heads may be changed quickly when used with St. Louis special coupling.

THE ORION CONSTELLATION

COLOR	Code
Red	ALDEBARAN
Orange	REGAL
Yellow	BELLATRIX
Green	BETELGEUX
Blue	SIRIUS

MAGNESIUM AIRCRAFT MIKE

Magnesium Case Hand Mike

Exceptionally Light Weight

A unit of magnesium—one half the weight of aluminum—yet twice as strong. A differential mike that cancels out all unwanted, background noises.

500-3500 CYCLES FOR VOICE ONLY

"Where Intelligibility Really Counts"

The differential principle employed here reduces background interference and noise. Use wherever a high articulation factor is important, with exceptional reliability.

DESIGNED FOR USE ESPECIALLY IN

Private and Commercial Aircraft

Trains
Police Cars
Buses
Street Cars
Factories
Shipboard, etc.

All places having high Ambient Noise Level

SPECIFICATIONS

- 7 Ft. 4-conductor shielded cable for use with remote control switch.
- ALNICO 5 (highest available residual inductor).
- Takes temperature range —40° to 185° F.
- Has low frequency and high frequency cut-offs so related to produce a pleasing aural balance and eliminate the real low frequencies which contain the highest per cent of noise and the annoying real high frequencies that are unnecessary for articulation.
- Reliable, rugged differential dynamic unit.

Code .... **PLUTO**

Licensed Under U. S. Patents of American Telephone and Telegraph Co. and Western Electric Co., Inc.

WRITE FOR FREE CATALOG

St. Louis Microphone Company

Specialists in Microphone Manufacturing • **PRECISION** • **PERFORMANCE** • **DESIGN**

2726-28 BRENTWOOD BOULEVARD - - ST. LOUIS 17, MISSOURI, U. S. A.

SHURE Super-Cardioid Dynamic Microphones

"556" SUPER-CARDIOID BROADCAST DYNAMIC

Solves Difficult Problems in Broadcasting and Recording for Studio or "Remote"

GENERAL FEATURES: The Shure "556" Broadcast Dynamic Microphone has all the essentials for high-quality broadcasting, recording, and public address work. It has a Super-Cardioid pickup pattern which reduces the pickup of unwanted random noise energy by 73%. It minimizes room reflection, reduces feedback and background noise, simplifies microphone placement, gives freedom of movement to the performer, assures better pickup and reproduction. APPLICATIONS: Model 556 is constructed and tested to meet the requirements of the broadcast studio, and is held within close tolerances in frequency response and directivity. It may also be used for high-quality recording, public address, and similar applications. The swivel allows the head to be tilted to an angle of 90°. The instrument is unusually rugged and is practically immune to the effects of moisture, temperature and mechanical vibration. HOW THE "556" IS CONSTRUCTED: The Shure "556" provides a smooth peak-free response from 40 to 10,000 cycles. Rear response is down approximately 15 db. The super-cardioid pattern is achieved in a single unit, due to the "Uniphase" principle—a patented Shure development. The transducer unit is provided with a double wind-screen to permit quiet outdoor operation. The unit is spring-suspended inside the microphone case, which in turn is floated in live rubber in the special Vibration Isolation Unit, which eliminates reproduction of vibration transmitted through the stand. Standard ⅝"—27 thread which permits mounting on any Shure desk or floor stand. Adapters to W. E. or RCA stands will be furnished at no charge with this microphone only upon request.

MODEL 556

MODEL	IMPEDANCE	OUTPUT LEVEL	INCLUDES INTERNAL TRANSFORMER	CODE
556A	35-50 ohms	Into 50 ohms 56.1db below 1 Milliwatt for 10 bar signal	No	RUDOM
556B	150-250 ohms	Into 250 ohms: 56.8db below 1 Milliwatt for 10 bar signal	Yes	RUDOP
556C	35,000 ohms For High Impedance Input	55db below 1 volt per bar	Yes	RUDOR

MODEL 55

"UNIDYNE" SUPER-CARDIOID DYNAMIC

Solves Feedback — Permits Higher Volume

GENERAL FEATURES: The Unidyne is perhaps the most widely used and publicized microphone in the world for public address. It has been specified by outstanding acoustic engineers for nationally-known artists and important events. A Super-Cardioid Dynamic Microphone, it reduces the pickup of unwanted random noise energy by 73%. The "55" is simple for the sound man to install, regardless o difficult acoustic problems posed by different hall or studio conditions. Loudspeake levels can be increased without feedback. The Unidyne is practically unaffected b atmospheric conditions; comes in beautiful satin-chrome, streamlined case. APPLICATIONS: Models 55A, B, and C are suitable for high-quality public address broadcasting, all types of recording and similar quality applications. The Unidyn picks up sound from greater distances, facilitates orchestral placement, gives freedom of movement to the performers, permits closer positioning of microphones an loud speakers.

HOW THE "UNIDYNE" IS CONSTRUCTED: The microphone has a specially designed moving-coil element, operating in conjunction with a high-flux magne providing high efficiency and smooth peak-free response from 40 to 10,000 cycle The rear response is down approximately 15 db due to the "uniphase" unidirectiona acoustic network. The head tilts to an angle of 90° to permit aiming at the source c sound for best pickup. A built-in cable connector is provided and a 25-foot shielde rubber-jacketed cable with microphone plug attached is included. Microphone ha standard ⅝"—27 thread and may be mounted on any Shure desk or floor stan

MODEL	IMPEDANCE	OUTPUT LEVEL	CABLE	INCLUDES INTERNAL TRANSFORMER	CODE
55A	35-50 OHMS	Into 50 ohms: 56.1db below 1 Milliwatt per 10 bar signal	25ft.	No	RUDAR
55B	150-250 OHMS	Into 250 ohms: 56.8db below 1 Milliwatt for 10 bar signal	25ft.	Yes	RUDAT
55C	35,000 OHMS for High Impedance Input	55db below 1 volt per bar	25ft.	Yes	RUDAS

SHURE

Crystal Microphones

"UNIPLEX" CARDIOID CRYSTAL

Economical Cardioid Crystal Microphone

he Shure "Uniplex" is the only single unit cardioid Crystal Microphone ith the patented Shure *"Uniphase" principle. The "Uniplex" is excellent r high-quality public address, communications, all types of recording and imilar applications. Frequency response is from 40 to 10,000 cycles over a ide range angle at the front, yet practically unaffected by sound approaching from the rear (rear response down approximately 15 db). Permits more olume without feedback—simplifies microphone and speaker placement—reatly improves systems using conventional microphones. Output level 63 db elow 1 volt per bar. Has specially moisture-proofed Graphoil Bimorph rystal for long life. Swivel head permits aiming at source of sound. Built-in able connector. Standard ⅝"—27 thread. Diameter 3⅛". Shipping weight ½ pounds. Model 730B. 25-foot shielded cable. Code: RUPEL.

Patent No. 2,198,424.

MODEL 730B

707A CRYSTAL

Quality performance at low cost. Good response characteristics and free from peaks. Suitable for P. A. systems, call systems, amateur 'phone transmitters and similar applications. Finished in Iridescent Gray with highly-polished plating on front grille. Moisture-proofed Graphoil Bimorph Crystal, mechanically isolated. High output level of 49.7 db below 1 volt per bar at end of 7-foot cable. Seven-foot single-conductor shielded cable with spring connector. Standard ⅝" — 27 thread. Diameter 2⅜". Shipping weight 1¼ pounds. Model 707A. Crystal Microphone. Code: RUDOF.

SHURE 76B LAPEL MICROPHONE

Designed for Public Address, lecturing in large halls, broadcasting from portable transmitters, and general uses where clear reproduction of speech is of primary importance. Pressure - actuated diaphragm - type crystal microphone designed for high-quality reproduction of speech when attached to the lapel. Crystal is a Graphoil (high capacity) Bimorph unit, moisture-sealed to withstand climatic conditions. Microphone is inconspicuous, weighs only 1½ ounces. 1⅞" diameter. Gray finish. Handy lapel clip, 25-foot shielded single-conductor cable. Shipping weight, 1 pound. Model 76B. Lapel Microphone. Code: RULOP.

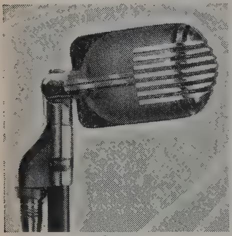
STRATOLINER CRYSTAL

The microphone is always in the public eye. It is the only part of the sound system your audience or buyers see. The Shure "Stratoliner" gives you the opportunity to use an expensive-looking microphone even when low cost is an important factor, High output level (53.0 db below 1 volt per bar) with wide-range response (free from undesirable peaks) for good reproduction of either voice or music. Uses genuine Bimorph Crystal. Placed horizontally, the 708A is semidirectional; used vertically, it becomes nondirectional, and the performers may be placed all around it without frequency discrimination. Swivel permits tilting of the microphone through an angle of 90°. Case dimensions, diameter 2½", length $4\frac{7}{16}$". Stand thread ⅝"—27. Shipping weight 2½ pounds.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	CODE
708A	7 ft.	53.0db below one volt per bar	High Impedance	RUDUM
708A—25 ft.	25 ft.	56db below one volt per bar		RUVAT

SHURE Dynamic and Carbon Military Microphones and Accessories

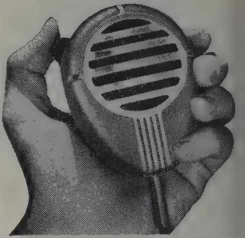
"STRATOLINER" DYNAMIC



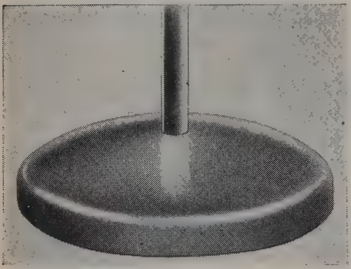
MODEL 508

A beautiful microphone that tells your customers you are using good equipment. The Stratoliner's projectile form — its rich metallic-gray effect makes an impression on the public that you are using more expensive equipment. The Stratoliner Dynamic is a rugged microphone with unusually smooth response. Its faithful reproduction makes it ideal for music as well as voice. Its ruggedness qualifies it for heavy duty work on Police transmitters, at Airports, in office and industrial paging systems. Practically unaffected by heat or humidity. Moving conductor system. Die cast case, swivel head, built-in cable connector. Diameter 2½", length 4$\frac{7}{16}$". Shipping weight 2¾ lbs. Stand thread ⅝"—27.

"100 SERIES" MILITARY CARBON MICROPHONES



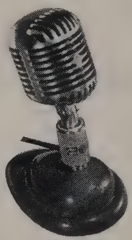
High-quality, carbon microphone specially designed for military and police equipment and other uses where ruggedness and dependability are vital factors. Clear, crisp voice response that is ideal for situations where important orders, directions and reports require immediate understanding. High output. Easy to use, fits snugly into palm of hand. Heavy duty switch for push-to-talk performance. Furnished with hook for suspension and bracket for wall mounting. Adopted as standard microphone by leading manufacturers of police transmitters. Output level: 32 db below 1 volt for 10 bar speech signal. Net weight 14 oz. Shipping weight 1 lb. Case dimensions: 3¾" high, 1¾" high, 2¾" wide.



The microphone stand is the only part of a sound system operated by the performer. Don't annoy the performer and the audience with a cheaply constructed stand. Shure stands have been scientifically designed by microphone engineers. They are sturdy, heavy stands stabilized with base cushioning for maximum reduction of noise and vibration pickup from the floor. Model S60. Code: RUSIM.

(Above stand to be announced later.)

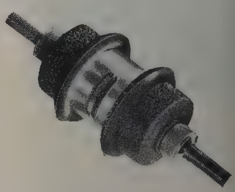
MODERN DESK STANDS



MODEL S36A. Beautiful, streamlined Desk Mount with stable support at correct height. Fits Shure connector-type microphones, concealing plug in base. Adapter plate and tubing provided for other type microphones. Removable button at front for installation of ⅜" standard bushing switch or volume control. Iridescent Gray finish. Base: 2½" high, 5" wide, 7" long. Shipping weight 1½ lbs. Code: RUSEF.

CABLE-TYPE TRANSFORMER

MODEL A86A. High quality Cable-Type Transformer. Matches 35 to 50 and 150 to 250 ohm microphones to high impedance amplifier input. Compact, sturdy. Case diameter 1⅝", length 2⅞", 7 ft. cable. Shipping weight 1½ lbs. Code: RUDEB.



MICROPHONE "ON-OFF" SWITCHES

MODEL A83A. Quickly attached to any cable-connector type Shure Microphone. Internal plug establishes connections. Bakelite arrow knob.

Code: RUNIM.

MODEL A84A. Momentary "On-Off" Switch. Press-to-talk Bakelite disc.

Code: RUNID.

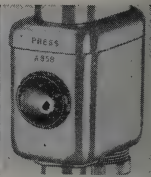
MODEL A85B. Momentary Relay-Type Switch. Same "hand control" as A84A. Normally-open switch closes circuit comprising one conductor and shield of outgoing cable for operation of relay or other device; remaining conductor and shield of cable carry microphone output. Must be used with two-conductor shielded cable, and only with crystal and high impedance dynamic microphones. Standard Shure cable-connector receptacle. Satin Chrome finish. Bakelite disc. 1¾" high x 1⅛" wide x 2" deep. Furnished without cable.

Shipping weight ¾ pound.

Code: RUNAT.

A83A

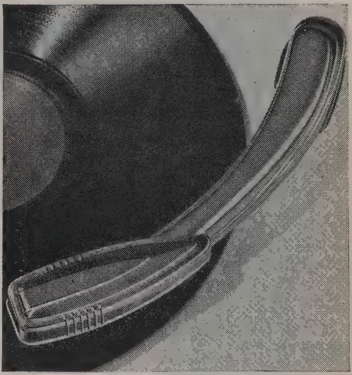
A84A



A85B

SHURE Phonograph Pickups and Cartridges

93A *Glider* CRYSTAL PICKUP



ENERAL FEATURES: The Shure "Gliders" are light-weight crystal phono- raph pickups with a needle force of only 1⅛ ounces. "Gliders" save records nd needles, have smooth response, reduce surface noise, reproduce the full ne qualities of the record with natural life-like clarity. APPLICATIONS: ue to high output coupled with light weight, 'Gliders" are especially suit- ble for the replacement of heavy-weight pickups on older phonographs, as ell as for installation on new record players. The low needle-point stiffness a very important advantage for home recording because it brings out the est in home discs without record wear. "Gliders" are excellent as public ddress pickups—because they are less susceptible to vibrations, jar and hock. HOW TO TAKE ADVANTAGE OF THE NEW MARKET OPENED Y THE "GLIDERS": Shure "Gliders" are being used on many of the leading uality phonographs. Their advantages are many. Less needle and record wear . . lower surface noise . . . the use of a permanent-point needle . . . better one quality. Whenever a cartridge needs replacement in a manually-operated honograph, don't bother to change the cartridge—install a new Shure Glider." It costs so little more . . . and your customer will be so much more atisfied.

MODEL	OUTPUT AT 1000 CPS.	RESPONSE	NEEDLE SCREW	SHPG. WT.	CODE
93A	1.6 volts	60-6000 CPS.	SET and THUMB	13 oz.	RUGLI
93AN	Same as 93A but with quiet sapphire point needle. (Replaceable)				RUGLO
96A	4.3 volts	60-6000 CPS.	SET and THUMB	13 oz.	RUGAB

SHURE LEVER-TYPE CARTRIDGE

USES Lever-Driven Crystal and Pin-Tip Terminals

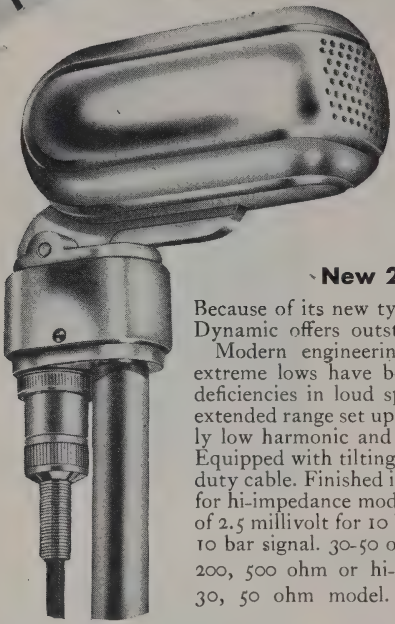
GENERAL FEATURES: The Shure Lever-Type Cartridges listed here are for replacement of crystal cartridges in current use. They offer extremely low needle-point stiffness with high output voltages. Available in both steel and aluminum cases, furnished with quick, easy-to-use pin tips that eliminate the need of soldering. HOW THE LEVER-TYPE CARTRIDGE IS CONSTRUCTED: The crystal is mounted in an aluminum lever. The torque transmitted from the needle chuck to the crystal by means of the lever is built up approximately 5 times—permits the decreasing of the mass of the needle chuck and the considerable reduction in needle-point stiffness without loss of output voltage. It produces the highest relative output for given needle-point compliance. This provides a distinct advantage for replacing cartridges of other types. Shure Lever-Type Cartridges will replace most Rochelle Salt standard flat-type cartridges. The aluminum case cartridge—W57A— weighs only .43 oz., much lighter than the heavier die-cast cartridges weighing from 1 to 1½ ounces. Installing an aluminum cartridge in a heavy tone arm or record changer arm can reduce the needle force of an existing record changer or phonograph by ½ to 1 ounce. In many cases this converts the heavy-weight pickup into a light-weight pickup and permits the use of permanent-point needles.

MODEL	CASE	REPLACES SHURE	OR REPLACES	MIN. NEEDLE FORCE	VOLTAGE	SHPG. WT.	CODE
W57A	Almn.	P87, P93, P87B	Any Standard Flat-Type Cartridge of Equal Output	¾ oz.	1.6	¾ oz.	RUGLA
*W57AN	Almn.	P87, P93, P87B		¾ oz.	1.6	¾ oz.	RUGAN
W58A	Steel	99-182, P90S, P92B, W42A		¾ oz.	1.6	1 oz.	RUGLU
W59A	Steel	99-181, 99-180, W40A, W41A		1 oz.	2.5	1 oz.	RUGAT
W56A	Almn.	P89		1⅛ oz.	4.3	¾ oz.	RUGUS

*With Sapphire Point Needle

TURNER MICROPHONES CERTIFIED ACCURACY

TURNER
Microphones



New 211 BROADCAST TYPE DYNAMIC

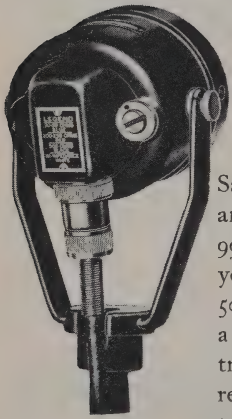
Because of its new type magnet structure and acoustic network, Turner 211 Dynamic offers outstanding performance characteristics.

Modern engineering has extended the high frequency range, and the extreme lows have been raised 2 to 4 decibels to compensate for over-all deficiencies in loud speaker systems. Model 211 meets the requirements of extended range set up by FM. Unique diaphragm structure results in extremely low harmonic and phase distortion without sacrificing high output level. Equipped with tilting head, balanced line output connection and 20 ft. heavy duty cable. Finished in rich satin chrome. Level -52DB. below 1 volt per bar for hi-impedance models. Range 30-10,000 cycles. 500 ohm model has output of 2.5 millivolt for 10 bar signal. 200 ohm model has output of 1.6 millivolt for 10 bar signal. 30-50 ohm model has output of .25 millivolt for 10 bar signal.

200, 500 ohm or hi-impedance. List **$47.50**

30, 50 ohm model. List **$45.00**

Famous TURNER *Dynamics*



U9S DYNAMIC

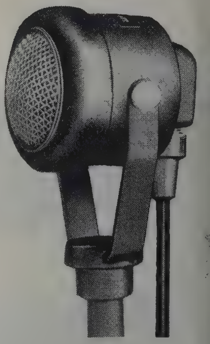
4 Impedances
at your fingertips

Same professional design and appearance as 99 and 999. Whatever impedance you need, 50 ohms, 200 or 500 ohms or hi-impedance, a twist of the switch illustrated on U9S fills your requirements. Adjustable to semi- or non-directional operation. Removable 20 ft. cable set. Level-52 DB. at hi-impedance. Response is free from peaks and holes from 40 to 9,000 cycles. Handle the toughest job with U9S. Complete with 20 ft. cable set and diagrams.

List Price **$40.00**

99 and 999

Sure Fire
Performance



Model 99 Dynamic is the most rugged microphone in the entire Turner line. Withstands climate and temperature changes. Adjustable saddle. Fits any standard stand. Semi- or non-directional operation. Model 99 won't blast from close speaking. Broadcast studios, large city police departments and internationally famous manufacturers specify Turner 99 for crisp, clear results. Finished in fine gunmetal. Range 40 - 9,000 cycles. Level -52DB. Complete with 20 ft. cable set and diagrams.

200 or 500 ohms or hi-impedance.
List Price **$34.00**

30 or 50 ohms. List Price **$31.50**

999 Balanced Line Dynamic

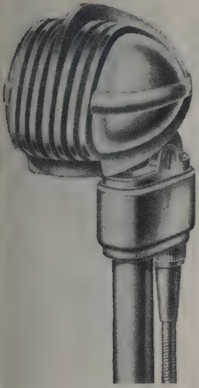
Same appearance as 99. Voice coil and transformer leads insulated from ground and microphone case. Gives smooth, dependable, professional performance. Complete with dignified gunmetal finish, 3-pin polarized locking connector and 20 ft. balanced line low-capacity cable. Range 40-9,000 cycles. Level -52DB.

200, 500 ohms or hi-impedance. List Price **$37.50**

30 or 50 ohms. List Price **$35.00**

DEPENDABLE RUGGED GUARANTEED

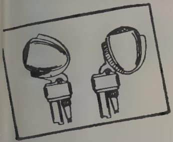
Rugged TURNER *Mikes*



No. 33X
Crystal Microphone

For P.A., recording, or communications work. High capacity 2-element crystal. Low feedback. Ruggedly constructed with crystal impregnated against moisture, automatic barometric compensation and mechanical-shock proofing. Will not blast from close speaking. High output of -52DB. Range 30-10,000 cycles free from peaks. Handsome chrome-type finish. Complete with tilting head, 20 ft. removable cable set and diagrams.
List ______ **$24.50**

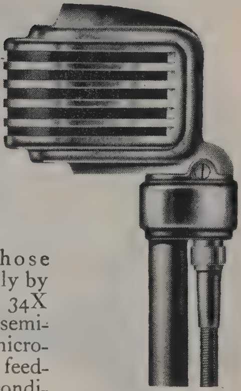
TILTING HEADS



Models 22X, 22D, 211,
01A, 101C, 33X, 33D and
4X are all equipped with
0° tilting heads permit-
ing semi- or non-direc-
ional operation.

Turner 33D Dynamic

Same appearance as 33X but with smooth high level dynamic cartridge. Level -54DB. Range 40-10,000 cycles. Complete with 20 ft. cable set and diagrams. 200 ohms, 500 ohms, or high impedance.
List ______ **$27.00**
30-50 ohms, List ______ **$25.00**



34X Crystal

A microphone whose beauty is exceeded only by its performance. No 34X is an ideal all-around semi-directional crystal microphone for use where feedback and acoustic conditions are unusually difficult. Advanced engineering design with full 90° tilting head permits tilting to most advantageous position to reduce audience noise and background disturbances. Built for hard usage indoors or out, No. 34X utilizes a moisture proof crystal, automatic barometric compensator, and is blast and mechanical-shock proofed. Range 30-10,000 cycles with very smooth response at ALL frequencies. Level -52DB. Chrome-type finish. Complete with 20 ft. removable cable set and diagrams. List **$29.00**

. . . Tops in Performance . . .

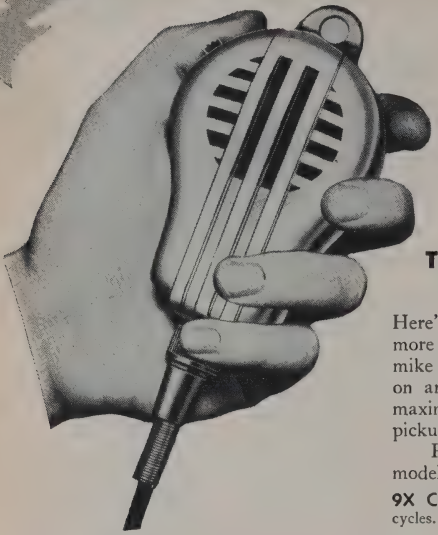
22X CRYSTAL — 22D DYNAMIC

2X Crystal gives clear reproduction. Smartly engi-
eered design cuts feedback to minimum. Full satin
hrome finish, 90° tilting head and removable 7 ft.
able set. Built-in wind-gag permits outdoor operation.
Crystal impregnated against moisture. Automatic
arometric compensator. Range 30-7,000 cycles. High
evel -52DB. Complete with schematics and 7 ft.
able set. List ______ **$20.00**

2D Dynamic has same appearance as 22X but has
igh level dynamic cartridge. Dependable indoors and
ut. Reproduces smoothly at all frequencies. Range
0-8,000 cycles. Output -54DB. Complete with tilting
ead, 7 ft. removable cable set, and schematics. 200 or
00 ohms or hi-impedance. List ______ **$25.50**
0-50 ohm. List ______ **$23.50**

THE TURNER COMPANY
CEDAR RAPIDS, IOWA — U.S.A.
Pioneers in the Communications Field

TURNER MICROPHONES CERTIFIED ACCURACY



TURNER
Microphones

TURNER "Han-D" CRYSTAL or DYNAMIC
Does the Job of Several Mikes

Here's a vari-purpose mike you'll want for it fills the job of two or more units. It fits the hand snugly, has suspension hook for hanging mike applications, stage work and call systems; it can be mounted on any standard floor or desk stand. Especially engineered for maximum voice response and smooth, natural response to music pickups. Chrome type finish.

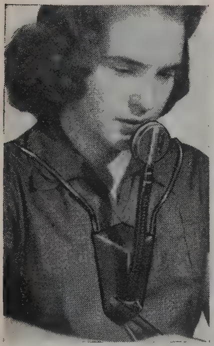
Positive contact slide switch on both crystal and dynamic models permits off-on operation.

9X CRYSTAL — Will withstand a lot of abuse. Level -48DB. Range 60-7,000 cycles. List **$23.50**

9D DYNAMIC — Particularly recommended for use under bad climate conditions, intense heat and rough handling. Level -50DB. Response 60-7,000 cycles. With 7 ft. removable cable set. 200-250 ohms, 500 ohms or hi-impedance.

List	**$27.00**
30-50 ohms. List	**$25.00**

WRITE FOR
COMPLETE TURNER
MICROPHONE CATALOG
THE TURNER COMPANY
Cedar Rapids, Iowa

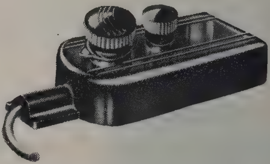


TURNER "THIRD HAND"
Holds microphone for you. Goose neck adjusts Mike to any position.

Slips over your head in a jiffy, and holds the mike close to your mouth, where you get excellent volume without feedback. As natural to wear as a necktie, and lets you use both hands elsewhere. Stays out of your line of vision. Talk close without craning your neck; cuts down background noises.

Can be furnished with mike switch when ordered with Turner Microphone.

Model 3H — List Price	**$ 5.00**
With switch, add, List	**$ 1.00**



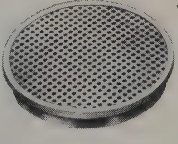
MAGNETIC PICKUP
for Musical Instruments
MODEL MM

Gives immense volume from any stringed instrument without feedback. New circuit design incorporates an ALNICO V magnet, permits greater gain with excellent response. Installed in a few seconds without tools or adhesives. Works direct to grid. Variable control built-in Response ± 2DB from 30-10,000 cycles. Brown enamel finish.

List	**$18.00**
Without vol. control. List	**$15.75**
With Phone Plug Attached to Cable Add.	**$1.00** List

L40 LAPEL MIKE
or Concealed Microphone

Alligator clip secures the L40 to the clothing and prevents twisting on the lapel. Light and comfortable to wear. Built for crisp clear reproduction of speech, and minimum feedback. Chest sounds are damped out. Sounds good over the air. Level -52DB. Use on lapel or concealed as you wish. Chrome type finish. Model L40—With 20 ft. cable black cloth covered. List Price **$25.00**

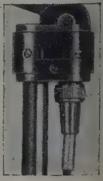


Hearing Aid Microphones
Models 7 and 12

Small crystal microphones for compact hearing aids. Send for details.

Model 7. List	**$8.00**
Model 12. List	**$6.00**

SWITCH EQUIPMENT



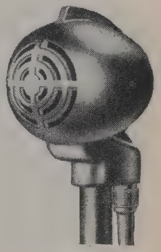
Models 22X, 22D, 33X, 33D and 34X, are available with SWITCH illustrated. Permits finger-tip control of microphone. Switch completes circuit quietly. For S Models of 22, 33, or 34 ADD **$2.00** to List.

DEPENDABLE RUGGED GUARANTEED

TURNER CHALLENGER

OUTSTANDING PERFORMANCE AT LOW COST

Where the utmost in performance, quality and appearance must be had at lowest cost, use these Turner Challenger models for exceptionally fine results. Crystal models are complete with shockproof cartridges, barometric valves, moisture-sealed crystals and wind-gags to prevent blasting. Dynamic models give equally clear-cut results for both voice and music. Unusually rugged and dependable. You can rely on these Challenger Dynamics — they're fully Turner Guaranteed!



BX Crystal

Ideal for recording, P.A. and amateur work. Bronze enamel finish. Level -55DB. Range 50-6,000 cycles. Complete with 7 ft. cable.

List Price—$10.85

BD Dynamic

Same appearance as BX. Works equally well indoors or out. Built-in transformer is free from hum pickup. Level -52DB. Range 50-5,000 cycles. 200 - 250 ohms, 500 ohms or hi-impedance.

List Price—$15.75

CX Crystal

Chrome type finish with 7 ft. removable cable set using Amphenol connectors. Level -55DB. Range 50 - 7,000 cycles. A Real Microphone value.

List—$16.25

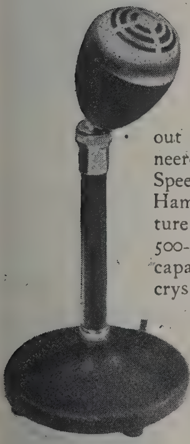
CD Dynamic

Same style and finish as CX, with 7 ft. removable cable set. Level -52DB. Range 50-7,000 cycles. In 200-250 ohms, 500 ohms or hi-impedance.

List Price—$19.50

NEW IMPROVED VT-73 DESK MICROPHONE

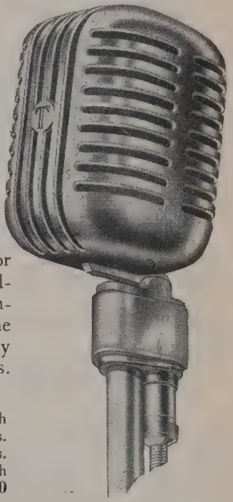
A powerful precision unit for clear, crisp reports



VT73 practically doubles your effective power at intelligible voice frequencies without over-modulation. Engineered especially for Quality Speech Recording, P.A. and Ham use with rising curvature of response between 500-4000 cycles. Has high capacity moisture proofed crystal. Level-52DB. Range 50-7,000 cycles. Finished in black crinkle and chrome. Complete with ball swivel head, stand and 7 ft. cable. List—$21.50

Model 101 Cardioid

Turner precision engineering combines the best features of both dynamic and velocity generators with a specially designed transformer network to produce this TRUE Cardioid. Where the going is tough and acoustic conditions unusually bad, this unit will do the job. Kills feedback. No sacrifice of frequency response. Ideal for studio performance, P.A., and recording. Chrome-type finish case. Complete with tilting head, balanced line output connection, 20 ft. heavy duty removable cable set and diagrams.



101A

Level -59DB below 1 volt per bar for high impedance models. Range 30-9,000 cycles. Front to back ratio: 25DB at 1000 cycles. 30-50 ohms, 200 ohms, 500 ohms or high impedance. List—$65.00

101C

DeLuxe Broadcast Model. Same as 101A but with 3-position switch to permit different pickup patterns. List—$80.00

TESTED Each and every Turner Microphone is given an individual sound pressure test over the entire audio band, before leaving the factory — your assurance of complete satisfaction.

Pioneers in the Communications Field

THE TURNER COMPANY

CEDAR RAPIDS, IOWA, U.S.A.

LICENSED Under U. S. Patents of the American Telephone & Telegraph Company, and Western Electric Company, Incorporated. . . . Crystal Microphones Licensed Under Patents of the Brush Development Co.

GUARANTEE — All Turner Microphones are individually and thoroughly tested before leaving the factory and are guaranteed against defective materials and workmanship for ONE year, providing that instructions are fully complied with and that units are not opened or tampered with in any way.

Prices Subject to Change Without Notice

UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA

THE NEW D20 SERIES DYNAMIC MICROPHONES

Most modern in appearance with departure from the conventional streamlining in that while it has all the elements of streamlined motion, it has a definite stability which enhances its lines. Its design makes it fit in the most modern of settings as well as most classic and yet it is rugged enough for industrial applications.

In addition to the rugged "DYNOID" construction, several other features make the D20 Series outstanding microphones. Mounted on substantial "Micro-Adjust Swivel," the unit may be positioned anywhere throughout a 60° angle without disturbing the balance or appearance of the microphone. The Universal "Micro-Adjust Swivel" brings to the Public Address field the first and only swivel action which is smooth and that stays put. It responds in a velvet smooth manner without being frail and indeterminant in position. A definite departure from the "knuckle-joint" swivel prevalently in use.

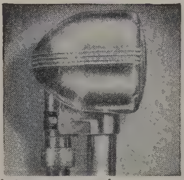
Internal element is mechanically isolated, minimizing "stand and cord noises." Built-in cable connector is easily accessible without interference with microphone. Unaffected by weather conditions and vibration. Designed for use both indoors and outdoors with a frequency range of 50 to 8000 cycles at —54db as referred to one volt per bar. The D20 is suitable for recording, public address, transmitters or wherever a full-ranged dynamic microphone is desired.

D20 SERIES: furnished with Satin Chrome finish. Standard 5/8"-27 thread stand coupling. Complete with 20' low loss cable and locking type connector. Dust proof cover included.

Dimensions: 2$\frac{5}{8}$" Wide, 3" High, 3$\frac{1}{4}$" Deep. Shipping Weight: 3$\frac{3}{4}$ Pounds.

MODEL D20A	**50 Ohms**	**List Price $32.50**
MODEL D20B	**200 Ohms**	**List Price $32.50**
MODEL D20C	**500 Ohms**	**List Price $32.50**
MODEL D20H	**40,000 Ohms**	**List Price $32.50**

"308" DYNAMIC MICROPHONE



New and improved design. Ideal for general public address installations, recording, orchestras, dramatic presentations. Well built 15mm voice coil and substantial suspension provides the excellent reproduction of this reliable instrument. Its small size gives it "Artist Appeal." Well built for dependable service. Unaffected by temperature or humidity.

Frequency Response: 50-8000 cycles per second.

Output level: 60 db below one volt per bar.

Satin Chrome plated, Microphone size: 2$\frac{1}{4}$ inches in diameter, depth 2$\frac{3}{8}$". Stand coupling: 5/8 inch 27 thread. Locking type connector at housing. Complete with 20 foot low capacity rubber covered cable. Shipping weight: 3 pounds.

MODEL 308. High Impedance (40,000 Ohms)

List Price $26.80

"CU" CARBON MICROPHONE

Communications Type

For private aircraft, police and all types of mobile and marine applications. Frequency Response characteristics restricts pick-up to essential voice frequencies rejecting unwanted background noise. Single button type carbon microphone. Button impedance 200 Ohms.

Output level: 30 volts RMS across secondary of microphone input transformer. Double pole, single throw, press-to-talk switch connects microphone and relay control circuit. Complete with heavy duty "Push-in" mounting bracket. Moisture proof, flexible 3$\frac{1}{2}$ foot cord. Rich black plastic housing. Strong, durable. No finish to wear off.

Microphone size: Diameter 2$\frac{1}{8}$ inches, 1$\frac{1}{2}$ inches thick. Net weight: 6$\frac{1}{2}$ ounces. Shipping weight: $\frac{3}{4}$ pound.

Available in two models:

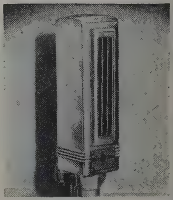
MODEL CU-1, with 3-way phone plug.

List Price $19.50

MODEL CU-2, (illustrated) with 3-way switchboard type plug.

List Price $22.50

"808" VELOCITY MICROPHONE



For use where a smooth responding microphone with a smart design is required. Suitable for stage presentations, orchestras and general public address applications indoors. Bi-directional response allows for pick-up of audience reaction without "feed-back." This microphone does not pick-up sound from the sides, thus it eleminates much of the feed-back difficulty encountered with other types of microphones.

Uses sensitive 5mm ribbon element designed to reduce phase shift at high frequencies. This feature improves the high frequency response over the conventional velocity microphone.

Frequency Response: 40-8000 cycles per second.

Output level: 63 db below one volt per bar.

Satin chrome plated. Complete with locking type connector at housing and 25 foot rubber covered, low capacity cable. Stand coupling: 5/8"—27 thread. Microphone size: 1$\frac{1}{4}$ inches square by 4$\frac{1}{2}$ inches high. Shipping weight: 2 pounds.

MODEL 808. High Impedance (40,000 Ohms.)

List Price $26.80

"W" CARBON MICROPHONE

Cartridge Type

Highly sensitive, single button carbon microphone. Light in weight and compact. Ideal detectaphone. An experimenter's favorite. Clear cut response to voice frequencies. Excellent for midget transmitters.

Button Impedance: 200 Ohms.

Output level: 12 db below 6 milliwatts for 100 bar signal.

Black plastic case with metal back. Screw terminals. Microphone size: Diameter 1$\frac{7}{8}$ inches, thickness $\frac{1}{2}$ inch. Net weight 1$\frac{1}{2}$ ounces. Shipping weight 2$\frac{1}{2}$ ounces.

MODEL "W." Impedance 200 Ohm.

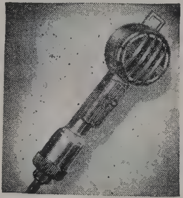
List Price $4.00

UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA

HANDI-MIKES

CARBON MICROPHONE SERIES



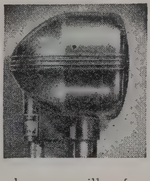
hand microphone whose popu-ity has been won by trustworthy rformance and rugged dependa-ity. Well balanced all-metal con-uction. For call systems, small insmitters; for use wherever a se-talking microphone with clear sp voice reproduction is required. Single button carbon type with pedance of 200 Ohms.

Output level: 12 db below 6 milli-atts for high signal-to-noise ratio.

Satin Chrome plated. Complete th snap switch on standard odel 200-A. 6 foot flexible cord cluded. Microphone size: 8 inches overall with 2¼ inch head. ipping weight: 1¼ pounds.

ODEL		List Price
0-A.	**200 Ohms with Snap Switch.**	**$13.65**
0-TA.	**200 Ohms with Press to Talk Switch**	**$16.40**
0-TC.	**200 Ohms with Control Circuit.**	**$17.50**

"KD" DYNAMIC MICROPHONE



w and improved design.

An economy microphone for home cording, amateurs, carnivals. Slightly sing frequency characteristics pro-des increased clarity. Uneffected by mperature and humidity.

Frequency Response: 50-7500 cycles r second.

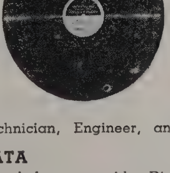
Output level: 63 db below one volt r bar.

Deep brown housing with polished chrome grille front. icrophone size 3¼ inches in diameter, depth 2⅜ inches. Stand upling: ⅝ inch 27 thread. Spring steel, cable strain relief at ousing. Complete with 10 foot rubber covered cable. Ship-ng weight 1¾ pounds.

ODEL "KD." High Impedance (40,000 Ohms).

st Price **$17.75**

D61 CONSTANT VELOCITY FREQUENCY RECORD



For Direct Checking of Response haracteristics of Phonograph Pick-s, Complete Lateral Disc Record-g Systems and Complete Lateral isc Reproducing systems.

For Indirect Checking of Response haracteristics of Recording Heads, oud Speaker Installations, Theatre ound Equipment, Public Address ound Equipment, and Almost any omponent of Audio Frequency quipment.

For Quick Checking of Equipment ithout Resorting to use of Compli-ated Calibration Equipment and rocedures.

Handy Tool in the Hands of Technician, Engineer, and tudent Alike.

TECHNICAL DATA

A 12-inch Recording at 78 RPM. Recorded on one side. Disc "pressed" in the new high grade flexible recording stock. Will not break in shipment or handling.)

Recorded in three parts.

(1) First section is a continuously rising tone of 50 to 10,000 cycles per second. Frequencies are voice announced in 15 "breaks." Range of frequencies is recorded at Constant Velocity in steps of 50 to 200 c.p.s. at + 7 DB, 200 to 500 c.p.s. at + 14 DB, and 500 to 10,000 c.p.s. at + 21 DB.

(2) Second section consists of a 1000 cycle tone recorded in steps of 2 DB from + 8 to + 18.

(3) Final section consists of a 400 cycle tone recorded at + 18 DB.

ero reference is established at an arbitrary level.

61 FREQUENCY RECORD with Data Sheet.

st Price **$3.50**

DYNAMIC MICROPHONE SERIES

Built with the ruggedness of a carbon type microphone, this dynamic hand microphone represents the best in proven performance. Well built 15MM voice coil; substantial suspension and construction throughout. Same general apas carbon series listed at left. Available only with "T" Switch, whose vertical toggle action makes it an ideal press-to-talk switch. Internal spring return of switch button eliminates possibility of microphone being left "on."

Response characteristics provide extremely clear speech response without over-emphasis of high frequencies. Available in various impedances listed below.

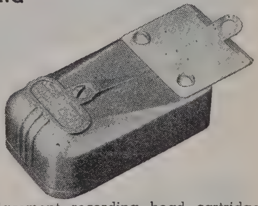
Frequency Response: 50-7500 cycles per second.

Satin Chrome plated. Complete with 6 foot flexible cord. Cord strain relief at handle. Microphone size: length overall 8 inches, diameter of head 2¼ inches. Shipping weight: 2 pounds.

Model	Impedance	Output Level	Operating Into Input of	Price
204-TA	35-50 Ohms	—44DB; 0=6 mw/100 Bars	50 Ohms	**$27.35**
210-TA	200 Ohms	—42DB; 0=6 mw/100 Bars	200 Ohms	**$29.55**
211-TA	500 Ohms	—42DB; 0=6 mw/100 Bars	500 Ohms	**$29.55**
212-TA	40,000 Ohms	—60DB; 0=IV/Bar	Grid	**$29.55**

A132 RECORDING HEAD

FOR HOME RECORDING



An especially designed magnetic Recording Head Cartridge for replacement in popular national makes of home recorders, such as: Wilcox-Gay, General Industries, etc. Uses spring temper phosphor bronze knife edge and steel spring attachment plate. The home recording version of Universal's patented Professional Recording Head—the first time our design and engineering skill has made a replacement recording head cartridge available to the general public.

Out-perform similar recording heads of magnetic design since it purposely accentuates the high frequency range in amount and degree to compensate for high frequency losses common to home recording records and phonograph circuits—gives the reproduction a "sparkling" tone quality without resorting to "sizzling" high frequencies.

Response range extends from 50 to 5000 cycles per second. Unaffected by high temperatures. Has powerful alnico magnet. Available in one standard impedance for matching the 3.2 Ohms adopted by the R.M.A. as a standard for loud speakers. Dimensions $\frac{13}{16}$" x 2¼" x 1⅜".

MODEL A132A Recording Head Replacement Cartridge. Complete with spring tempered phosphor bronze knife edge, steel attachment plate and mounting screws. Shipping wt. 6 ounces.

List Price **$11.50**

A31 COMBINATION DESK STAND

Two-piece desk stand with demountable upright (may be used as handle for converting desk into hand microphone). Upright is mounted into base with "push and twist" of wrist . . . to remove . . . simply "pull and turn" in reverse. Complete with rubber feet. Durable brown finish. All metal base with hardwood upright in matching finish.

Assembled height: 9½". Upright 6¾" long, ⅝" - 27 thread on brass ferrule. Base 4½" in diameter, 1⅛" high. Shipping weight 10 ozs.

List Price **$3.00**

A63 FLOOR STAND

Three-section type. Ideal for portable equipment. May be knocked down in two parts. Collapsed length 24". Base 9½" in diameter, approximately 2" high. Fits all microphones with ⅝"-27 thread. Rattle proof construction. Easy to operate. Adjustable height, 26" to 64". In low adjustment makes ideal banquet table stand.

Stand uprights are satin chrome plated. One-piece iron base is black wrinkle finished.

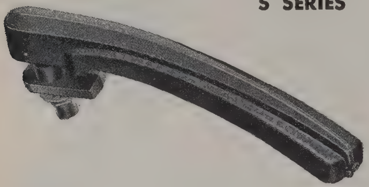
Base weight: Approximately 7 pounds. Floor Stand shipping weight 10 pounds. Packed in two cartons.

List Price **$12.50**

WEBSTER ELECTRIC
RACINE WISCONSIN
Established 1909

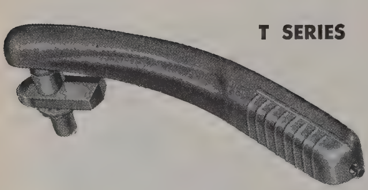
Tone Arms

In keeping with the Webster Electric tradition for fine design, precise construction and dependable performance, these pickup arms are now being produced for modernization or repair of standard record-playing equipment. Each is a series of precisely-matched components built into an integral unit. All are designed to minimize tracking error, and are coupled to resonate at a very lo
frequency. Resonance distortion and microphonic fee
back tendency have been reduced to the minimum. The
will accommodate 10" or 12" records. Single-hole moun
ing. All models are supplied with arm rests and moun
ing base brackets.



S SERIES

A new die-cast zinc alloy tone arm designed for use with F series cartridges, giving very low tracking pressure. Modern design complements the appearance of any record-player. Currently produced with cartridge model F5 (see reverse side for response characteristics). LIST PRICE $8.45

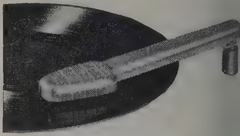


T SERIES

A lightweight, low-inertia tone arm constructed of stamped aluminum, attractively fluted and internally braced for required rigidity. Designed for use with N series cartridges; currently produced with N8, N10 and N11 (see reverse side for response characteristics). Grey-tan enameloid finish. LIST PRICE $6.50

V SERIES

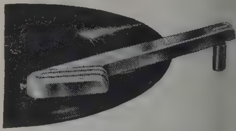
The latest Webster Electric tone arm. Combines beautiful styling with exceptional rigidity, incorporating a high lateral ridge as an integral feature of the design. Currently available with N7 high fidelity cartridge, tracking at less than 1 oz. (see reverse side for response characteristics). Supplied with Sapphire needle. LIST PRICE $15.95



AJ SERIES

Model AJ-1. A bakelite pickup d
signed to operate at 1.5 oz. tracki
pressure and 200,000 ohms impeda
at 100 cps. Cartridge is an integral pa
of the arm. Output at 1000 cps. is
volts minimum. Furnished complete wi
Permo-Point needles. LIST PRICE $7.

Model AJ-2. Cartridge and arm or
for replacement of cartridge where mod
AJ-1 is presently installed.
LIST PRICE ....$4.



AC and AE SERIES

Models in these series are of stamp
steel construction, finished in bro
enamel, with rubber cushioned mounti

Model AC10-1. Designed to operate
2.5 oz. needle pressure. Incorporates
cartridge. LIST PRICE ....$5.

Model AE10-1. Designed to operate
less than 2 oz. needle pressure. Incorp
ates N3 cartridge. LIST PRICE...$6.

Model AE10. Incorporates E4 cartrid
with sapphire needle. LIST PRICE $7.
(see reverse side for characteristics
cartridges contained in above tone arm

Recorder Heads

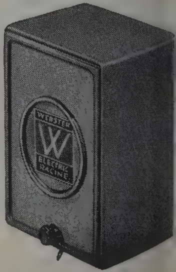
Webster Electric Recorder Heads are unique and outstanding in performance. They are of extreme simplicity in mechanical and electrical design. No "peaks" or "valleys" in the entire frequency range. Recordings are distinguished by their clean quality and remarkable musical detail.

MODEL R-84

A magnetic cutting head for professional and semi-professional use. 8 ohms impedance at 400 cps. Frequency range 30-6000 cps. Less than 1½% distortion at 400 cps. Input power 1 watt nominal for maximum recording level. Standard 1⅛ inch spacing between mounting holes. LIST PRICE $24.53

MODEL R-84G

Similar to above but with 500 ohms impedance at 400 cps. LIST PRICE $24.53



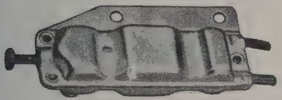
WEBSTER ELECTRIC

RACINE WISCONSIN

Established 1909

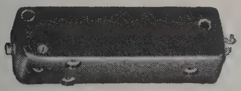
Crystal Cartridges

Webster Electric Crystal Cartridges are supplied in four general styles having universal replacement application. They are manufactured under exceptionally high standards of precision, and each cartridge is individually tested before release, assuring flawless performance and maximum customer satisfaction. The range of characteristics described below permits exact replacement of original cartridges found in the majority of record-players, record-changers and radio-phonograph combinations.



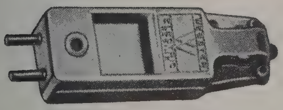
C SERIES

Cartridges of this series were incorporated as original equipment in many thousands of phonographs in use today. Models C2, C5 and C6 equipped with flange for mounting, as shown. Model C3 supplied without flange for clamp-mounting. Model C4 equipped with special mounting stud. Solder terminals.



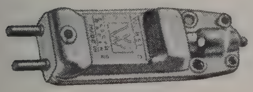
D SERIES

For tone arms designed for side-hole mounting. This style is also widely used for reconditioning of equipment now in use. Solder terminals. Model D5 supplied with sapphire needle.



E and N SERIES

Cartridges in these series have been standard in new equipment for several years. Models N6 through N11 were recently introduced and are being incorporated in leading postwar makes of record-playing equipment, thereby assuring a growing replacement market. Model N5 is supplied with sapphire needle. All models are available with solder terminals, while models N6 to N11 are also available with pin type terminals, and with choice of self-ground or separate ground lug.



F SERIES

A new series of cartridges of very light weight, designed to track at low needle pressure. High fidelity models have a uniform drop of 6 DB per octage up to 10,000 cps. Choice of self-ground or separate ground lug; solder or pin-type terminals.

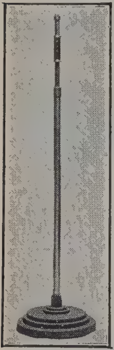
SPECIFICATION TABLE

Model No.	Average Output at 1000 CPS (Volts)	Impedance 1000 CPS (Ohms)	Minimum Tracking Pressure	Approx. Cut-Off Frequency	NET WT.	LIST PRICE
C 2	2.3	200,000	2.5 oz.	5000	16 gr.	$4.00
C 3	2.3	200,000	2.5 oz.	5000	16 gr.	4.00
C 4	2.3	200,000	2.5 oz.	5000	16 gr.	4.20
C 5	.6	200,000	1.5 oz.	5000	16 gr.	4.00
C 6	3.0	200,000	2.5 oz.	5000	16 gr.	4.20
D 2	2.3	80,000	2.5 oz.	5000	25 gr.	5.40
D 3	.7	80,000	1.25 oz.	6000	25 gr.	5.55
D 4	.8	80,000	1.25 oz.	5000	25 gr.	5.40
D 5	.8	80,000	1.25 oz.	6000	25 gr.	6.65
E 4	1.8	200,000	1.25 oz.	5000	25 gr.	4.45
E 9	.7	80,000	1.25 oz.	6000	25 gr.	5.00
N 2	1.0	80,000	1.25 oz.	5000	25 gr.	4.45
N 3	.8	200,000	1.25 oz.	5000	25 gr.	4.45
N 4	1.1	200,000	1.25 oz.	5000	25 gr.	4.45
N 5	.8	200,000	1.25 oz.	6000	25 gr.	5.85
N 6	1.0	200,000	1.0 oz.	5500	25 gr.	5.25
N 7	.5	200,000	.75 oz.	10000	25 gr.	6.75
N 8	1.4	200,000	1.25 oz.	3000	25 gr.	5.25
N 9	1.4	200,000	1.25 oz.	3000	25 gr.	5.60
N10	2.25	200,000	1.25 oz.	5000	25 gr.	5.25
N11	1.0	200,000	1.0 oz.	6000	25 gr.	5.25
F 1	1.0	200,000	1.0 oz.	5000	8 gr.	5.00
F 2	1.0	200,000	1.0 oz.	5000	18 gr.	5.00
F 3	.5	200,000	.75 oz.	10000	8 gr.	5.75
F 4	.5	200,000	.75 oz.	10000	18 gr.	5.75
F 5	1.0	200,000	1.0 oz.	4000	8 gr.	5.75
F 6	1.0	200,000	1.0 oz.	4000	18 gr.	5.75

EASTERN • MICROPHONE STANDS

EASTERN MICROPHONE STANDS

¶ Because of technical changes, we are unable to present a new catalog at this time. Write us for a copy of temporary catalog sheet 646-A, describing our SENSATIONAL patented new line of "SPEED-A-JUST" microphone floor stands featuring "SLIDE-LOCK" with "SLEEVE ADJUSTMENT."

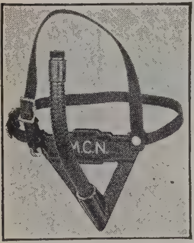


¶ "SLEEVE ADJUSTMENT" is the NEW MAGICAL method of changing height without twisting or turning. Height is automatically set when tube is lifted upward. Your weight will not permit you to lower the microphone unless you grasp the "SLEEVE" and make the downward movement.

¶ "SLIDE-LOCK" is also being applied to a new line of instantaneously operated BOOMS which make obsolete the old thumbscrew method of boom adjustment.

EASTERN "NECK SUSPENSION"

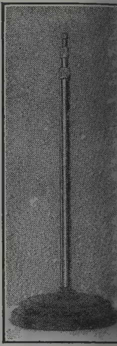
Catalog No. ES160



For switchboard and applications calling for a chest mounting, the EASTERN "THIRD HAND" leaves your other two hands free for required manipulations. Made from die cast metal and supplied with a 7 flexible gooseneck. An integral part of the casting is a call letter plate which is suitable for station or chain affiliation (letter in your own call letters). Has a neck strap which is held by snap fasteners and a body strap which prevents shifting of microphone when leaning forward. Finished in beautiful black wrinkle.

PORTABLE STANDS

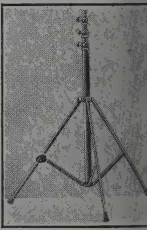
LIGHTWEIGHT STANDS FOR PACKAGE SOUND AND RECORDING SYSTEMS



EF94—A specially designed 3-section stand, ideal for portable applications where a full weight stand is specified. Has a new "BRAKE-LOCK" telescopic tubing with sections non-removable when extended. Heavily weighted modernistic base, 3″ high with 9″ diameter, **requires very little space.** Height of stand 24¼″ to 60″. Has ⅛″ pipe and ⅝″-27 thread. Base finished in Grey wrinkle and tubing in Chromium. Net weight 9 lbs.

EF92—A full height two-section floor stand with same 9″ modernistic Grey wrinkle base as supplied with EF94 described above, and tubing in Chromium. Height 35″ to 64″. ⅝″-27 thread. Net weight 9 lbs.

FOLDING TRIPODS



EF73—A three-section folding stand, of heavy material, made especially for microphone use. Ideal for all portable applications where light weight and minimum space are essential factors. Height 26″ to 60″. Base spread 24″. Folds to 21¾″. Thread ⅝″-27. Net weight 3¾ lbs. Thumbscrew adjustment. All Chromium finish. Has rubber bumpers.

EF74—A four-section folding stand similar to abov but with fourth section added, giving adjustabl height from 27″ to 78″. Folds to 22¾″. Thread ⅝″-2 Rubber bumpers. Net weight 4 lbs. Thumbscrew ad adjustment. All Chromium finish.

REDUCERS

Cat. No.	Mike Thread	Stand Thread	Lis
101	⅛″ Pipe	⅝″-27	$0.7
107	½″ Pipe	⅝″-27	1.0
145	½″ Pipe	¾″-27	1.0
109	⅝″-27	½″-27	.5
120	⅝″-27	⅛″ Pipe	.5
112	⅝″-27	½″ Pipe	1.0
132	⅝″-27	¾″-27	1.0
118	WE630A, 633A, 639A	⅝″-27	1.5

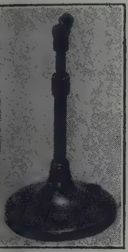
SWIVELS

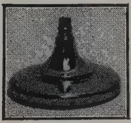
103 Ball Type	⅛″ Pipe	⅝″-27	$1.0
110 Ball Type	⅝″-27	⅝″-27	1.4
117 Thumb Type	⅝″-27	⅝″-27	3.7

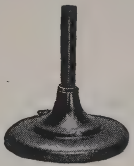
EASTERN • MICROPHONE STANDS

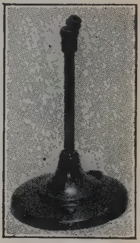
TABLE STANDS — 5½" BASES

Deluxe Type — All Chromium — 3 Felt Feet in Base


ED14D


ED130


ED149


ED5D

ED14D—Adjustable height 9"-13". Swivel has threads for ⅛" pipe and ⅝"-27.

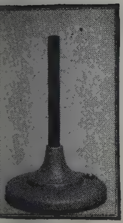
ED14—Same as above less swivel. ⅝"-27 thread as shown with ED126.

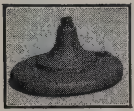
ED130—Height 4". ⅝"-27 thread.

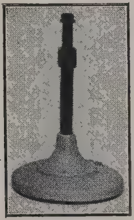
ED149—Height 8½". ⅝"-27 thread.

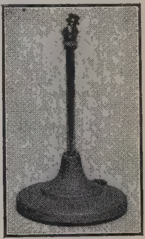
ED5D—Height 9¾". Swivel has threads for ⅛" pipe and ⅝"-27.

Economy Type — Grey Wrinkle Bases with Chromium Tubing 3 Felt Feet


ED127


ED129


ED126


ED125

ED127—Height 8½". ⅝"-27 thread.

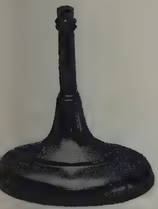
ED129—Height 3¼". ⅝"-27 thread.

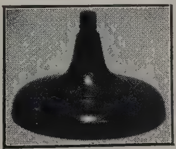
ED126—Adjustable height 8"-12". ⅝"-27 thread.

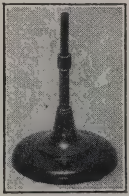
ED125—Height 9¾". Swivel has threads for ⅛" pipe and ⅝"-27.

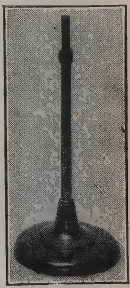
HEAVY TABLE STANDS — 7½" BASES

Chrominum or Wrinkle Finish—3 Felt Feet in Base


ED23R


ED131


ED21


EB4-EB41

ALL CHROMIUM FINISH

EB4—Banquet stand. Adjustable 16"-25". ⅝"-27 thread. All Chromium. Net weight 6 lbs.

ED23R—Height 8". ⅝"-27 thread. All Chromium. Net weight 5¾ lbs.

ED23P—Same as ED23R, but with ½" pipe thread. Chromium.

ED131—Height 4½". ⅝"-27 thread. Chromium finish. Net weight 5½ lbs.

ED131P—Height 4½". ½" pipe thread. Otherwise same as ED131. Chromium finish.

ED21—Short banquet stand. Height 8½"-12". ⅝"-27 thread. Chromium finish. Net weight 5¾ lbs.

ED21P—With fitting for ½" pipe thread; otherwise same as ED21.

CHROMIUM UPRIGHTS WITH WRINKLE BASES

EB41—Same as EB4 described at left, but with Grey base.

ED28—Same as ED23R described at left, but with Grey base.

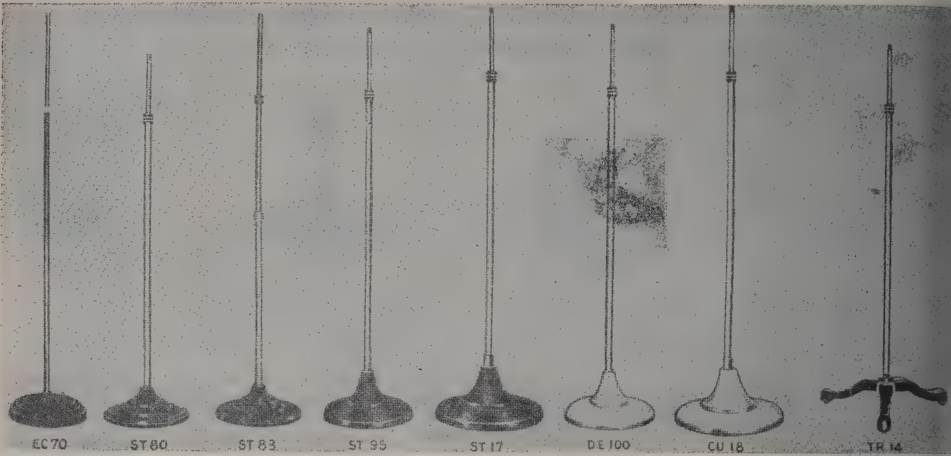
ED29—Same as ED23P described at left, but with Grey base.

ED30—Same as ED21 described at left, but with Grey base.

ED31—Same as ED21P described at left, but with Grey base.

EMCO • MICROPHONE STANDS

Manufactured and Distributed by LOUIS M. KERN & CO., Inc. BROOKLYN, N. Y:



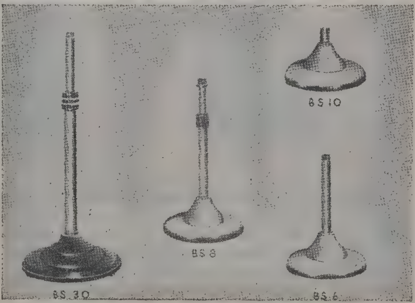
EMCO now introduces a new and more complete line of microphone stands, incorporating the latest features that modern engineering could produce. EMCO presents **smooth action,** a means for raising and lowering the microphone easily, smoothly and noiselessly. EMCO brings you the new **wear-ever, sure grip** automatic friction clutch lock, for locking the stand at any desired height. Due to the hardened fibre bushing incorporated in the clutch construction of these stands, all possible wear is eliminated, and will allow them to last for an indefinite period of time. All EMCO stands incorporate heavy gauge brass tubing throughout, which is extra heavily chrome plated. All have ⅝ x 27 thread for all crystal or velocity microphones.

MODEL	BASE FINISH	TUBE FINISH	BASE DIAMETER	HEIGHT	WEIGHT	LIST
EC-70	gray crinkle	chromium	9 in.	35 to 68 in.	8 lb.	**$7.50**
ST-80	gray crinkle	chromium	10 in.	35 to 68 in.	11 lb.	**9.50**
ST-83	gray crinkle	chromium	10 in.	24 to 68 in.	11 lb.	**11.50**
ST-95	gray crinkle	chromium	10 in.	35 to 68 in.	11 lb.	**10.50**
ST-17	gray crinkle	chromium	12 in.	35 to 68 in.	18 lb.	**14.00**
DE-100	chromium	chromium	10 in.	35 to 68 in.	11 lb.	**11.40**
CU-18	chromium	chromium	12 in.	35 to 68 in.	18 lb.	**18.00**
TR-14	gray crinkle	chromium	15 in.	35 to 68 in.	11 lb.	**14.50**

NOTE: Bases finished in gray crinkle are available in black crinkle on request.

BANQUET STANDS

BS30—A modern banquet stand, incorporates SMOOTH ACTION and the new SURE GRIP automatic friction clutch lock, tubing of extra heavy gauge brass, heavily chrome plated. Base finished in beautiful gray crackle. Has rubber bumpers on base to eliminate scratching of table top. Base diameter 7", opens from 18 to 33 inches, has ⅝ x 27 thread to fit all standard crystal and velocity mikes.
List Price **$6.00**



BS5—An economically priced stand, base finished in gray crackle, tubing chrome plated. Base diameter 6 inches, height 9 inches. Has ⅝ x 27 thread for microphone. Net weight 2½ lbs.
List Price **$2.25**

BS6—A de luxe stand, all features same as model BS5, except base and tubing are both beautifully finished in chrome.
List Price **$3.50**

BS7—A low priced stand. Has 6" diameter, base beautifully finished in gray crackle, tubing heavily chrome plated. Has automatic friction clutch lock for adjusting height. Opens from 10 inches to 15 inches. Has ⅝ x 27 microphone thread, net weight 3 lbs.
List Price **$3.75**

BS8—De luxe adjustable stand. All features same as model BS7, except base and tubing are both finished in chrome.
List Price **$4.75**

BS10—A stand designed for use on desk with heavy velocity microphones. Base finished in beautiful gray crackle. Thread ⅝ x 27 to accommodate microphone. Net weight 2 lbs.
List Price **$2.00**

BS11—All features same as BS10 except the base is beautifully finished in chrome. ⅝ x 27 thread for accommodating microphone.
List Price **$3.10**

SPECIAL PRODUCTS COMPANY
speco
SILVER SPRING, MARYLAND

Portable Adjustable
PULPIT MICROPHONE STAND

Adjustable 4 ways, simple to use. Just a slight turn of the knob, easy adjustment and the "mike" is ready for action in any position. Folds into compact size for easy carrying and storage.

- 26″ full extension
- Adjustable by thumb screw in table clamp to max. 15″ height from table
- 180° rotation with thumb screw adjustment
- ⅝″-27 thread to fit all standard "mikes"
- Swivel bracket for attachment of extra microphone to other end of boom available at $2.50 list
- Universal joint adjusts boom with knob
- Boom and universal joint are removable from staff. This assembly is properly threaded for attachment to a standard floor stand
- Weighs less than 2 pounds
- Felt-faced mounting, will not scar surface
- Ball and socket joint adjustable to 2 inches

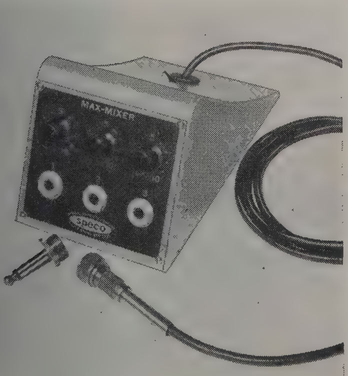
- For church pulpit
- Speaker's rostrum
- Public address system
- PBX phone board
- Outdoor speaking
- Sound trucks
- Banquets

MODEL P.M.S.

$13.95 List

"MAX MIXER"—adds Microphone Inputs to any Amplifier

For Hill-Billy Bands, Orchestras, Instrumentalists, Vocalists, Entertainers, Dramatic Clubs, Night Clubs, Concessions, Sound Men



WHAT IT DOES: The SPECO "MAX-MIXER" provides a low-cost method of adding to and mixing up to two more microphones than provided for by regular input of any amplifier.

HOW IT DOES IT: By plugging the "MAX-MIXER" cable into the microphone input of an amplifier and then plugging one, two or three high impedance microphones into the "MAX-MIXER", the user can regulate each by a separate volume control. Individual string instrument, pianos and/or voices can be blended in any desired proportion. It is small enough to be placed on a small stand or table near the operator for handy finger-tip control.

NOTE: Use of a SPECO "MAX-MIXER" eliminates necessity for using contact microphones which incorporate a volume control. The controls on the "MAX-MIXER", itself, serve the purpose.

Model MIX $18.95 List

SPECIAL PRODUCTS COMPANY
9115 BROOKVILLE ROAD, SILVER SPRING, MD., P. O. BOX 471

Brush CRYSTAL PRODUCTS

Each application of headphones requires some special qualification for satisfactory performance. Brush has a most complete line of crystal operated headphones, and each model is designed for a specific group of applications. Brush crystal phones possess the following outstanding features:

1. BIMORPH* crystal drive element of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones.
2. Wider range response with more uniform output.
3. Compensation for ear coupling.
4. Light-weight, rugged, shock-proof construction.

MODEL "BA-303" HUSHATONE*

A miniature, molded plastic extension speaker for under pillow use. Disc shaped ($4\frac{3}{16}$" dia. by $1\frac{1}{16}$" thick). Makes no uncomfortable lump beneath the pillow. Tone quality comparable to cone-type speaker because of specially designed plastic diaphragm. Speaker gives ample output with low power consumption (.001 watt). Hermetically sealed, can be dipped into disinfecting solution (temperature not above 120°F). Light weight BIMORPH* crystal drive element insures uniform response and high sensitivity. No parts to wear, loosen, or become detached. Furnished in maroon with satin chrome trim.

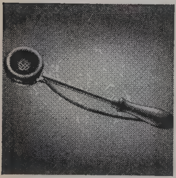
HUSHATONE* with 10' cord. **Fair Trade Retail Price . . . $9.75**
Net Wt. 8 oz. Shipping Wt. 2 lbs. Code Sepim

HIGH FIDELITY MODEL "A-1"

For use where HIGH FIDELITY and extended frequency response are of paramount importance. (60 to 10,000 cps. Corrected for rising response below 200 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar exacting headphone applications. Sensitivity approx. 1.5 bars per volt at 1,000 cps. Impedance over 80,000 ohms at any frequency.

Headset complete with 5' cord and headband. **List Price . . . $18.00**
Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Mihif

BRUSH MODEL "A" LORGNETTE PHONE



The "A" lorgnette phone is designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light weight, easy to handle, and comfortable at the ear.

Single phone complete with 5' cord and lorgnette handle.
List Price $8.20

Net Wt. 5 oz. Shipping Wt. 1 lb.
Code Milme

COMMUNICATIONS MODEL "BJ"

Developed for COMMUNICATIONS work where light weight, durability, and uniform response are required. Soft rubber housing insures good ear seal and wearing comfort over long hours of constant use. High output impedance .008 mfd. (40,000 ohms at 500 cps.), response 100 to 10,000 cps. Headset complete with 5' cord and adjustable lock-type headband.

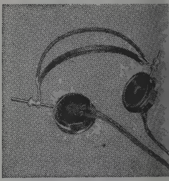
List Price $15.85

Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Micom

BRUSH MODEL "A" GENERAL PURPOSE

Designed for GENERAL PURPOSE applications including laboratory, studio and skilled amateur home use. The BIMORPH* crystal drive element insures wide range, uniform response (100 to 10,000 cps.) and high sensitivity. High impedance; ideal for multiple installations.

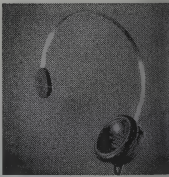
Headset complete with 5' cord and adjustable lock-type headband.
List Price $12.00
Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Millo



BRUSH MODEL "A" SINGLE PHONE

Particularly adapted to individual or group hearing aid and radio applications. Light weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber and cushion to eliminate slipping.

Single phone complete with 5' cord and headband.
List Price $6.45
Net Wt. 3 oz. Shipping Wt. 1 lb.
Code Milod

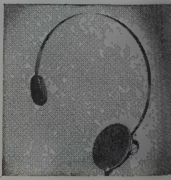


BRUSH MODEL "B" SINGLE PHONE

Excellent for hearing aid applications because of extreme light weight. Has very low power consumption and high quality reproduction. Hermetically sealed against ear moisture and adverse humidity conditions. Same general characteristics as Communications Model BJ phones. Single phone complete with 5' cord and headband.

List Price $6.65

Net Wt. 3 oz. Shipping Wt. 1 lb.
Code Mibor



PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Complete technical data on request

*Trade Mark Reg. U. S. Pat. Off.

THE BRUSH DEVELOPMENT CO.

HEADPHONES By C. F. CANNON

THE "CHIEF" — *Cannon-Ball Bakelite Headset*

The "Chief" is a new addition to the Cannon-Ball family of headsets. There is a demand for a high grade bakelite phone, reasonably priced, and The "Chief" meets this requirement in every respect. It is an inside terminal type. The diameter of the diaphragm is $2\frac{1}{8}$". Bakelite cases and caps. Double coils, two in each receiver. Laminated Chrome Magnets. Braid covered headbands with permanent adjustment and having no removable parts. Cotton covered cord four and one-half feet long.

No.	List Price
CC-2—2000 ohms D.C.	$4.00
CC-3—3000 ohms D.C.	4.50
CC-5—5000 ohms D.C.	5.50

Leather covered headband in place of the braid band, List 45c extra

THE CHIEF

THE BRANDES "SUPERIOR" MATCHED TONE HEADSET

THE SUPERIOR

The Brandes "Superior" headset has been on the market since 1908. It was one of the first headsets available to amateurs. It is the outside terminal type. The diameter of the diaphragm is $2\frac{1}{8}$". Aluminum cases. Black bakelite caps. Double coils, two in each receiver. Magnets made of chrome magnet steel. It has a steel headband with permanent adjustment and having no removable parts. Cotton covered cord four and a half feet long.

No. BS-2—2000 ohms D.C. ....List $3.50

THE BRANDES "ADMIRAL" MATCHED TONE HEADSET

The Brandes "Admiral" phone is of the same general construction as the Brandes Superior but has the terminals on the inside.

No. BA-2—2000 ohms D.C. ....List $3.75
No. BA-3—3000 ohms D.C. ....List 4.25
No. BA-5—5000 ohms D.C. ....List 5.75

THE "MASTER" CANNON-BALL—*That Old Reliable Headset*

The "Master" Cannon-Ball headset is of exceptional high quality and rugged construction. It is used extensively in institutions, hospitals and prisons, and by radio servicemen and amateurs everywhere. It is of the concealed terminal type. The diameter of the diaphragm is $2\frac{1}{8}$". Aluminum cases. Bakelite caps. Double coils, two in each receiver. Magnets made of chrome magnet steel. It has a steel headband with permanent adjustment and having no removable parts. Cord is cotton, four and a half feet long.

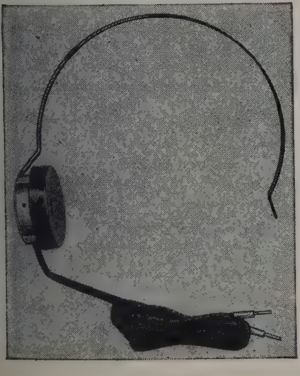
No.	List Price
MC-2—2000 ohms D.C.	$3.50
MC-3—3000 ohms D.C.	4.00
MC-5—5000 ohms D.C.	5.50

THE MASTER

THE "DIXIE" CANNON-BALL

The "Dixie" Cannon-Ball is the same general construction as the Master Cannon-Ball except that the terminals are on the outside.

No.	List Price
CD-2—2000 ohms D.C.	$3.00
CD-3—3000 ohms D.C.	3.25



THE GRAND

CANNON-BALL "GRAND"—*The Single Head Phone*

The Single "Grand" Cannon-Ball headphone is a very fine piece of apparatus and is equal in volume and clarity of reproduction to most of the low priced inferior quality double headsets. Many people prefer the single headphone because they can hear a conversation addressed to them without removing the phone from the ear. It is the concealed terminal type. The diameter of the diaphragm is $1\frac{7}{16}$". Cases aluminum. Black bakelite caps. Double coils. Heavy bar magnets ¼" square. Cotton cords four and a half feet long. The headband is spring steel permanently attached to the back of the phone.

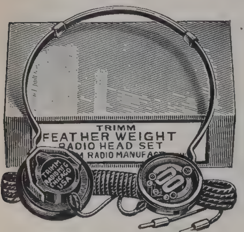
No. SG-1—1000 ohms D.C. ....List Price $1.85

TRIMM HEADSETS

KNOWN AROUND THE WORLD

MADE IN U.S.A. SINCE 1922

FEATHERWEIGHTS



The world famous TRIMM Featherweight. Recognized as a leading quality headset. Weighs 4½ oz. complete with two units, 5 foot moisture-proof wear-resisting cord. Bakelite shell and cap. Magnet of highest quality cobalt steel alloy. Pole pieces of finest magnetic iron. Coils especially impregnated. A custom-built phone throughout. Standard resistances.

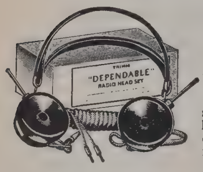
No. 100—Double Headset with adjustable nickel-plated steel headband	$10.00
No. 104—Double Headset with fabric covered wire headband	10.00
No. 110—Single Headset with non-adjustable band, black finish	6.50
No. 112—Single Headset with adjustable band, nickel-plated	6.50

COMMERCIALS

The most sensitive, yet ruggedly constructed unit available. Practically non-breakable. A 5 ft. special moisture-proof cord, with No. 501 telephone type plug attached and leather covered wire headband with exclusive spring lock and adjusting clamp are all part of this lightweight headset. Dia. 2⅛″, depth ¾″, forged magnet of the best grade cobalt steel. Color—a rich warm walnut brown. This headset is recommended for monitoring service because of its high quality performance.

No. 156—Double Headset, 600 ohms Imp. per pair	$16.00
No. 157—Double Headset, 17,000 ohms Imp. per pair	16.00
No. 158—Double Headset, 600 ohms Imp. per pair, no plug	14.50
No. 159—Double Headset, 17,000 ohms Imp. per pair, no plug	14.50

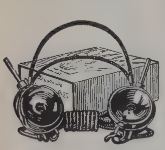
THE DEPENDABLE



When a high-grade headset is desired, but price must be considered, choose the Dependable. Bakelite caps and shells. Extra heavy bar chrome steel magnets forged to insure strength, 5 ft. tinsel cord, fabric-covered wire headband.

No. 65—Double Headset, 2000 ohms d. c. only	$4.15
No. 67—Single Headset, 1000 ohms d. c. only	2.15

THE PROFESSIONAL



The choice of countless users . . . the original TRIMM headset. Double unit watch case type. Bakelite cap and shell, forged magnet of chrome steel, impregnated coils, 5 ft. moisture-proof wear resisting cord, entirely concealed terminals. Fabric-covered wire headband. Standard resistances.

No. 70—Double Headset	$5.00
No. 72—Single Headset, wire band and 6 ft. cord	2.80

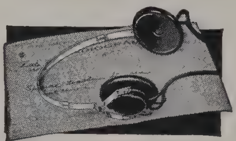
TRIMM "E"

E-40—Similar to Signal Corps HS23. Small units. Weighs about 5 ozs. complete, including two units, special band with cord over head, telephone plug.

E-41 — Lightweight Headset. Chrome steel magnets. Weighs about 5 ozs. Two units, No. 681 fabric headband, 5′ tinsel cord, No. 654 ear cushions.

E-40—Double Headset, special band, cord and plug	$12.50
E-41—Double Headset, ear cushions, no plug	9.00

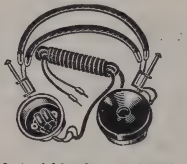
24,000 ohms Imp. FEATHERWEIGHTS



Featherweight headset built especially for the Amateur. Precision built throughout, this phone embodies the results of years of experience. Again ultra-sensitivity combined with rugged construction makes a fine headset, which is very lightweight.

No. 106—Double Headset with adjustable nickel-plated steel headband	$10.00
No. 107—Double Headset with fabric-covered wire headband	10.00

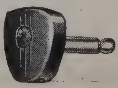
THE REX



A fine headset of bi-polar construction having a laminated magnet structure of the best grade chrome steel; shell of polished aluminum; molded cap; adjustable fabric-covered wire headband; high-grade tinsel cords with terminals entirely enclosed. A truly great phone combining features not before incorporated in a low cost headset. Extreme sensitivity to weak signals is attained.

No. 30—Double unit headset, 2000 ohms d. c. 4½ ft. cord	$3.05
No. 30—Double unit headset, 20,000 ohms Imp. 4½ ft. cord	2.85
No. 32—Single unit headset, 1000 ohms, 4½ ft. cord	1.75

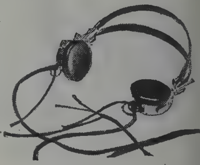
PHONE PLUG



Most compact plug. Bakelite with nickel plated stem. Cord tips held tightly by screws. Easily attached to cord.

No. 512—Flat plug $0.65

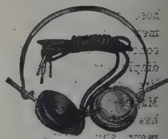
ARMY-NAVY HEADSETS



Very sensitive. Meets both Army and Navy specifications. Modifications available. 6 ft. water - proof cord, phone tip terminals. Leather headband. Bipolar magnets. Weighs 2 lbs. Available in 2 impedances.

No. K29D—Double Headset, 2200 ohms d. c. (24,500 ohms Imp.)	$16.00
No. W28D—Double Headset, 112 ohms d. c. (600 ohms Imp.)	16.00

THE ACME



A superior headset in the lightweight low price field. Cap and shell of molded bakelite. Chrome steel magnets. Weighs six ounces complete. 4½ foot cord.

No. 25—Double headset, 4000 ohms d.c.	$3.00
No. 25—Double headset, 2000 ohms d.c.	2.75
No. 27—Single headset, 2000 ohms d.c.	1.70
No. 27—Single headset, 1000 ohms d.c.	1.65

TRIMM "B"

Designed for the government during the war for special applications and with a performance almost equal to that of higher priced phones. Suggested for hospital installations. Bakelite cap and shell. Chrome steel magnets. Fabric headband, 5′ moisture-proof cord.

B-42—Double Headset, 2000 ohms d. c. res.	$8.00
B-43—Double Headset, 600 ohms Imp.	8.00
B-44—Single Headset, 1000 ohms d. c. res.	4.65
B-45—Single Headset, 300 ohms Imp.	4.65

Radiotone
HOLLYWOOD

"America's Finest Portable Recorder"
Illustrated—Model RA-116

NEW . . . IMPROVED

Here's the answer to your recording problems in a single, compact, portable unit! Radiotone, a pioneer in instantaneous recording, with over 10 years experience backed by thousands of units in service is now manufactured by Ellinwood Industries, famous for Design Simplicity—Dependability. Check these features —note the improvements—then see your local representative for complete, illustrated catalog describing the RA-116 and other portable models.

FEATURES

THE RA-116—Produces acetate recordings of professional quality from 6" up to 16".

DUAL SPEED—78 or 33-1/3 rpm. instantly selected by an improved lever shift which locks into position.

LEAD SCREW—Positive feed overhead lead screw insures perfect grooves and dependable operation. Direction of cut can be changed instantly from outside-in to inside-out. Run-in grooves may be made when desired.

VARIABLE LINES—The number of lines per inch on the disc may be varied from 90 to 130.

DEPTH OF CUT ADJUSTMENT—Accurate regulation of pressure at the cutting stylus is obtained by turning a knob on an indexed dial.

DRIVE SYSTEM—Radiotone has perfected a positive silent drive insuring perfect motion, correct pitch, and stability. Moving parts have been reduced to a minimum. Speed accuracy is maintained within .25%.

TURNTABLE—A 16" balanced cast aluminum turntable is used. The hardened steel driving shaft revolves on a single steel ball at the bottom of a 6" cast bearing well which contains two bronze "oilite type" bearings.

DUO-CHROMATIC EQUALIZERS—allow independent response control at 80 cycles from —15 to +15 db and 8000 cycles from —15 to +15 db.

MULTIPLE INPUT CHANNELS—Two high impedance input channels are provided. (Low impedance also available.) Two jacks are for microphone use and have an overall gain of 135 DB. The other two have an overall gain at 80 DB, which is suitable for most any crystal, magnetic or dynamic pickup as well as a zero level line.

MIXERS—Two independent volume controls are provided and may be operated simultaneously.

VOLUME INDICATOR—A volume indicator meter is provided for accurate monitoring of recording level.

OUTPUTS—All output impedances are 8 ohms.

AMULIFICATION STAGES—The seven tube amplifier has five stages. The first is a dual preamplier utilizing two 7F7 tubes which provides the two microphone inputs. The second is a mixer utilizing one 7F7 tube. The third is the Duo-chromatic equalizer stage utilizing one 7F7 tube. The fourth uses one 7F7 as resistance coupled phase inverter. The fifth is a power output stage using two 705 tubes in push-pull class "A." Power output is 10 watts with less than 5 per cent. distortion, less than 1 per cent. distortion at cutting level. Frequency response is plus or minus 1.5 db from 35 cycles to 15,000 cycles.

RADIO—A radio receiver designed for recording is available as an accessory to the RA-116 and space is provided by removing the panel at the left side of the amplifier.

POWER REQUIREMENTS—110-120 Volts. 50 or 60 cycles AC. 150 Watts. May be used on DC by addition of converter.

SPEAKER—Heavy duty 12-inch permanent magnet dynamic type.

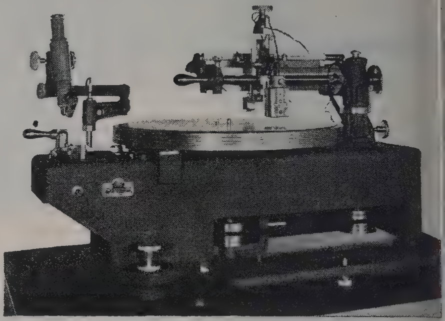
FINISH—Handsome leatherette case with chromium hardware. Exterior metal parts are finished in baked crackle lacquer.

ELECTRONICS DIVISION
Ellinwood
INDUSTRIES

SERVING THE WEST: National Machine Products Plant, 190 W. Slauson Ave., Los Angeles 3, California.
SERVING THE EAST: Ellinwood Industries, Incorporated, Huntington, West Virginia.
INTERNATIONAL DIVISION: 649 S. Olive Street, Los Angeles 14, California.

PORTABLE PRESTO STATIONARY
SOUND RECORDING EQUIPMENT

PRESTO 8-D Recording Turntable



Designed for making high quality masters and instantaneous recordings, the 8-D features instantaneous change of cutting pitch; and the Presto 1-D cutting head, providing higher modulation level, more uniform frequency response and ability to retain its calibration under wide temperature variations.

A heavy cast-iron turntable and mounting base assure exceptionally low background noise in recordings. Adjustable feet permit accurate leveling on a bench or stand at a height to suit the operator's convenience.

Step pulleys having seven grooves and a feed mechanism equipped with reversing gear for cutting inside-out and outside-in provide the equivalent of fourteen separate feed screws. The overhead feed mechanism is driven by a shaft within the overhead mounting casting and no contact with the turntable is necessary. The entire overhead swings to the rear when changing discs.

Standard equipment includes a microscope, an automatic equalizer, a vertical damper and a Presto 1-D cutter.

SPECIFICATIONS

Frequency Response: 50 to 10,000 cps.

Impedance: Cutting head 500 ohms. 15 ohms on request.

Power Requirements: Turntable motor draws 100 watts from a 110 volt, 60 cycle line. Available for 50 cycles or 220 volts at additional cost.

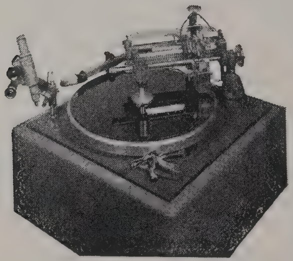
Speed Accuracy: 0.5%.

Pitch: Adjustable to cut 96, 104, 112, 128 or 136 lines per inc inside-out or outside-in.

Turntable Noise: 40 db below program level.

Operating Dimensions: 31" x 18" x 19¼".

Weight: 150 pounds.

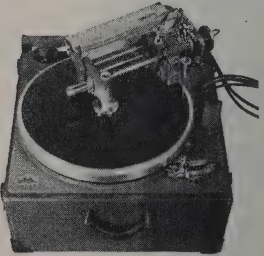


PRESTO 8-N RECORDER

A precision instrument embodying the finest materials and workmanship throughout, designed in collaboration with engineers of the largest recording studios to include all of the operating conveniences necessary to produce consistent, high quality work.

The 8-N turntable records the widest frequency range with the lowest background noise obtainable on lateral recordings. It is particularly recommended to studios making master recordings for the production of commercial pressings.

Standard Equipment: The 8-N recorder consists of a turntable, motor drive system and overhead cutting mechanism mounted on a cast iron base equipped with shockproof mountings. The cutting mechanism includes the high fidelity cutting head, spiraling feed screw, time scale, vertical damper and automatic equalizer. Also included are the microscope and pickup. Accessories necessary to operate the 8-N table include recording amplifier, microphone, discs and needles.



PRESTO 6-N RECORDER

The Presto 6-N recorder is outstanding in its suitability fo broadcast stations because it offers all the qualifications fo good recordings, including master records, at the most economica price. It is ideal for the station requiring delayed broadcast o network programs, and for reference recordings.

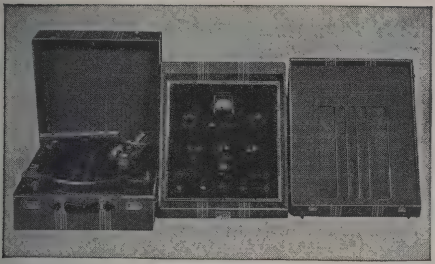
The 6-N is the best type of unit for remote recordings becaus of the manner in which it packs so as to withstand transporta tion and yet is ready for operation within a few minutes. Th overhead mechanism lifts off the table and is stored in specially fitted compartment.

Standard Equipment includes the Presto cutting head, spiralin feed screw, vertical damper, time scale and pickup.

Accessory Equipment, which may be added to the 6-N Recorde if desired, includes the 160-A automatic equalizer and the 125- microscope. A wood cabinet may be substituted in place of carrying case at additional cost.

PORTABLE PRESTO STATIONARY
SOUND RECORDING EQUIPMENT

PRESTO MODEL "Y" RECORDER



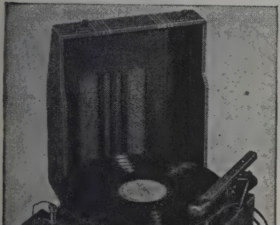
The PRESTO model Y recorder fills the need for a 16" transcription recording and playback equipment which is extremely portable and yet capable of producing high grade recordings. It makes continuous 15 minute, 33⅓ RPM electrical transcriptions of sufficiently good quality to be used by broadcasting stations. It also makes 78 RPM recordings on 6", 8", 10" or 12" discs and may be used to cut 11½", 13½" and 17¼" master recordings from which commercial pressings are produced. In addition to recording, the model Y gives excellent reproduction of both electrical transcriptions and phonograph records and is widely used for auditioning recorded radio programs to prospective sponsors. As a public address system it will provide sound for audiences up to 1000 persons.

Among the important features of the model Y recorder are:

1. The exclusive Presto rubber-rimmed-turntable driven directly by a steel pulley on the motor shaft, a simple, foolproof drive system that eliminates vibration and holds the turntable speed absolutely constant. Maintenance is negligible. There are only two moving parts which need replacement about once a year.
2. A lever changes the turntable speed instantly without stopping the table or removing the record.
3. A lever adjusts the cutting mechanism to cut either from the outside of the disc toward the center or from the center out.
4. A cam lever lowers the cutting head gently on the record preventing accidental damage to sapphire needles.
5. A vibration damper attached to the cutting head suppresses vertical modulation in the record groove and eliminates variation in groove depth due to surface irregularities in the disc. The damper also eliminates flutter when the records are played with pickups having a resonant peak in the low frequency range.
6. The cutting arm may be unlocked from the feed mechanism to cut spiral starting and runout grooves.
7. A time scale on the cutting arm shows the starting point for each size record and elapsed recording time at both 78 and 33⅓ RPM.
8. The cutting head feed mechanism is located beneath the turntable where it is protected from dust or accidental damage. The parts of this mechanism are hand finished and fitted and its performance is equal in every way to the overhead lathe type mechanism commonly used.
9. The recording amplifier includes a two microphone mixer, high and low frequency equalizers and a change-over switch for continuous recording or re-recording. The amplifier and loudspeaker fit together to carry in a single case.

Y-2 Recorder ....
Y-4 Recorder (low impedance inputs)...........................

PRESTO MODEL "L" TRANSCRIPTION PLAYBACK



This equipment is designed for radio stations, advertising agencies and program producers, who demonstrate recorded programs at the offices of prospective clients.

Salesmen who use the Model L Playback will particularly appreciate its attractive, workmanlike appearance, its small size and light weight which make it extremely easy to carry, its simplicity which makes it possible to set up for operation within a few seconds and the remarkably clear, wide range reproduction . . . far superior to that ordinarily expected from portable equipment.

The Model L Playback was developed to meet an insistent demand among the larger broadcasting stations and agencies for "something better" in portable reproducing equipment. Those who use the Model L Playback in connection with important sales of station time and programs will consider its exceptional performance well worth its cost.

L-2—Portable transcription playback ....

PRESTO MODEL "K" RECORDER

The Presto model K is a portable sound recorder, record player and public address system complete in a single carrying case. Exceptionally light and compact, it is ideally suited to the needs of sales training and industrial schools, teachers of speech, music and dramatics, as well as professional actors and musicians who require an instrument that can be carried easily and set up for operation in a few minutes time.

The model K records 15 minutes continuously at 33⅓ RPM on one side of a 13¼" disc. It may be connected to any home radio set to record complete radio programs. It also makes 6, 8, 10 and 12 inch records, and plays all makes of phonograph records. As a voice amplifying system it will serve audiences of about 500 persons.

Although it is the lowest priced complete Presto recorder, it contains many valuable features of the more expensive instruments such as:

1. A magnetic cutting head and pickup, the design used in the highest grade equipment.
2. A full sized, 6 tube amplifier having push-pull triodes in the power stage.
3. A high frequency equalizer for 33⅓ RPM recording and a tone control for suppressing needle scratch when commercial records are played.
4. A safety cam lever for lowering the cutting head to prevent accidental damage to sapphire needles.
5. A detachable, dynamic loudspeaker which may be operated at any desired distance from the recorder.
6. A cutter feed mechanism located beneath the turntable where it is protected from dust or accidental damage.
7. Provision for quick change from cutting outside-in to inside-out.
8. The exclusive Presto rubber-tired turntable driven directly by a pulley on the motor shaft, a drive system that eliminates rubber pulleys and belts which are subject to rapid wear. Turntable speed may be changed in 5 seconds from 78 to 33⅓ RPM by removing a brass pulley on the motor shaft.

These features, not found in any other low-priced recorder enable the user to make high quality recordings, consistently. They simplify the operation of the instrument for non-technical owners and reduce operating costs by preventing spoilage of discs and needles. As a result of its excellent performance, more Presto model K recorders are now used by schools, industrial concerns and in the home than any other recorder in a similar price range.

K-8—Complete Recorder less microphone and stand.

WORLD'S LARGEST MANUFACTURERS OF RECORDING EQUIPMENT AND DISCS

PORTABLE **PRESTO** STATIONARY

SOUND RECORDING EQUIPMENT

PRESTO DISCS AND NEEDLES

FOR COMMERCIAL, EDUCATIONAL AND HOME RECORDING

PRESTO GREEN LABEL DISCS—ALUMINUM BASE

(All sizes packed in boxes of 30 discs)

Type	Size	Thickness	List Price ea.	Code
611-A	11⅞″	.052″	$1.80	ELVET
613-A	13¼″	.052″	2.25	THYRT
616-A	16″	.056″	2.25	SIHEV

PRESTO OVERSIZE MASTER DISCS—ALUMINUM BASE

(All sizes packed in boxes of 20 discs)

Type	Size	Thickness	Size of Pressing	List Price ea.	Code
623-A	13½″	.066	11⅞″	$3.05	TRIOS
627-A	17¼″	.066	16″	4.90	SEVYT

PRESTO ORANGE LABEL DISCS

(Medium Aluminum Base—Overall Thickness .036″)

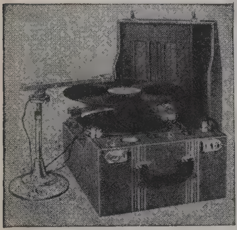
Type	Size	List Price, ea.	Code (Box of 10)
306-A	6½″	$0.35	ORSIN
308-A	8″	.50	ORBAL
310-A	10″	.75	ORCAR
312-A	12″	1.00	ORDEL

MONOGRAM DISCS

Economical composition base, but same coating as Green Seal discs. Overall thickness .050″.

Type	Size	List Price, ea.	Code (Box of 50)
706-A	6″	$0.20	MABEL
708-A	8″	.35	MANOR
710-A	10″	.50	MASEY
712-A	12″	.70	MATAX
716-A	16″	1.50	MATUD

Type 300-A Re-Recording Equipment



The type 300-A re-recording equipment consists of an auxiliary turntable, which mounts on top of the recording turntable and an external pickup mounted on a pedestal. For re-recording or dubbing the 300-A equipment has several important advantages over a separately driven turntable. 1) The rotation of the recording and playing tuntable is locked together so that the playing time and pitch of the duplicate record are identical with the original. 2) No wows or wavers can be introduced during the re-recording since any variation in speed will occur simultaneously on both tables. 3) It is less expensive than a second complete turntable.

The 300-A equipment may also be used with the Presto model K-8 recorder to play 16″, 33-1/3 RPM electrical transcriptions.

Standard Equipment: The complete 300-A equipment consists of a 140-A turntable, 141-A magnetic pickup and 142-A pickup pedestal. **Frequency Response:** Pickup 70 to 7,500 cycles. **Impedance:** Pickup 2,000 ohms. **Finish:** Gray enamel. **Shipping Weight:** 25 lbs. (11 kg.).

Type	Description	Price	Code
300-A	Complete re-recording equipment............		RUBAB
140-A	Turntable, only		RUCEL
141-A	Pickup, only		RUFFE
142-A	Pickup Pedestal, only		RUTAR

PROFESSIONAL CUTTING AND PLAYING NEEDLES

Cat. No.		List Price	Code
603-A	Short Dural shank sapphire cutting needle.	$ 8.00	PABST
604-A	Long Dural shank sapphire cutting needle..	8.00	PACEL
806-A	Resharpening sapphire cutting needle........	3.00	PADIM
631-A	Disclube, pint (Record Preserver)..............	2.50	PAMUS

COMMERCIAL, CUTTING AND PLAYING NEEDLES

Cat. No.		List Price	Code
320-A	Short Sapphire cutting needle....................	$ 6.00	DABAC
321-A	Long Sapphire cutting needle.....................	6.00	DABIT
806-B	Resharpening Sapphire Point......................	2.50	DACEL
330-A	Short Stellite cutting needle......................	2.00	DADUS
331-A	Long Stellite cutting needle........................	2.00	DADAR
807-A	Resharpening Stellite Point........................	.75	DAFFE
420-A	Sapphire playing needle.............................	1.25	DAUVE
440-A	Red Shank Steel playing needle (pkg. of 25)	.25	DAVID
440-B	Red Shank Steel playing needle (carton, 40 pkg. of 25)..........................	10.00	DAWES

NEW PACKING

Six Needles Per Carton

Each Presto cutting needle is packed in an individual Lucite container having a chuck that holds it tightly in place to prevent damage. An addressed mailing bag is furnished for sending the needle to Presto for resharpening. Standard shipping cartons contain six cutting needles.

Type 75-A Recording Turntable

The lightest 16″ dual speed recording turntable made. Recommended for all services requiring a high grade portable recorder. Widely used by broadcasting stations that record local news events for delayed broadcasts; a rugged, compact recording installation for mobile pick-up units.

Standard Equipment: The equipment consists of a 16″ cast aluminum turntable, carefully machined to dynamic balance, weighing 10 lbs. It revolves on a single ball bearing at the base of a bronze shaft well. A heavy live rubber tire on the rim of the turntable engages with a steel, step-pulley on the motor shaft to drive the table. The motor is suspended by rubber grommets in a carriage which is moved up or down by a lever to change the turntable speed. The motor drive and turntable are mounted in a cast aluminum base designed to combine extreme rigidity with light weight. The cutting mechanism consists of a fan gear, worm and pinion driven by a worm on the turntable shaft. The 1-C high fidelity cutting head, 171-A vertical damper, 21-A time scale and 150-C lateral pickup are included as standard equipment. The 75-A table is mounted in the 2A carrying case. The 75-B turntable is mounted in the 3-A cabinet.

RECORDS MAGNETICALLY on Stainless Steel Wire

Plays Back 100,000 Times with No Loss of Tone Quality

- *Saves time — multiplies results — eases work*—in Dictation . . . Educational and Industrial Training Programs . . . conference reporting, intercommunications, sales meetings, sales presentations . . . broadcasts, etc.
- Records voice, music, radio programs. Records and reads back dictation with incomparable clarity. Permanently preserves records in small filing space — or automatically erases as corrections or new sound is recorded.
- Provides a new technique in handling business conferences, training programs, inter-office and field conferences. Ideal also for voice, music, telephone operator and other training . . . for recording police and court cases.
- CONVENIENT! Operates by remote control or microphone. Transcriber can operate Recorder either by foot control or by switch on typewriter . . . Can also be supplied with 2-way telephone pick up.

PEIRCE WIRE RECORDERS

WAR-TESTED IN HUNDREDS OF INSTALLATIONS . . . *Now available*—**in the new heavy-duty, remote-control, multi-purpose, postwar-engineered Model 55B**

NEW MODEL 130 RTL
RADIOTECHNIC LABORATORY
TUBE CHECKERS
Now Available

Backed by a distinguished war experience with hundreds of successful installations for land, sea and air use — the new Peirce 55B Wire Recorder is the undisputed leader in its field.

Recording is done magnetically on .004" diameter stainless steel wire, providing up to sixty-six minutes of continuous recording on one spool of wire. Recording may be filed permanently, read back thousands of times, or erased automatically as new recording is put on. Economical—recording wire may be used indefinitely, as there is no wear.

Extra microphones and mixer make possible recordings of conferences of any size, with high-sensitivity reception and amplified play-back. Corrections may be dictated at will, erasing previous matter. Spool may be removed instantly to secretary's machine for foot-controlled play-back and typing, using speaker or confidential head phones.

Patented level winder distributes the wire evenly on the spools in recording, play-back and re-winding. The dials guide and control dictation, finding and correction. Jacks permit plugging in high fidelity speaker or direct connection to radio set.

Size of unit 11" x 8" x 12¾": weight only 30 lbs; in silver gray lacquered, welded steel case with carrying handle.

Write for prices and name of nearest distributor. . . .

Some territories still available for qualified distributors in the educational and industrial fields.

PEIRCE WIRE RECORDER CORPORATION

1328 SHERMAN, EVANSTON, ILL. - - PHONE: DAVIS 1328

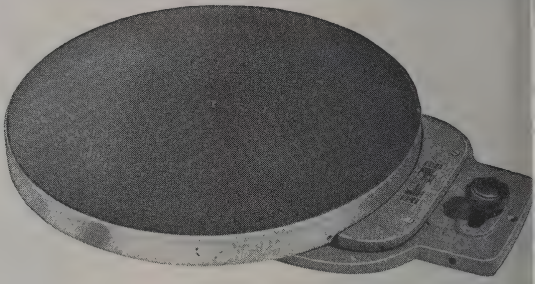
MASTER-PRO

MODEL G-2 TRANSCRIPTION TURNTABLE

with the

"Mastermatic"

SEMI-AUTOMATIC SPEED SHIFT



MATCH THIS PROVEN FIELD PERFORMANCE

1. STARTING—Smooth and fast. From a standing start to full speed a 78 rpm requires ¾ of a turn—33⅓ ¼ of a turn.
   A WE 9a pickup will not jump its groove from a standing start or durin the shift in speed from 33 to 78 rpm while the turntable is revolving
2. CUEING—A 151/2" turntable allows the transcription record to overla ¼", permitting the operator to cue from the rim of the disc instea of the face.
3. SPEED—Maintains a constant speed that betters the ½ of 1% regulatio required by the NAB.
4. NOISE LEVEL—45 DB below maximum recording level.

V-M2 RECORDING LEVEL METER

Mounted in an unbreakable, cast aluminum case, styled for appearance as well as utility the VM-2 RECORDING LEVEL METER takes recording out of the hands of the expert.

VM-2 recording level meter utilizes an entirely new principle of visual control at the point of recording . . . Assures professional recording by the artist himself, so that each recording is made in the artists own distinctive style.

The VM-2 RECORDING LEVEL METER is wired to operate from the output of an 8, 15, 200, or a 500 ohm amplifier.

COM
REK-O-KUT
NEW YORK
CUTTER
MADE IN U.S.A.
500 Ω
NEW YORK
MODEL T-45

T-45 MATCHING TRANSFORME

A HI-FIDELITY TRANSFORMER BUIL TO MATCH THE RC-20 BRUSH HIG FIDELITY CRYSTAL CUTTER.

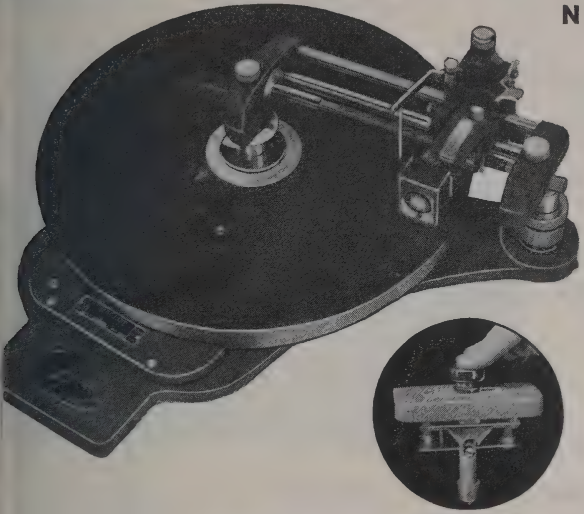
INPUT TAPS OF 8 AND 500 OHMS ENABLE THE USER A CHOICE O TAPPING HIS HIGH IMPEDANC CUTTER ON THE VOICE COIL O 500 OHM LINE OF HIS AMPLIFIER.

Things to Come:

Due to lack of time we could not get all our other items into these pages. Write for catalog sheets today on new things and things to come.

REK-O-KUT COMPANY

MASTER-PRO



NEW MODEL "V" 16" RECORDING TURNTABLE

with the

"Mastermatic"

SEMI-AUTOMATIC SPEED SHIFT

Rekokut's answer to the demand for a semi-automatic, self-locking speed shift.

SMOOTH • SIMPLE • POSITIVE

Requires one finger to operate.

This is How it Works:

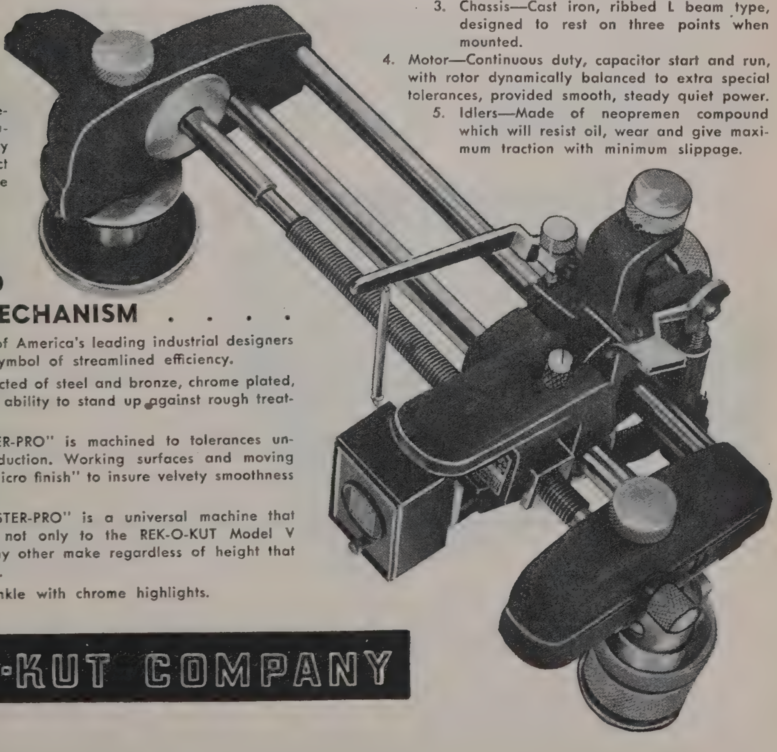
1. Press the control knob down.
2. Slide to the left for 78 or to the right for 33⅓. Your turntable is now turning at its proper speed.
3. Chassis—Cast iron, ribbed L beam type, control knob back to neutral.

Model "V" Outstanding Features

1. Turntable — Lathe turned and balanced. Made of laboratory tested aluminum alloy casting.
2. Turntable Shaft—Ground to a micro finish and lapped into the bearing for a precise fit.
3. Chassis—Cast iron, ribbed L beam type, designed to rest on three points when mounted.
4. Motor—Continuous duty, capacitor start and run, with rotor dynamically balanced to extra special tolerances, provided smooth, steady quiet power.
5. Idlers—Made of neopremen compound which will resist oil, wear and give maximum traction with minimum slippage.

★

e "MASTER-PRO" is pre-
sely machined, meticu-
usly inspected and rigidly
sted to give you a perfect
oduct, one you will be
oud to own.



M-5 OVERHEAD ECORDING MECHANISM . . . .

STYLE—Styled by one of America's leading industrial designers
e "MASTER-PRO" is a symbol of streamlined efficiency.

RUGGEDNESS—Constructed of steel and bronze, chrome plated,
ssures long wear and the ability to stand up against rough treat-
ent and abuse.

QUALITY—The "MASTER-PRO" is machined to tolerances un-
eard of in pre-war production. Working surfaces and moving
arts are polished to a "micro finish" to insure velvety smoothness
nd positive operation.

FLEXIBILITY—The "MASTER-PRO" is a universal machine that
an be readily attached not only to the REK-O-KUT Model V
ecording Table but to any other make regardless of height that
as a standard center pin.

FINISH—Blue-gray wrinkle with chrome highlights.

REK-O-KUT COMPANY

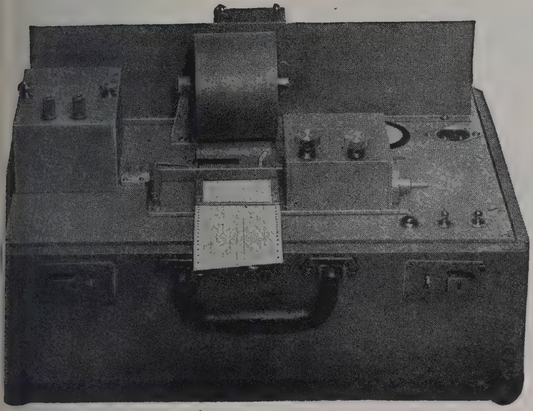
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

Automatic High Speed

POWER LEVEL RECORDER MODEL PL



THE FASTEST RECORDING INSTRUMENT ON THE MARKET

Designed especially for acoustical measurements such as reverberation time, sound decay, sound absorption, but also ideal for vibration and noise measurements. Also applicable to current and voltage measurements.
The recording is on a 2″ chart and can be made either on a logarithmic (db) or linear (current/voltage), or on a loudness (phon) scale. Two writing and two chart speeds.

●

Write for descriptive bulletin

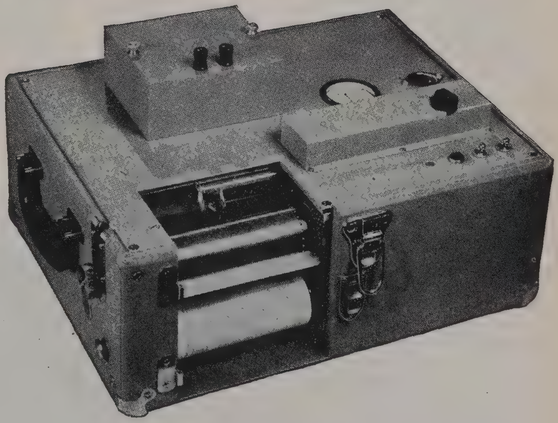
Automatic Frequency

RESPONSE RECORDER MODEL FR

or drawing automatically and ac-
urately the frequency characteristic
f any audio apparatus or complete
nstallation.
″ chart; ink-writing. Applicable to
oltage and current measurements,
ound intensity, vibration, etc.

●

Full technical data given in our bulletin "Sound Advances."



SOUND APPARATUS COMPANY

233 BROADWAY • NEW YORK 7, N. Y.

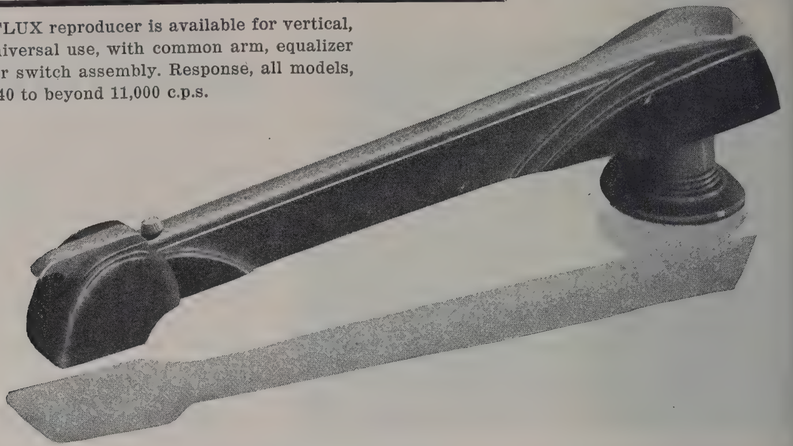
Specialists in Designing and Manufacturing of Graphic Recording Instruments

PARA-FLUX REPRODUCERS

Ideally Suited For . . .

- ★ AM-FM BROADCAST STATIO
- ★ RECORDING STUDIOS
- ★ WIRED MUSIC COMPANIES
- ★ THEATRES AND FACTORIE
  THAT UTILIZE RECORDING

The PARA-FLUX reproducer is available for vertical, lateral or universal use, with common arm, equalizer and equalizer switch assembly. Response, all models, linear from 40 to beyond 11,000 c.p.s.



PARA-FLUX reproducers set a new high standard for performance, flexibility and dependability. They are well suited for use wherever the most realistic reproduction of transcriptions is necessary. Among the outstanding design and construction features are found:

HIGH OUTPUT:	**1 MW Ref. Level**	**6 MW Ref. Level**
Vertical Head	—43 db	—50 db
Lateral Head	—53 db	—60 db
Universal Head	—53 db	—60 db

PLUG-IN HEAD: Vertical, lateral and universal heads use same arm and equalizer. Head can be removed and replaced in a few moments by means of plug connection.

LONG RECORD LIFE: Extremely low mass of moving element (only 22 milligrams) insures longer record life. Stylus pressure, all models, is 35 grams (carefully factory adjusted).

DIAMOND STYLUS: Selected diamond points, highly polished and finished to tolerances of 1/10,000 inch!

VARIABLE OUTPUT IMPEDANCE: 30, 250 and 500/600 ohms.

DESIGNED FOR CUING: "Hair-Line" indicator on head and precise stylus construction make accurate cuing possible and permit "back-tracking" without damage to record or head.

RUGGED CONSTRUCTION: So designed that no damage will result if reproducer is accidentally pushed across recording. A graceful finger lift prevents reproducer from slipping when lifted off the transcription.

The PARA-FLUX reproducer is delivered completely assembled, ready for use. It comprises the head (your choice of lateral, vertical or universal), arm and equalizer and switch.

UNIVERSAL HEAD MODEL UL-1DA: For superior performance where both lateral and vertical reproduction is required from the same unit. Selected diamond stylus has 2 mil. radius. Design is such as to permit useful output should lateral transcription be started while equalizer is accidentally left in a vertical switch position, and vice-versa.

NET PRICE SCHEDULE

Complete Assembly

Comprising head, arm, equalizer and switch and detailed instructions:

With Model UL-1DA Universal Heal	**$166.50**
With Model VL-1DA Vertical Head	**$150.00**
With Model LL-1DA Lateral Head	**$120.00**

Heads Only

Universal Model UL-1D	**$112.50**
Vertical Model VL-1D	**$ 97.50**
Lateral Model LL-1D	**$ 67.50**

Replacement Heads

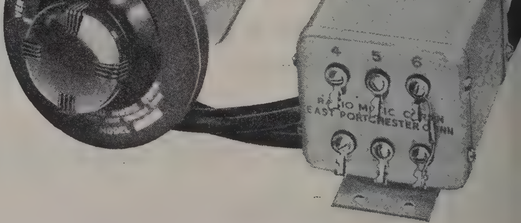
To insure uninterrupted service and economy to the user, worn or defective heads need only be returned to the local jobber who will make an immediate exchange for a factory rebuilt unit at the nominal charge of $35.00.

VERTICAL HEAD MODEL VL-1DA: Provides maximum in quali
of reproduction from vertical ("hill and dale") recordings, wh
discriminating against lateral response. The diamond stylus has
2 mil. radius.

LATERAL HEAD MODEL LL-1DA: Designed to provide the mo
advanced quality in lateral reproduction, while discriminating agai
vertical response. Stylus has 2.5 mil. radius.

REPRODUCER ARM MODEL A-16: Die-cast aluminum arm, swi
ing on a radius for 16″ records, makes use of unique and exclusi
(patent pending) friction-free bearings that insure less side-of-groo
wear; no oiling, cleaning or adjusting necessary. Counterbalan
keeps stylus pressure at 35 grams. Height adjustment permits ada
ing arm to any turntable platters in use. Finished in blue-gr
aluminum crackle.

EQUALIZER AND SWITCH MODEL EL-1: Since PARA-FLUX rep
ducers are all linear in response, an equalizer is required to corr
any frequency pre-emphasis used in recording. Model EL-1 equali
is effective with all three types of PARA-FLUX heads. It provi
constant equalization over the full amplitude range of any recordi
Equalizer switch, providing five positions (two for vertical and th
for lateral recordings) is shielded and provided with a 4-foot shield
cable.



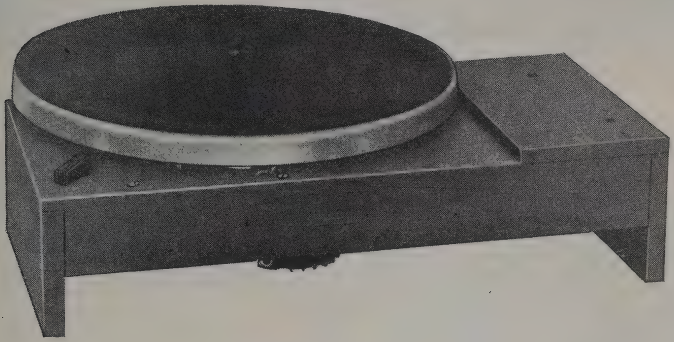
RADIO-MUSIC CORPORATION

Plant
East Port Chester, Conn.

General Sales Office
136 Liberty St., N. Y.

16" TRANSCRIPTION PLAYER 2-SPEED MODEL TP-16

With These Features . . .
- ★ FOR RECORDS UP TO 16"
- ★ 2-SPEEDS, 78 AND 33-1/3 R.P.M.
- ★ CONSTANT SPEED HEAVY DUTY MOTOR. SILENT, SMOOTH OPERATION
- ★ EASY INSTALLATION



Model TP-16—TRANSCRIPTION RECORD PLAYER, precision built and expertly engineered, fills a long-felt need for an efficient, trouble-free unit at a reasonable price. It is especially well suited for use by wired music studios, broadcast stations, and in the home where superior recorded entertainment is required. Records up to and including those 16" in diameter can be played at either 78 or 33-1/3 r.p.m. The following features prove the worth of Model TP-16:

MOTOR: Constant speed type, incorporating oversize bronze bearings. Runs cool (temperature rise only 10° over ambient). Underwriters Approved. Full "floating mount" panel so that no metal touches metal.

Drive wheel and idler have special formula neoprene "tires" that are precision ground for concentricity. These "tires" have natural adhesive properties that result in the turntable being driven with absolutely no slippage. Longer life is assured.

SPEED-CONTROL on panel permits instant selection of 78 or 33-1/3 r.p.m. Switch has center "off" position; when in "off" position, drive wheel and idler are automatically disengaged—this means that no flat spots can develop on the wheels.

16" TURNTABLE embodies special re-enforced construction (patent pending) similar to an automobile flywheel. You get "wowless" performance. Table fits snugly over a specially formed spindle assembly.

1/8" STEEL PANEL, cold rolled and die-formed, is finished in attractive blue-gray crackle.

The entire assembly is shipped in a sturdy wood frame that can serve admirably as a counter display or for permanent installations. There is ample space for mounting a play-back pickup and an equalizer. Finish is dull black lacquer. Installation is a matter of a few minutes.

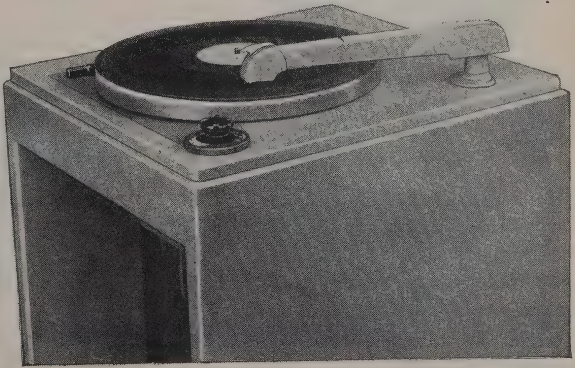
TP-16 TRANSCRIPTION RECORD PLAYER

As described above, complete with wood utility mount and instructions, ready for immediate use. Motor for 105-115 volts, 60 cycles a.c. only (other voltages and frequencies available, prices on request). Overall size, including wood mount, 21½" long, 5½" high, 10" deep; chassis plate 10" x 16".

NET PRICE, COMPLETE.................... **$ 78.80**

CONSOLE MODELS

Special consoles to house the Model TP-16 transcription player and associated equipment such as PARA-FLUX Reproducer and equalizer can be supplied on special order. Details and prices furnished on request.



RADIO-MUSIC CORPORATION

Plant
East Port Chester, Conn.

General Sales Office
136 Liberty St., N. Y. 6

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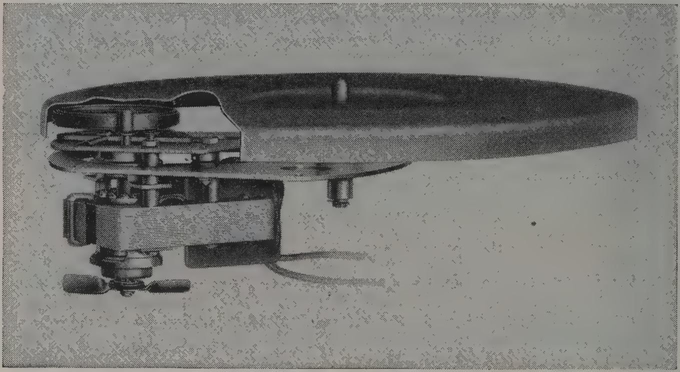
alliance PHONOMOTORS

Motors for driving turntables, record changers, tuning devices

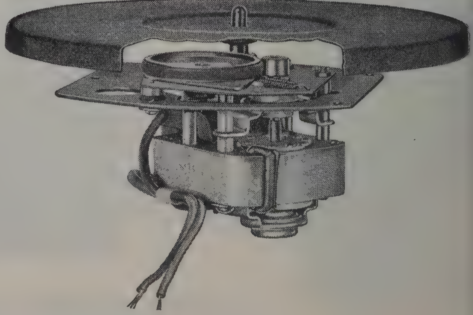


MODEL 80

The famous Model 80 Alliance phonomotor, operating on 110 or 220 volts, is made for 40, 50 or 60 cycles, 16 watts input, 78 RPM. The Model 80 has no gears—runs at an even speed—has a smooth, quiet, positive friction-rim drive. Amply proportioned bearings with large reservoirs assure long life. Motor and idler plate are shock mounted to minimize vibration transfer to turntable and motor board. Forced ventilation gives cool operation—the slip-type fan avoids any possible injury. Mounting plate maintains correct turntable height, regardless of mounting board thickness. Available with 8, 9 or 10-inch turntable tops. Maximum depth below base mounting plate, 2 1/16 inches.

MODEL K *25 CYCLE MOTOR*

Alliance Model K is a 25 cycle companion to the Model 80 phonomotor. It operates on 110 volts, 25 cycles, at 12-watt input. This phonomotor is especially designed for 25 cycle operation. It has all the advantages of the popular Model 80. The mounting may be interchanged without any sacrifice in performance. Motor and idler plate are shock mounted to cabinet mounting plate for low vibration transfer to the turntable and motor board. Available in 8 or 9 inch turntable sizes only. Maximum depth below base mounting plate, 2¼ inches.



alliance
Powr-Pakt MOTORS

Miniature Motors mass produced for every need

MODEL K

ides powering the Model K phonomotor, Alliance Model K Powr-t Motors are ideal power sources for driving a multitude of er devices, controls and mechanisms. It can be used to power s, movie projectors, toys, motion displays, switches and control ems, business and vending machines, and will open or close ves or vents in heating systems. Here is a shaded pole induction e motor which is the last word in efficient design. Mass produced, cision made, and available at low cost in quantities, this motor be incorporated in many devices.

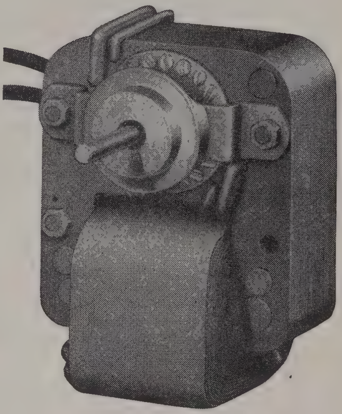
MODEL K SPECIFICATIONS

117 V—60 Cycle—Cont. Opening Rating—50° C. Rise—No Fan

k Thickness, Inches	.800	1.000	1.200
ked Amps.—Cold	.68	.75	.82
ked Watts—Cold	36.0	41.0	46.0
rting Torque—Oz. In. Cold	1.5	1.9	2.5
Amps.—Hot	.52	.54	.56
Watts—Hot	22.0	23.0	25.5
R.P.M.—Hot	3450	3450	3450
Load Amps.	.57	.60	.65
Load Watts	28	32	36
Load Horsepower	.0068	.0085	.0100
Load Torque Oz. In.	2.4	2.9	3.5
Load—R.P.M.	2900	2900	2900
erall Dimensions, Exclusive of Take Off-Shaft Extension 3 3/16″ x 2⅜″ x	2⅛″	2 5/16″	2 35/64″
ight	1 lb. 12 oz.	2 lb. 2 oz.	2 lb. 8 oz.

or Shaft—Centerless Ground .171″ Diameter

rings—Graphite Bronze Oilless Type; Self-Aligning, Amply proportioned.



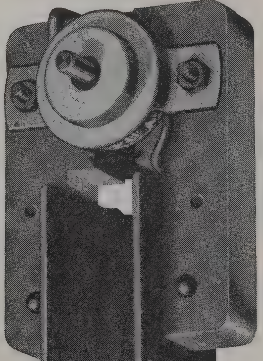
MODEL K

The new Model K full-size motor measures 1/8 inch x 2 3/8 inches x 3 3/16 inches.

MODEL MS

e Alliance Powr-Pakt Model MS Motor is for 110 volt, 60 cycle eration. Here is a truly miniature power plant, so compact and ht in weight that it can be used where many designs call for ilored power". The Model MS has been developed to fill the owing need for small power to increase the motion and utility atures of thousands of new products!

ECIFICATIONS—Draws about 25 watts at 3000 R.P.M. no load. The speed 2500 to 3000 R.P.M. depending on frequency and load. Develops about 06 h.p., 5/32 inch diameter, centerless, round steel shaft. Has latest type aphite bronze oilless bearings, self-aligning and amply proportioned. otor measures 1¾ inches x 2 inches x 3⅛ inches.



MODEL MS

GARRARD GARRARD

The new GARRARD Model RC60 Record Changer is a radically improved design, incorporating all the scientific developments and technical knowledge acquired during the war years. Yet, the RC60 retains all the time-proven GARRARD features, which so many others now proclaim as "new".

Through the years, GARRARD users have learned that they can depend on this superior mechanism to give them quiet, efficient, trouble-free performance. Built **up** to a standard, not **down** to a price, GARRARD offers today, as always, several exclusive features not found elsewhere.

GARRARD'S speed-regulated, governor-controlled motor is built to give powerful, regular running. It is the finest motor of its type and runs silently without vibration or speed variation. It is fitted with patented governor and phosphor bronze bushings and fittings are used throughout. GARRARD'S speed regulator makes it possible to adjust the turntable for perfect speed (78 rpm), or to retard or accelerate the tempo of any record.

The RC60 is a "mixer" changer. It plays both 10″ and 12″ records intermixed in any assortment, any combination. There are no buttons to push or switches to throw. It is entirely automatic.

GARRARD'S non-slip spindle is another **exclusive** feature. This spindle prohibits slipping and skidding between records, thus eliminating wows and watery reproduction.

The RC60 is available with either one of three excellent pickups. One is the GARRARD **Magnetic** pickup (high impedance). This pickup is a high quality pickup using conventional needles of the interchangeable type, or may be fitted with permanent needle by the user. For those who prefer a low pressure Crystal Pickup, this is also available, either with permanent stylus or with cartridge for replaceable needles. Specify pickup desired, when ordering.

All GARRARD pickups designed for use with r placeable needles are supplied in the new GARRAR swivel head which rotates to make needle inserti easy. All GARRARD pickups are interchangeab with one another.

With superior parts and craftsmanship, the GA RARD changer costs a bit more, initially. Over th normal life, it is most economical because of efficienc of operation and lack of servicing.

Minimum cabinet dimensions are 15″ wide x 1 deep x 5½″ clearance above the unit plate and 4½ clearance below the unit plate.

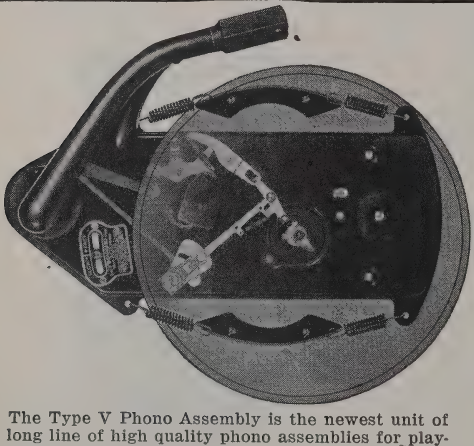
NEW RC60 PRICE SCHEDULE

Model 60/LC—AC Model, 110/130 Volts, 50/60 cycles; with lo pressure Crystal pickup and permanent stylus.
Dealer's Net Price ....$66.

Model 60 LR—AC Model, as above, but furnished with cryst pickup for replaceable needles. **Dealer's Net Price**...............$66.

Model 60/LM—AC Model, as above, but furnished with Garrard's n Magnetic pickup for use with replaceable needles.
Dealer's Net Price ....$66.

Above models available with Universal, AC-DC motor; 110/130 a 200/250 volts, 25/60 cycles. Substitute "U" for "L" when orderin
Dealer's Net Price ....$79.



The Type V Phono Assembly is the newest unit of a long line of high quality phono assemblies for playing single records.

Here again, GARRARD has spared no effort or expense to produce the finest possible player for those who demand the best in record reproduction.

The entire assembly is typically GARRARD in that it features the finest type of phono motor—speed-regulated and governor-controlled. This exclusive feature makes it possible to adjust to perfect speed (78 rpm) or to accelerate or retard the tempo suit the listener.

The Type V Assembly features an entirely ne unique mounting arrangement which represents th first genuine forward step in mounting design. Th "bow" mounting is so efficient that even a blo struck on the motor board will not cause the tone ar to skip or repeat a groove. This is another exclusi feature and another GARRARD **"first."**

The Type V may be had with either of your choi of quality pickups for faithful reproduction. It available either with high fidelity, low-pressure Cry tal pickup with permanent stylus, or with Crysta pickup for use with replaceable needles, or with th GARRARD high impedance Magnetic Pickup for us either with replaceable needls or with a permane stylus of the user's selection. The latter two picku are contained in the new GARRARD Swivel Hea which makes needle insertions easy and convenien

Minimum cabinet dimensions are 15″ wide x 1 deep x 4″ clearance below the motorboard and 3½ clearance above.

TYPE V PRICE SCHEDULE

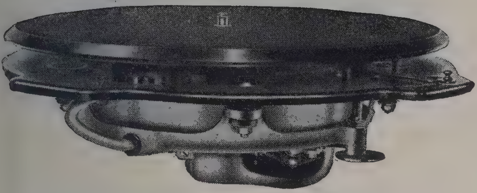
Type V/LC—AC Model, 110/130 volts, 50/60 cycles; with lo pressure Crystal Pickup and Permanent stylus.
Dealer's Net Price $30.0

Type V/LR—AC Model as above but furnished with crystal pick for use with replaceable needles. **Dealer's Net Price**..........$30.0

Type V/LM—AC Model as above but furnished with GARRARD new Magnetic Pickup for use with replaceable needles.
Dealer's Net Price $30.0

Above models available with AC-DC Dual Voltage—Universal- 110/130 and 200/250 volts, 25/60 Cycles.
Dealer's Net Price $43.0

GARRARD GARRARD



The new GARRARD 201-V two-speed motor is the new and improved model of our internationally famous 201T. It is now offered in its latest trouble-free form exactly as produced for the U. S. Navy and British Admiralty during the War.

The governor-controlled motor operates at either 33-1/3 or 78 rpm with absolute constancy and without waver or rumble. It is ideally suited for use where truly superior reproduction is desired.

Because of its extra-heavy rotor, which is slow-running, the resulting torque makes this motor amazingly smooth and silent. In sheer performance, it is the finest we have to offer. It is a self-starting induction type unit and is fitted with the patented GARRARD governor to insure perfect regularity.

The 201-V is equipped with Speed Regulator by means of which a wide range of speeds is possible—as well as perfect adjustment at 33-1/3 or 78 rpm. This regulator is on an extension arm so that 16″ records can be speed-controlled.

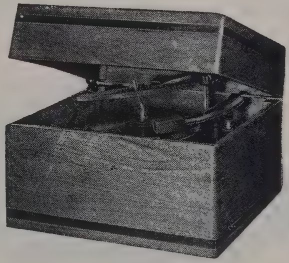
MODEL 201-V—Two speeds, 33⅓ and 78 rpm; dual voltage, AC-110/130 and 200/250 volts, 40/60 cycles.

Dealer's Net Price **$54.00**

GARRARD Carrying Cases and GARRARD Table Model Cabinets are made especially for us, to our standards.

The Carrying Case is of solid wood throughout and is covered with finest procurable alligatory type material. Sewn leather edges run **completely around** the case. The Hardware used is the very finest and it has two locking snaps, with keys.

The Table Model Cabinet is a hand-finished case finished in striking mahogany. Its appearance is that of a high quality piece of furniture, and it makes possible the easy creation of "Combinations."



PRICE SCHEDULE

MODEL CC1—Carrying Case with Motor Board uncut. **Dealer's Net Price** **$18.50**

MODEL CC6—Carrying Case with Motor Board cut out to accommodate GARRARD Model RC60 Record Changer.
Dealer's Net Price **$18.50**

MODEL TM1—Table Model Cabinet with Motor Board uncut.
Dealer's Net Price **$25.00**

MODEL TM6—Table Model Cabinet with Motor Board cut out to accommodate Model RC60 Record Changer.
Dealer's Net Price **$25.00**

WEBSTER CHICAGO

RECORD CHANGERS

MODEL 56

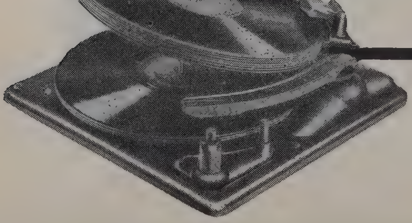
Shuts Itself off

AFTER LAST RECORD HAS PLAYED

Model 56 is a single-post, automatic record changer, with stainless steel spindle—cushioned to protect records. It shuts off automatically after the last record has played. It is noted for its excellent performance and fidelity of reproduction. Changes ten 12-inch or twelve 10-inch records automatically at one loading. Will play home recordings or inside-out records manually. Model 56 changes warped or chipped-edge discs, yet assures maximum protection to the finest discs. Featherlight vertical and horizontal needle pressure. Changes records quickly—about 4 seconds—and quietly. Heavy-duty 4-pole motor and copper-flashed steel operating parts give added length of service. Equipped with velocity trip—does not require eccentric grooves in records to operate changer mechanism. Webster improved rim drive gives smooth, even power — with minimum wow and rumble. Model 56 is made for manufacture or replacement. Quick, easy installation is made from top of machine. Finish: Baked enamel. Color: Harmonizing brown. Electric Current: 105-125 volts 60-cycle AC (Can be adapted to 50-cycle operation by substituting drive sleeve No. 17X412-4).

Physical Specifications: 14"x14"x9"—2½ inches below main plate, 6½ inches above with a full stack of records.

Shipping Weight: 18 lbs.



Compact Efficient

Physical Specifications: 12"x12⅞"x9" — 2½" below main plate, 6½ inches above, with a full stack of records.

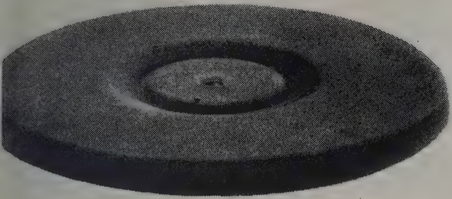
Shipping Weight: 15 lbs.

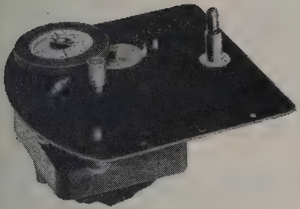
MODEL 50

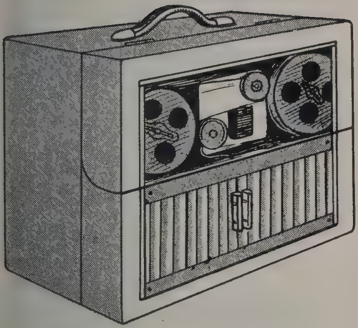
Model 50 is designed for use in smaller radio-phone combinations—for replacement or manufacture. It embodies the basic mechanical features of Model 56. Changes ten 12-inch or twelve 10-inch records automatically at one loading. Plays single records manually. Simple 4-way switch controls machine which reproduces records faithfully just as the artists recorded them. Will play old and worn records automatically, yet give maximum protection to the finest discs. Easy to play. Fool-proof mechanism protects the machine—the pickup arm can even be moved while the machine is in change cycle. Dependable Webster 4-pole motor and copper-flashed steel parts assure long operating life. Velocity trip, Webster improved rim drive, and fast change cycle are included in Model 50. Quick, easy installations are made from the top of the machine. Finish: Baked enamel. Color: Harmonizing brown.

Prices on Request

WEBSTER CHICAGO







M-15 PHONOMOTOR AND TURNTABLE ASSEMBLY

Made by the makers of famous Webster Record Changers, this assembly consists of a heavy-duty Webster shaded-pole, 4-pole motor; heavy-pile turntable; and improved Webster rim drive.

Motor: Designed to operate on 105-125 Volt 60-cycle AC and can be made to operate on 50-cycle current by replacing the 60-cycle drive sleeve with a 50-cycle drive sleeve (Part No. 17X412-4). Motor is dynamically balanced for smooth constant speed.

Turntable: Made of heavy-guage steel, 9 inch diameter. Accurately gauged turntable drive rim gives smooth speed and continuous power. Covered with velvet-soft heavy-pile electrostatic flock.

Drive: Improved rim drive allows minimum speed variation, reducing "wow" in the completed record player.

Shipping Weight: 6 lbs.

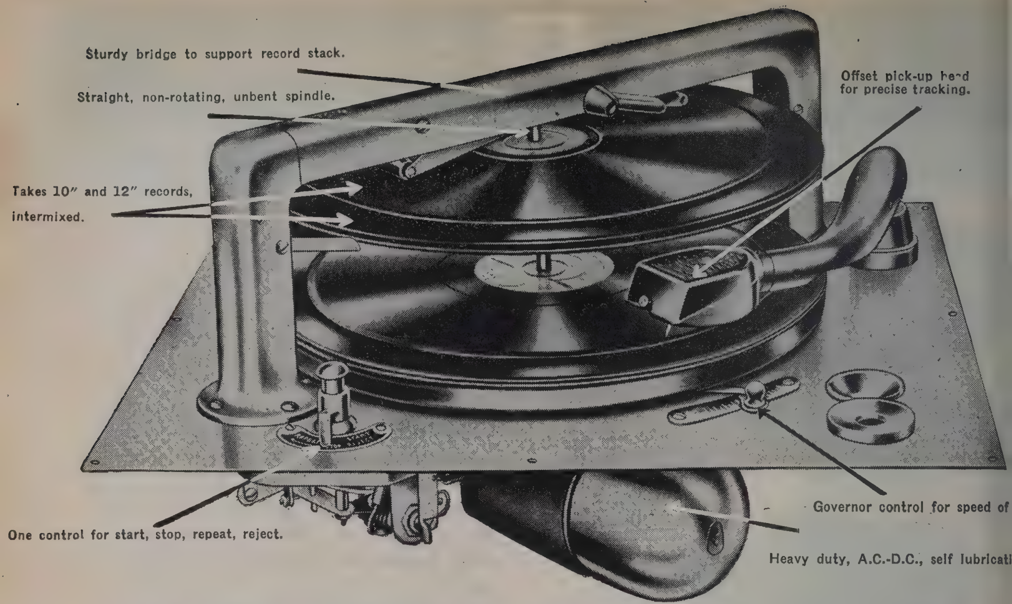
MAGNETIC RECORDERS

Webster-Chicago has been licensed under the Armour Research Institute to produce magnetic recorders. During the war, Webster built wire recorders for the U. S. Navy, and gained valuable experience in the production of this type of equipment. Production of Webster-Chicago magnetic recorders will begin soon. Watch for the announcement.

SEE US
FOR FULL DETAILS

WEBSTER CHICAGO
5610 BLOOMINGDALE AVENUE
CHICAGO 39, ILLINOIS

32 YEARS OF CONTINUOUS SUCCESSFUL MANUFACTURE


Sturdy bridge to support record stack.
Straight, non-rotating, unbent spindle.
Offset pick-up head for precise tracking.
Takes 10″ and 12″ records, intermixed.
One control for start, stop, repeat, reject.
Governor control for speed of
Heavy duty, A.C.-D.C., self lubricati

MICRO-SONIC PRESENTS THE TOPS IN RECORD CHANGERS

No other record changer compares with Micro-Sonic's British-built, automatic record changer. Feature by feature, Micro-Sonic's record changer leads all competitors in the field, according to the findings of a firm of impartial engineers.

Micro-Sonic's record changer is completely automatic; it's action, fool-proof. For instance: restraining the tone arm while a record is being played cannot possibly damage the mechanism. And there are dozens of other features that set Micro-Sonic's record changer apart from all competition.

You owe it to yourself to see this record changer. You will agree that it is "built like a battleship and has the precision of a fine watch." Micro-Sonic's record changer is being demonstrated at the showrooms of the **MICRO-SONIC CORPORATION, 44 West 18th Street, New York, N. Y. Be sure to see it!**

"Built like a battleship . . . with the precision of a fine watch."

MICRO-SONIC
CORPORATION
M

Distinctive FEATURES

1. Records of different sizes, 10″ and 12″, may be played intermixed.
2. Offset pick-up head insures precise tracking.
3. Pick-up does not fall into place; it is gently placed, mechanically, into the outermost record groove.
4. Restraining the movement of the tone arm by force, while the changer cycle is in operation cannot damage the changer.
5. Extreme simplicity in loading and unloading.
6. Positive and fool-proof selection of 10″ and 12″ records by two selecting mechanisms. Micro-Sonic is the only unit with two; all others have one.
7. A straight non-rotating, unbent spindle, prevents record chewing and distortion.
8. Record drops by automatically controlled mechanism on a cushion of air.
9. Tilting does not interfere with performance. Records remain parallel to turntable, and to each other, at all times.
10. Automatically stops at the end of the last record, with pick-up off the record.
11. Repeat, reject, start, and stop incorporated into one control . . . convenient, simple.
12. Playing may be stopped at any point on the record, with no possibility of needle biting into record. Pick-up lifts off record when stop button is pushed.
13. Extremely low scratch level.
14. Super heavy-duty motor has the highest torque of any changer motor on the market.
15. A governor regulates speed of motor, insuring accurate reproduction.
16. A heavy 12″ turntable.
17. Plated changing mechanism remains rust-proof, jam-free, and silent throughout its unusually long life.

44 West 18th Street • New York 11, N. Y. • Phone: WAtkins 9-548

THE RECORDISC CORP.

395 BROADWAY, NEW YORK 13, N. Y., • CABLE ADDRESS: RECORDISC, NEW YORK, N. Y.
EXPORT DEPT.: ROYAL NATIONAL COMPANY, INC., 89 BROAD STREET, NEW YORK

RecorDisc Home Recording Blanks "Snapshots-in-Sound"

There are two types of coatings which may be applied to the surfaces of home recording blanks—cellulose nitrate or ethyl cellulose. Of these two, it has been proved that cellulose nitrate is far superior because of a number of advantages, including high fidelity, life-like reproduction, long wearing qualities, and the ability to withstand age and playback without cracking or peeling. In fact, cellulose nitrate is the specified coating for discs used in commercial broadcasting stations, recording studios, governmental agencies and all other professional assignments. While ethyl cellulose may not enjoy the high rating of cellulose nitrate, it, nevertheless, has a film approved by the Underwriters Laboratories, and affords satisfactory reproduction and playback life.

RecorDisc blanks manufactured for regular stock are coated with cellulose nitrate—the finest that money can buy. Customers are assured of all the results explained in the foregoing paragraph. Made up on special order, and at no increase in cost, is a complete line of RecorDisc blanks employing ethyl cellulose with the U/L approved film. RecorDisc blanks, with either type of coating, are available in the following bases and identifying labels:

ORANGE LABEL

BOND BASE

Designed primarily for the home recording fan, these discs are admirably suited to the average type of amateur transcription, where low price is required. Heavy and firm, with a compo base that is thick, these recording blanks are carefully coated with our standard **RecorDisc** surface compound. Because of their low cost, they are a "party" favorite. Professional nitrate coated.

BLUE LABEL

STEEL BASE

Favored by schools, colleges, conservatories, orchestras, and more advanced home recording enthusiasts. These blanks are uniformly coated over a heavy specially processed, critically inspected steel base. "Blue Label" discs are used for brilliant and consistent reproduction quality, over a wide frequency range. They assure smoothly cut grooves, with surface noises reduced to a bare minimum. They are vastly superior to commercial phonograph records. Professional nitrate coated.

RED LABEL

ALUMINUM BASE

These aluminum base discs, made on heavy .021 aluminum, are coated with the famous **RecorDisc** flawless compound to assure high fidelity reproduction over wide frequency ranges. Comparable in quality to those used by broadcasting stations and professional recording studios, "Red Label" discs have been reduced in size for universal adaptation by those who want professional discs for equipment of non-professional size. "Red Label" discs are created for critical users who require the finest discs available in small sizes. Professional nitrate coated.

ALSO AVAILABLE ON SPECIAL ORDER—RecorDisc perfected ethyl cellulose coated discs, U/L approved.

YELLOW LABEL
Same quality and price as ORANGE LABEL
GREEN LABEL
Same quality and price as BLUE LABEL
BROWN LABEL
Same quality and price as RED LABEL

GRADE	LIST PRICES		
(color code)	6½ inches	8 inches	10 inches
ORANGE LABEL	10¢	20¢	30¢
BLUE LABEL	20¢	30¢	40¢
RED LABEL	25¢	35¢	45¢

RECORDING AND PHONOGRAPH STYLI, NEEDLES AND ACCESSORIES

SAPPHIRE STYLUS

While this type of cutting needle represents a greater initial investment, it has the longest life and produces superior instantaneous recording. The specially lapped sapphire point cuts a clean shiny groove with the lowest surface noise. Ordinarily, these styli can be used for ten hours of recording time. In addition, they may be resharpened, periodically, as many as 15 times. Used extensively in professional recording as well as by the semi-professional and the advanced amateur. Packed in plush lined, individual jewel boxes. List price, each **$6.50**

STELLITE STYLUS

Carefully machined, of a special metal alloy, these needles produce results almost as good as those obtained from the sapphires. Not as fragile as more expensive sapphire styli. Recommended for less experienced recording operators. Packed one to a protective card. List price, each **$1.75**

RECORDISC

"Special QX-5" Recording Stylus

Here is a recording stylus which presents an unbeatable combination in tonal reproduction, top performance, long life and unusual value. Made to our exacting laboratory specifications, it has a filter cutting point and recessed shank for smooth and easy cutting. Precision made of processed and tempered steel, and especially designed for those who seek a very fine but not fragile recording tip. List price, each .... **75¢**

HAND LAPPED STEEL STYLUS

Carefully hand lapped for greater fidelity. Packed one to the protective card. List price, each .... **35¢**

STEEL STYLI

(Nickel Plated Shank)

Recording life of approximately 1 hour each. Packed 4 to a card. List price, **4 for $1.00**

RECORDISC

Sapphire Phonograph Needles

Preferred by the most critical music lovers and discerning artists — for both phonograph records and recording discs. Advanced **RecorDisc** design and features result in higher fidelity, bell-like clarity, greater listening enjoyment, uniform performance throughout playing life, and less wear on the record surface. It has been acclaimed as one of the best needles available today. 7000 plays. List price **$2.50**

TRANSCRIPTION NEEDLES

Scientifically designed to fit perfectly into the grooves of recording and transcription blanks. They have a wide frequency response and unusual tonal brilliance. Wear on records reduced to minimum. 35 in envelope. List price.................... **per pkg. 25¢**

RECORDISC

"Coronet" Phonograph Needles

Clear, clean, brilliant reproduction throughout each musical note. Made from precious metal alloys, with a satin-smooth, noncorrosive tip. Your ears will convince you of the superiority of these needles, and tell you why they are the choice of juke box and record changer owners. May be used on any type of phonograph—electrical or mechanical. 3000 plays. List price.... **$1.00**

RECORDISC

"Imperial" Phonograph Needles

Made to our own special formula, **RecorDisc** "Imperial" Needles provide full tonal range, less scratch and hiss, minimum needle "talk," and longer record life. Uniformly excellent in quality, these needles become an integral part of automatic record changers for which they are an especial favorite. 5000 plays. List price........ **$1.50**

ACCESSORIES

RECORD PRESERVER

This lubricant not only cleanses and preserves the fresh surface, but lubricates the groove to a degree where the improvement in tonal qualities is readily discernible to the ear. List price........ **2 oz. bot., 45¢**

SPECIAL "VOICE LETTER" ENVELOPES

This postage saver mailing envelope has been widely accepted for its low cost, protective features. List price, per thousand (6½ inch size only).................... **$30.00**

MAILING ENVELOPES

Heavy brown Kraft; lined with high test corrugated board; may be sent via Parcel Post or Express with absolute safety. Printed with provision for return address of sender.

For 6½ inch record, list price........ **each 10¢**
For 8 inch record, list price........ **each 12¢**
For 10 inch record, list price.......... **each 15¢**

TURNTABLE LUBRICANT

This **RecorDisc** lubricant is recommended for smooth operation of all parts subject to friction wear. List price........ **per jar, 40¢**

audiodiscs

ALUMINUM BASE RECORDING DISCS

First produced in 1939, Audiodiscs quickly won the acceptance of both professional and amateur recordists. Because of their many superior qualities, these instantaneous recording discs have gained a place of eminent leadership in the recording world.

AN AUDIODISC FOR EVERY RECORDING NEED

RED LABEL AUDIODISCS are standard throughout the recording profession exceeding the professional demands of broadcasting stations, sound and movie studios and other exacting applications when top quality and dependability are essential requirements. Their many exclusive features have given new meaning to high fidelity recording and life-like reproduction. They are the finest discs obtainable.

SINGLE FACE RED LABEL AUDIODISCS have exactly the same fine qualities as standard Red Label and bring real economy to applications requiring but one side. Both sides are coated with the recordable side identified with embossed label.

YELLOW LABEL AUDIODISCS are the popular choice for all general purpose recording. Of high uniform quality, they are designed primarily for commercial recording studios, educational institutions, home recordists and other applications where the super quality Red Label Audiodiscs are not required.

REFERENCE LABEL AUDIODISCS are especially adapted for making test cuts, filing and reference recordings, auditions and equipment adjustments. Their unusually low price gives maximum economy.

BLUE LABEL AUDIODISCS offer the very best in recording quality for schools, homes, amateur and demonstration work. Made of exactly the same materials used in the manufacture of professional type Audiodiscs—except on a thinner aluminum base—these discs have brilliant tone, long-playing life, no audible needle scratch and are of consistent quality.

MASTER AUDIODISCS are the outstanding choice where copies of recordings (pressings) are to be made by the electroplating process. The excellence and consistent quality of these discs are well known to all record processors.

TYPE	Size (in.)	List Price Per Disc	Box Contains
RED LABEL	6½	$ .55	25
	8	.80	25
	10	1.15	25
	12	1.85	25
	16	3.40	25
SINGLE FACE RED LABEL	10	.85	25
	12	1.40	25
	16	2.35	25
YELLOW LABEL	6½	.45	25
	8	.70	25
	10	.90	25
	12	1.50	25
	16	2.70	25
REFERENCE LABEL	10	.70	25
	12	1.05	25
	16	1.90	25
BLUE LABEL	6½	.35	50
	8	.50	50
	10	.75	50
MASTERS	12	2.35	25
	13¼	3.05	25
	17¼	5.10	25
	13¼ S.F.*	2.05	25
	17¼ S.F.*	3.05	25

*Single Face

Prices slightly higher in Pacific Coast and Southwestern Areas.

THEY SPEAK FOR THEMSELVES
audiodisc
. . . they speak for thems
audiodiscs

PROPERTIES THAT MAKE FO AUDIODISC LEADERSHIP

UNIFORM COATING

Audiodiscs' exclusive machine proces produces a smooth flat coating seve thousandths of an inch thick, fre from swirls, waves and "orange peel effect. The depth of the coating i consistent within one-half thousandt of an inch.

LONGER STYLUS LIFE

The homogeneous coating is free fror microscopic abrasive materials an surface imperfection which, in inferio discs, damage cutting points and caus extraneous noises in playback.

SILENT BACKGROUND

Audiodiscs, cut under good recordin conditions are entirely free from aud ible "background scratch."

LONG PLAYBACK LIFE

With correct playing equipment a Audiodisc can be played for more tha a hundred times with no noticeabl increase in surface noise.

BRILLIANT FREQUENCY RESPONSE

These discs are noted for their bril liant high frequency response. Audic discs "speak for themselves" wit quality performance that pleases th most critical recordist.

NO DETERIORATION WITH AGE

A special curing process removes fror Audiodiscs the last trace of volatil constituents. Discs made over six year ago still cut easily and play back pe fectly.

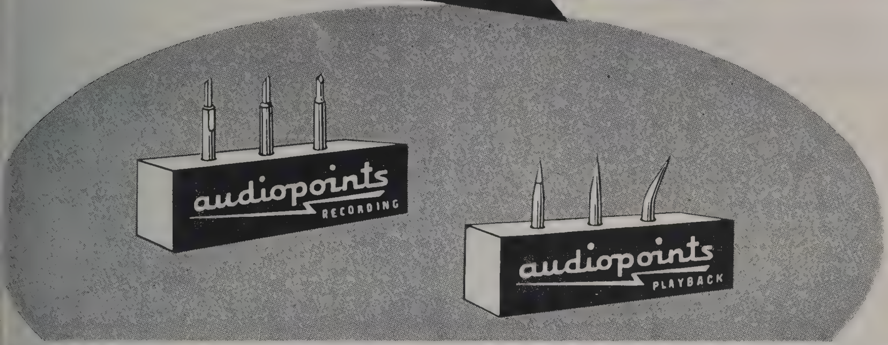
CONSISTENT QUALITY

Audiodiscs are manufactured by unique automatic precision-machin process which assures consistent qua ity. This uniformity is a feature tha helps engineer and amateur attain th highest degree of recording excellenc

GENERAL NOTE:

All Audiodiscs are manufacutred o aluminum base. Red Label discs ar embossed, Yellow and Reference disc have paper labels—Master Audiodisc have no labels. All Audiodiscs hav center-pin holes and three drive-pi holes except Master discs, which hav one drive-pin hole. Lint-free envelope are supplied in the packages of Re Label and Master discs. Other disc are packaged in their envelopes.

audiopoints



MICROSCOPICALLY MATCHED RECORDING AND PLAYBACK STYLI

However excellent a recording disc may be, the quality of sound obtainable from it can be no better than the points used in the recording and playback. For this reason, the producers of Audiodiscs offer a complete line of recording and playback points engineered to bear proper relation to one another. Made by skilled craftsmen and conveniently packaged in cards or boxes, Audiopoints are available in three types of recording styli and three types of playback points.

AUDIO RECORDING POINTS

RECORDING SAPPHIRE AUDIOPOINT No. 14. Intended for use by professional recordists, this Audiopoint produces the best possible recording. The jeweled point with 87° included angle, correct radius and fine polish, cuts a silent, shiny groove for many hours. Each tylus is disc-tested to rigid specifications on a recording machine, thus guaranteeing quality and uniformity. Supplied with snort or ong shank. List Price $7.25 (Resharpening cost $2.90)

RECORDING STELLITE AUDIOPOINT No. 34. A favorite recording stylus with many professional and non-professional recordists. With 87° included angle and correct radius, this point cuts a quiet, shiny groove for several hours. Each stylus is disc-tested on a recording machine. Supplied with short or long shank. List Price $1.50 (Resharpening cost $.75)

DIAMOND-LAPPED STEEL AUDIOPOINT No. 50. Particularly adapted for use by non-professional recordists. Each point when proper used with Audiodiscs, cuts a shiny, quiet groove and gives from 15 to 30 minutes actual recording time. A dozen of these Audi points should thus cut from 60 to 120 faces of ten-inch discs or, of course, a much larger number of smaller size discs. List Price $4.00 (per doz.) A card package, 3 per card, for $1.00

AUDIO PLAYBACK POINTS

PLAYBACK SAPPHIRE AUDIOPOINT No. 113. The materials, workmanship and design make this playback point the finest obtainable. t does the most difficult job a playback stylus can accomplish by reproducing the recorded sound with complete fidelity and minimum disc wear. With proper care, one of these points will play thousands of recordings. (Should not be used on shellac pressings.) List Price $6.50 (Repolishing cost $2.00)

PLAYBACK STEEL AUDIOPOINT No. 151 (STRAIGHT SHANK) List Price $1.25 per 100.

PLAYBACK STEEL AUDIOPOINT No. 154 (BENT SHANK) List Price $1.25 per 100.

The most practical playback points for general use. These points are both well matched to Audio recording styli. No. 151 is for normal weight pickup while No. 154 is designed for use with heavy pickups. One hundred percent shadowgraphed.

E: Audio Devices, Inc. offers a convenient resharpening service which materially reduces cost in the use of Sapphire and Stellite Audiopoints. Each resharpened point is disc-tested. en returning points, care should be taken to package them individually. For this purpose original protective cards are strongly recommended.)

HOW TO MAKE GOOD RECORDINGS

Now in its eighth Printing. "How To Make Good Recordings" is an authoritative handbook on all phases of recording equipment, materials and technique. Profusely illustrated with scores of photographs, charts and drawings. 128 pages in all, with glossary of common recording terms, this book is written in non-technical language that all can understand. . . . Home recordists, teachers, musicians, even sound engineers will find that the information it contains is interesting and useful. . . . To those uninitiated in the art of sound reproduction, "How To Make Good Recordings" gives valuable advice. It covers every phase of instantaneous recording from choosing the right equipment to having fun recording dramatic shows. For the recording enthusiast, "How To Make Good Recordings" is a sound recording "Must." Price—$1.25.

HOW TO MAKE GOOD RECORDINGS

GOULD-MOODY

"Black Seal"

ALUMINUM INSTANTANEOUS RECORDING BLANKS

For the first time in the history of recording blanks, Gould-Moody has developed a formula that will not dry out, and will be as faithful in reproduction after prolonged periods of storage as when originally cut. Head and shoulders above competition, Gould-Moody "Black Seal" blanks have such desirable advantages as engineered center thread action . . . four holes in every disc . . . continued high fidelity through long months of playbacks . . . and greater economy.

Net Prices to Broadcast Stations and Recording Studios

Black Seal Discs

10"	$ .60
12"	.75
16"	1.50

Master Discs

13¼"	$1.35
17¼"	2.25

Single Face Discs

12"	$ .60
16"	1.15

Recoating Aluminum Discs

10"	$ .60
12"	.75
16"	1.20

All aluminum discs sent for recoating must be shipped prepaid. On orders of 25 or more of one size, charges will be prepaid by us when returning them to you.

Accessories

Sapphire Stylus	$3
Stellite Stylus	1
Steel Styli (pkg. of 4)	
Sapphire Playback	1
Steel Playbacks (pkg. of 30)	

Resharpening Service

Sapphire Stylus	$1
Stellite Stylus	
Sapphire Playbacks	1

Note:

All orders shipped direct from factory, fully prepa

All Sapphire and Stellite Styli as well as Playb Needles are supplied in standard short shank (17/ inch) with "flat" unless LONG and/or ROU shank are specified. When these are returned to for resharpening, they are fully tested and inspec before re-shipment to you.

Old Aluminum Blanks recoated wi "Black Seal" formula on short noti

THE GOULD-MOODY CO.
Electronic Division
395 BROADWAY NEW YORK 13, N. Y.

◆

BUY AND HOLD WAR BONDS TILL VICTO

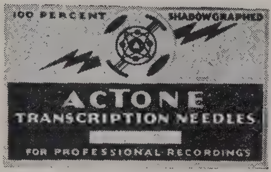
Bagshaw's
NEEDLES

FAMOUS SINCE 1892

AFTER ALL YOU CAN'T BEAT THE BEST

ACTON'S
TAPER-TONE
NEEDLE
No Scratch Long Life
COMPLETELY AMERICAN MADE
12 NEEDLES

Bagshaw's
BRILLIANTONE
RECORDING NEEDLE


100 PERCENT
SHADOWGRAPHED
ACTONE
TRANSCRIPTION NEEDLES
FOR PROFESSIONAL RECORDINGS

	List Price
ACTONE #30 . . . 100% Shadowgraphed	
Packed 30 to pkg., 50 pkgs. to carton	
#130-M (Red Shank) #RF-12-A (Green Shank)	$12.50
ACTONE #100 . . . 100% Shadowgraphed	
Packed 100 to pkg., 25 pkgs. to carton	18.75
BRILLIANTONE STEEL NEEDLES . . . #100	
Packed 100 to pkg., 50 pkgs. to carton	5.00
In tins of 200, Packed 200 to a tin, 10 tins per carton	2.50
BRILLIANTONE BLUE NEEDLES . . .	
Packed 50 to pkg., 50 pkgs. to carton	5.00
BRILLIANTONE STEEL NEEDLES . . . #50	
Packed 50 to pkg., 50 pkgs. to carton	
TAPER-TONE . . . #30 Cartons	
Packed 30 needles to pkg., 50 pkgs. to carton	12.50
#30 . . . Cards Packed 30 to pkg., 25 pkgs. to card	6.25
TAPER-TONE . . . #12 On cards or in cartons.	
Packed 12 Needles to pkg., 50 pkgs. to card or carton	5.00
CUTTING NEEDLES . . . 1 needle to card, 50 cards to carton	12.50
MAESTRO . . . Long Playing . . . 32¢ per each	.32
JUMBO . . . Packed 50 to pkg., 100 pkgs. to carton	15.00
PETMECKY . . . #50 Packed 50 to pkg., 50 pkgs. to carton	
PETMECKY . . . #100 Packed 50 to pkg., 50 pkgs. to carton	12.50

H. W. ACTON CO., INC.
370 SEVENTH AVENUE NEW YORK 1, N. Y.

SOLE DISTRIBUTOR OF *Bagshaw's* NEEDLES, FAMOUS SINCE 1892

W. H. BAGSHAW CO. INC.
EST. 1870
W. H. BAGSHAW CO.

AEROPOINT *Long Life*

HOME PHONOGRAPH NEEDLES

Aeropoint is the long-profit needle line with proven product superiority, backed up by an intensive national advertising program. Aeropoint needles, unique in design, have immediate appeal and the expertly styled point-of-sale displays make them practically self-selling.

AEROPOINT "88" ...the Best

—An impartial Consumers National Testing Laboratory has made tests on numerous phonograph needles and has proclaimed Aeropoint "88" as the *best* of those tested. And it's the *only* needle with a plastic silencer. It's ideal for the new plastic records, too.

Long Life
AEROPOINT 88
Phonograph Needle
UP TO 5000 PLAYS · $1.50

LIST $1.50

- ★ *Exclusive* plastic silencer
- ★ Electronium tip
- ★ Curved Spring Design
- ★ Up to 5,000 plays

AEROPOINT "111"

A competitive needle in the $1 retail market with all the famous Aeropoint features: Curved Spring Design, Electronium tip that virtually eliminates "needle talk."

- ★ Electronium tip
- ★ Curved Spring Design
- ★ Up to 5,000 plays

LIST $1.00

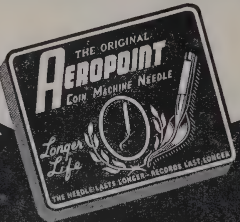
AEROPOINT "250"

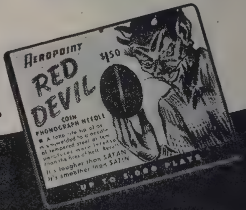
Unequalled even by needles that sell for twice as much. A sapphire jewel set in stainless steel, individually packaged in a beautiful transparent plastic locket.

- ★ Sapphire tip
- ★ Curved Spring Design
- ★ Stainless steel

LIST $2.50

AEROPOINT COIN PHONO NEEDLES


THE ORIGINAL
AEROPOINT
COIN MACHINE NEEDLE
Longer Life
THE NEEDLE LASTS LONGER—RECORDS LAST LONGER


AEROPOINT
RED DEVIL
$1.50
COIN PHONOGRAPH NEEDLE
It's tougher than SATAN
It's smoother than SATIN
UP TO 5,000 PLAYS

AERO NEEDLE COMPANY

619 NORTH MICHIGAN AVENUE · CHICAGO 11, ILLINOIS U. S. A.

Needle Quality

By Bennett

The New BENNETT
CURVED NEEDLE
150
Cushioned Action
Gentle

Curved Masterpiece . . . . . . 1^{50}

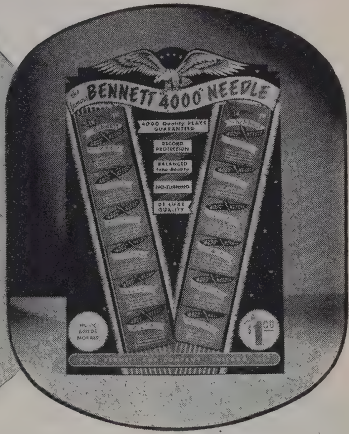
To the Bennett Curved Needle, the needle-buying public has accorded a position of honor. It is a masterpiece of design and engineering. Its cushioned action is unequalled for record protection. Its tone is rich. And its precious metals tipping delivers thousands of plays. Here, indeed, is the finest needle in its class.

12 individually packed needles per display card.
Catalog No. B-150 .... List, $18.00
12 displays per package (1 gross of needles).

The Bennett "4000" Needle 1^{00}

This Bennett $1.00 Needle is a product of excellence. It is very easy on records . . . gives beautiful tone . . . and delivers up to 4,000 plays. You can bank on this Bennett "4000" Needle because it is always in demand.

12 individually packed needles per display card.
Catalog No. B-100 .... List, $12.00
12 displays per package (1 gross of needles).


BENNETT 4000 NEEDLE
4000 Quality PLAYS GUARANTEED
RECORD PROTECTION
BALANCED Tone-Quality
DE LUXE QUALITY
$1.00

The BENNETT "2000" NEEDLE
MORE PLAYS
50¢
THE NEEDLE WITH Balanced Tone

The Bennett "2000" Needle . . **50¢**

This half-dollar needle performs in the manner of higher priced needles. This is because it has the benefit of Bennett engineering and workmanship. It is built to do a top job. And you can be sure this Bennett "2000" Needle will corral a large part of the half-dollar market for you.

24 individually packed needles per display card.
Catalog No. B-50 .... List, $12.00
12 displays per package (2 gross of needles).

PAUL BENNETT & COMPANY
230 East Ohio Street • Chicago 11, Ilinois

DUOTONE Needles

FILTER POINT No. 6

DUOTONE
FILTER POINT

The Filter Point needle is a newly developed needle which actually filters surface noise, yet retains the brilliance of your recordings. The highly polished and rounded point assures smooth movement in the record groove, reducing record wear to a minimum. The needles are hand picked and will play from 12 to 15 records without frequency loss or distortion. The specially designed point is guaranteed not to break when used with any type of record changer.

	List
Package of 10 needles	$ 0.10
Cat. No. 610-B—Carton of 100 pkgs.	10.00
Cat. No. 610-C—Display card of 50 pkgs.	5.00
Package of 25 needles	$ 0.25
Cat. No. 625-B—Carton of 50 pkgs.	12.50
Cat. No. 625-C—Display card of 50 pkgs.	12.50

MIRO-POINT No. 21

DUOTONE
MIRO-POINT
PHONOGRAPH NEEDLE 75¢
PLAYS 2000 RECORDS
HI-FIDELITY • LOW SURFACE NOISE
REFLECTS THE FULL BRILLIANCE OF THE MUSIC

The Miro Point Needle is the "low surface" specialist of the DuoTone Line. Despite this fact it still brings out the highs in a manner never before attained by a needle of this type. Designed to play at least 2000 records the Miro Point is the outstanding needle in the field today.

	List Price
Needle list price, each	$0.75
Cat. No. 21-C—Display card of 12 needles	9.00

No. 19 "STAR" SAPPHIRE

Reproduces any type of record without surface noise yet maintains brilliant high frequencies. Finest quality gem, brightly polished for smooth riding in groove. Special design filters out all noise and needle talk. Has flat on shank for easy insertion in pickup. May be removed if desired. Individually packed in beautiful lucite box. Ideal for dubbing.

	List Price
Each Needle	$ 5.00
Cat. No. 19-B—Carton of 12 needles	60.00

CHROMIUM No. 17

DUOTONE
Duo Chromium Needles

The Duotone Chromium needle is Duo Chrome plated to insure long life and minimum record wear. Ideally suited for use on record changers. Each needle has a highly polished surface, and is shadowgraphed. Being of a semi-permanent type, the Chromium needle avoids the necessity of constantly changing needles. Each needle is guaranteed to play at least 50 records, assuring a full evening of music without requiring a change of needle.

	List Price
Package of 5 needles	$ 0.25
Cat. No. 17-B—Carton of 50 pkgs.	12.50
Cat. No. 17-C—Display card of 25 pkgs.	6.25

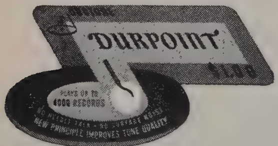
TRANSCRIPTION No. 7

DUOTONE
TRANSCRIPTION NEEDLES
SHADOWGRAPHED

Transcription needles are individually shadowgraphed to insure each needle being perfect. They are especially designed to reduce record wear on home recordings and will give life-like reproductions when used on commercial or home records. This needle, because of its perfect point and fine frequency response, is extensively used by broadcasting stations, and recording studios. Economically packed for use in home and studios.

	List Price
Package of 10 needles	$ 0.10
Cat. No. 710-B—Carton of 100 packages	10.00
Cat. No. 710-C—Display card of 50 packages	5.00
Package of 25 needles	$ 0.25
Cat. No. 725-B—Carton of 50 packages	12.50
Cat. No. 725-C—Display card of 50 packages	12.50
Package of 75 needles	$ 0.50
Cat. No. 750-B—Carton of 20 packages	10.00

DURPOINT No. 15



Permanent needle for home use. Will play over 4000 records without changing. Takes additional polish from the groove of the record thus minimizing record wear, and reducing surface noise. Because of this feature the Durpoint should not be removed from pick up until replacement is necessary. Packed on individual cards.

	List Price
Each Needle	$ 1.00
Cat. No. 15-C—Display card of 12 needles	12.00
Cat. No. 15-B—Carton of 12 needles	12.00

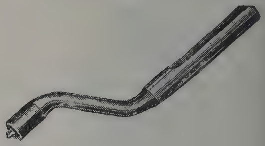
CACTUS NEEDLES No. 18

Duotone
CACTUS
NEEDLES

Made from specially selected cactus thorns chemically treated to prolong life of point and assure quiet reproduction. Each needle may be re-sharpened many times. Can be used on record changers as well as ordinary phonographs. Especially recommended for use on records with high surface noise.

	List Price
Package of 12 needles	$ 0.35
Cat. No. 18-B—Carton of 50 packages	17.50
Cat. No. 18-C—Display card of 25 pkgs.	8.75

DIAMOND NEEDLE No. 50



The world's finest needle for the world's finest phonographs. Transmits every tone with remarkable clarity and smoothness for years. Only needle which plays shellac and vinylite records interchangeably without wear. Warranty certificate with each needle. Also available in straight shank.

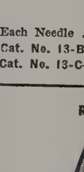
	List Price
Cat. No. 50—Each Needle	$50.00

DUOTONE
No. 20
"LIFETONE"
OSMIUM TIPPED
5000 PERFECT PLAYINGS

The DuoTone Lifetone Needle was especially designed for use with record changers. Its brilliant performance coupled with low surface noise makes it ideal for this purpose. When properly used, it will give at least 5000 perfect playings, maintaining throughout its life the same bright reproductive qualities. Packed in beautiful plastic container.

	List Price
Each needle	$ 1.50
Cat. No. 20-B—Carton of 12 needles	18.00
Cat. No. 20-C—Display card of 12 needles	18.00

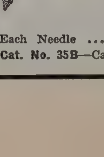
NEW REGENT SAPPHIRE
(Double Bend)
No. 13



A permanent needle with a flat on the shank allowing removal from, and insertion into pickup as required. Will play approximately 6000 home recordings, or 5000 commercial recordings. Finest quality jewel assures natural tone reproduction and very low record wear. Especially recommended for use in lightweight pickups. Packed on individual card.

	List Price
Each Needle	$ 2.00
Cat. No. 13-B—Carton of 12 needles	24.00
Cat. No. 13-C—Display card of 12 needles	24.00

RUBY NEEDLE No. 35



The Ruby tops everything else in its price class. Second only to the famous Duotone "Star" Sapphire, the Ruby is known for its lifelike reproduction with minimum of surface noise. A display is included with each dozen needles.

	List Price
Each Needle	$ 3.50
Cat. No. 35B—Carton of 12 Needles	42.00

DUOTONE *Needles*

STEEL CUTTING STYLUS No. 8

DUOTONE
STEEL
CUTTING NEEDLES

The ideal needle for use in homes by amateur record makers. With ordinary care will make a quiet record of good quality, which can be played back many times. Will make approximately 15 to 25 10″ records. Packed 4 to handy point - protecting felt-lined package.

Price $1.00

	List
Cat. No. 8-B—Carton of 25 pkgs............	25.00
Cat. No. 8-C—Display card of 25 pkgs.....	25.00

STELLITE CUTTING STYLUS No. 9
Available in Long and Short Shank

Stellite Cutter

The Stellite cutting stylus with proper care, will make a record that compares favorably with a professional cutting. Its hand-lapped edge cuts a groove which assures a noiseless recording. Stellite styli are recommended after some cutting experience has been acquired. The reduction in surface noise and the improved quality of the recording will be instantly noticeable, and will be well worth the difference in cost. Will cut approximately 500 6″ records. Individually packed on cards. **Price $2.00.**

	List
Cat. No. 9-B—Carton of 12 needles.........	24.00
Cat. No. 9-C—Display card of 12 needles...	24.00

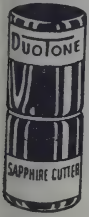
LAPPED *STEEL* CUTTING STYLUS No. 10

DUOTONE
5 FOR $1.50
Hand Lapped Cutting Needles

This new hand-made lap on the cutting edge of the needle makes a much smoother cut, thereby reducing surface noise and adding to the life of the needle. Especially recommended for making vocal recordings. **List Price**, 5 Needles on card.....$1.50

Cat. No. 10-B—Carton of 10 cards..........$15.00
Cat. No. 10-C—Display card of 10 cards.... 15.00

SAPPHIRE STYLUS No. 12
Available in Long and Short Shank



No. 11
No. 12

The sapphire Professional cutting stylus is the finest available. The cutting jewel is very highly polished and has a patented hand-lapped edge, which cuts and polishes the groove, making a record with the lowest surface noise. With proper handling will give 10-15 hours of cutting and can be resharpened many times.

DO NOT DROP

Packed in plastic container.

Cat. No. 12—Needle, list price, each $5.50
(Resharpening—Each $2.00)

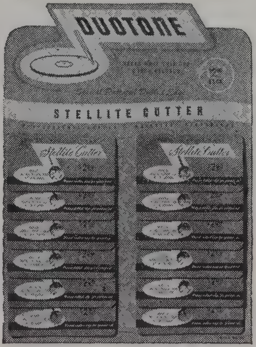
DURAL SHANK No. 11
Available in Long and Short Shank

This needle is similar to No. 12, and in addition is held to more exacting specifications, as established by leading engineers. Mounted in Dural shank. Packed in plastic container. Each $7.25

(Resharpening—Each $2.00)

DUOTONE DISPLAY CARDS
ARE AVAILABLE FOR THE FOLLOWING NEEDLES

Number	List
FILTER POINT	
610C—10c per pkg.—50 pkg. to card	$5.00
C25C—25c per pkg.—50 pkg. to card	12.50
TRANSCRIPTION	
710C—10c per pkg.—50 pkg. to card	5.00
725C—25c per pkg.—50 pkg. to card	12.50
DURPOINT	
15C—$1.00 each—12 needles to card	12.00
CHROMIUM	
17C—5 needles to pkg.—25c, 25 pkg. to card ..	6.25
CACTUS	
18C—35c per pkg.—25 pkg. to card	8.75



Number	List
LIFETONE	
20C—$1.50 per needle—12 cards to display ..	$18.00
MIRO POINT NEEDLE	
75c per needle.	
21C—12 needles to display.	9.00
STEEL CUTTING STYLUS	
$1.00 per pkg. of 4 needles.	
8C—25 pkg. to display card.	25.00
STELLITE STYLUS	
$2.00 per needle individually packed	
9C—12 needles to display card	24.00
LAPPED STEEL STYLUS	
$1.50 per pkg. of 5 needles.	
10C—10 pkg. to display card.	15.00

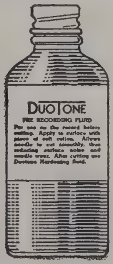
NOW! MORE THAN EVER PROTECT YOUR RECORDS
Duotone
RECORD
PRESERVER

DUOTONE RECORD PRESERVER

A newly developed fluid that helps make phonograph records (Victor, Columbia, Decca, etc.) last much longer. Duotone Record Preserver not only cleans the record, but actually puts a thin protective coating on it. This coating protects the record against excessive wear and in addition enables the needle to glide smoothly, thus reducing surface noise.

	List
Each Bottle	$0.50
Cat. No. 105-B—Attractive display carton of twelve 2-oz. bottles...	6.00

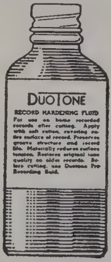
DUOTONE RECORDING FLUIDS



PRE-RECORDING FLUID

For use on the disc before cutting. When applied to the surface with a piece of soft cotton, it allows the needle to cut smoothly, thus reducing surface noise and needle wear. Will not harm ANY kind of coating.

	List
Each bottle	$0.50
Cat. No. 101-B	
Carton of 12 bottles	6.00



HARDENING FLUID

For use on home recorded records after cutting. Apply to surface with piece of soft cotton, covering entire surface of record. Preserves groove structure and record life. Materially reduces surface tension. Restores original tone quality on older records.

	List
Each bottle	$0.50
Cat. No. 102-B	
Carton of 12 bottles	6.00

DUOTONE *Recording Blanks*

ALUMINUM DISCS

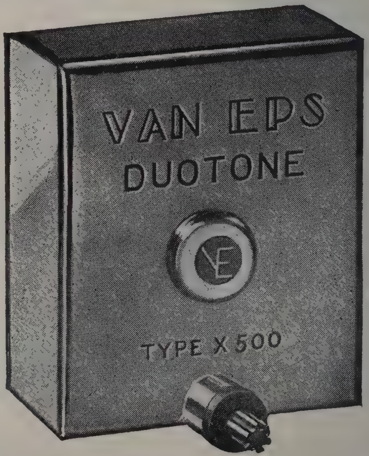
	IN CARTON	RED LABEL	PURPLE LABEL
6½ inch	100	$.30 ea.	$.25 ea.
8 inch	50	.40 ea.	.35 ea.
10 inch	50	.60 ea.	.45 ea.
12 inch	25	.80 ea.	

GLASS DISCS

	LIST
8 inch (24 to a carton)	$.60 each
10 inch (24 to a carton)	.80 each
12 inch (24 to a carton)	1.00 each

DuoTone-VAN EPS CUTTING HEAD

New Improved Model with Extended Frequency Range



This cutting head has a reed armature, which is rugged, and acts as its own damper, eliminating rubber, and other deteriorating materials which usually cause cutting heads to change from day to day.

The measured distortion is 1.8% at 400 cps.

The impedance of the cutter is actually 500 ohms at 400 cps.

It requires only plus 20 db level (6 milliwatts in 500 ohms) for normal amplitude. This is less than 1 watt of power.

It is easily installed. The head comes equipped with an extra mounting plate for instant mounting and is easily interchanged where other heads are used.

It is carefully tested at our laboratory and a graph accompanies each cutter, giving the frequency response.

The head is hermetically sealed and GUARANTEED if the seal is not broken.

. . . Write for Descriptive Literature . . .

Net Price . . . $150.00

Jensen PHONOGRAPH NEEDLES *for the world's finest music*

The Royal Jewel Genuine Sapphire Needle

Fitted with a genuine sapphire tip—the same precious jewel that's used in fine watches and precision instruments, the Jensen Royal Jewel Phonograph Needle is outstanding in its appeal to those who appreciate fine quality. The sapphire point provides smoothness and extraordinary long life. It plays up to 10,000 record sides . . . and assures protection of your customer's valuable records. Designed by an authority in the field of sound engineering, the Jensen Royal Jewel Needle is dependable for fidelity of reproduction and full tonal range.

Illustrated here is the colorful, sales-inviting display of twelve Jensen Royal Jewel needles beautifully packaged in gold foil trays. *Must-be-seen-to-be-appreciated* is an age-old truism that describes this up-to-the-minute selling aid for dealers. It's a fitting complement to the increasingly popular Royal Jewel needle — and appropriately placed on dealer's counter or shelf it wins many a sale.

Jensen Royal Jewel Display with 12 individually packaged needle...... Catalog Number 25 D. List price..................... $30.00

PRICE $2.50
Royal
Jewel
Jensen

Jensen Royal Jewel Genuine Sapphire Phonograph Needles.... Catalog Number 25. List price.............................. $2.50

The POPULAR *Jensen* CONCERT NEEDLE

Jensen
FOR 5000 PLAYS
for the World's Finest Music

The full tonal range, fidelity and long wearing qualities of the Jensen Concert Needle are assured by the *precious metal tip* and the flanged design. The spring action of this popular needle preserves the surface of records and lengthens their playing life. It incorporates all of the latest discoveries in acoustical science; plays up to 5,000 times.

Pictured at the left is the colorful, point-of-sales display holding twelve individual blue and gold packages of Jensen Concert Needles The display card bears signature endorsements of the needle by famous orchestra leaders.

Jensen Concert Phonograph Needle . . . Catalog Number 10. List price.. $1.00

Jensen Concert Needle Display holding twelve needles . . . Catalog Number 10 D. List price $12.00

Jensen
CONCERT NEEDLE
CUSHION
ACTION
5000
PLAYS
$1.00
PROTECTS TREASURED RECORDS
TAX ADDED FOR

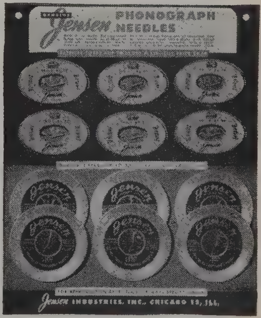
The RADIO SERVICEMAN'S HANDY SALES KIT

Jensen
Jensen
Jensen

The Jensen Phonograph Needle Saleskit (designed especially for Radio Servicemen) contains three Jensen Concert Needles retailing at $1.00 and three Jensen Royal Jewel Needles retailing at $2.50 each. This compact, convenient kit is just the thing for slipping into the pocket and taking on service calls . . . a definite aid in demonstrating fine phonograph needles. It's a real sales-help. Descriptive copy is printed alongside the needles as a sales convenience. Jensen Phonograph Needle Saleskit holding 6 Needles as above. Catalog Number 6 K. List price................ $10.50

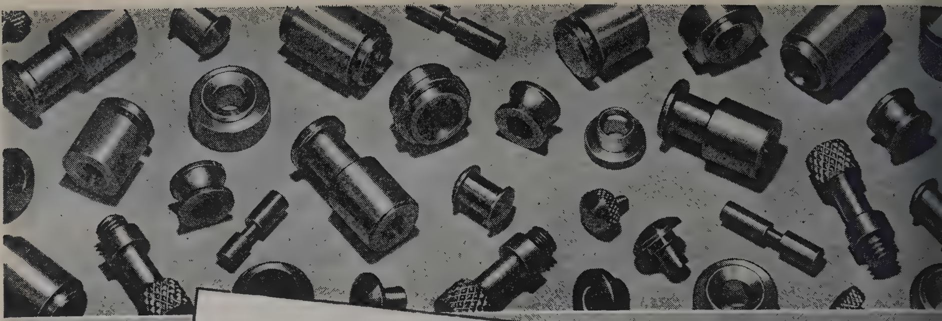
nquiries are invited regarding Jensen's Coin Machine Needle with the Locked-in Tip and the Coin Machine Needle Kit designed for convenience of coin machine servicemen.

Jensen Industries, Inc., 329 So. Wood Street, Chicago 12, Ill.



The New JENSEN COMBINATION DISPLAY

Now available is the Number 66 black-and-red card display offering six each of the Royal Jewel Needle at $2.50 and Concert Needle at $1.00. Ideal for distributor use in sampling to dealers and for small dealer in selling to public. Punched to fit standard display racks or equipped with easel for counter display. Catalog Number 66. List price $21.00.



Precision Screws and Turned Parts —*

BACKED BY 100 YEARS OF PRODUCTION "KNOW-HOW"

*** OF ALL METALS**
FOR ALL INDUSTRIES

Wherever the need is for small precision screws and turned parts of unexcelled high finish — in whatever industry — there you will find time-honored products of Laubscher Brothers of Taeuffelen, Switzerland, serving faithfully and with highest efficiency. For Laubscher products are second to none for expert craftsmanship, faultless precision, flawless finish, closest tolerances. This world-famous firm, now celebrating a century of unflagging service to the industrial world, manufactures screws and turned parts according to individual specifications *(send blueprints, samples or both)* with tolerances up to .0005"; screw head diameters from .011" to 1"; screw thread diameters from .006" to .4". All metals are used: brass, copper, silver, gold, aluminum and its alloys — steel, iron, zinc etc.

● Our line of Pignons Reunies (Grenchen, Switzerland) comprises pinions and toothed wheels for various industries making watches, and other timing devices; measuring instruments, meters for electricity, gas, water etc.

America's Greatest Phonograph Needle Value

Meritone

Meritone Needles are Nationally Advertised in Leading Magazines, Sunday Newspaper Supplements

Unlike any other, MERITONE needles are precision *turned* to velvet smooth rounded points that float in the grooves. Of fine, highly polished Swedish steel, each plays 12 or more records with maximum fidelity, minimum surface noise.

Retail: 10 for 10¢; 25 for 25¢.

Other phonograph needles (cutting and play-back) and various needles for drawing instruments, textile and embroidery machines, also available.

For quotations, send blueprints, samples or both.

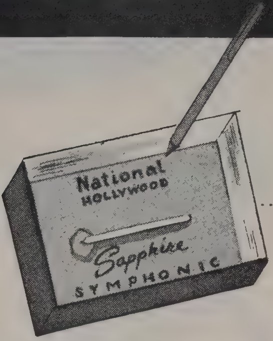
IMP

INTERNATIONAL MERIT PRODUCTS CORPORATION
Sole Representatives of Laubscher and Pignons Reunies Products
254 WEST 54th STREET • NEW YORK 19, N. Y.

NATIONAL HOLLYWOOD MAKES NEEDLE NEWS

From out of the West, a new and revolutionary needle . . . the long awaited

Symphonic Sapphire



which now makes possible perfect reproduction of classical recordings . . . packaged in beautifully-designed lucite, $5.00

AND THE

Jazz Dynamic

National
HOLLYWOOD
Sapphire
JAZZ DYNAMIC

which reproduces for the first time with full fidelity the high tension of jazz. This needle is specifically made for the vast market of jazz enthusiasts. In attractive lucite, $3.00. Both needles feature the FIREBALL POINT* for permanent wear.

**A new war-produced process of manufacturing sapphire which gives it a hardness next to diamond and virtually eliminates fracture. Perfect fidelity and minimum record wear is achieved by ingenious precision in shaping the point and holding the diameter to an extremely close tolerance.*

National Hollywood

again brings you its famous prewar recording disc on highest-grade, mirror finish aluminum in three grades, for home recorder and professional.

This is the sales-stimulating display that is given your dealers FREE with an order of 50 discs. It is in full color, durable hardwood.

For TRUER TONE Record on a NATIONAL HOLLYWOOD DISC
National
FREE BOOKLET

National Hollywood cutting needles

Type S Economy Cutter	$ .25
Type R Hand polished . . . each needle cut-tested	.50
Type X Especially designed for and test-cut at 33⅓ r.p.m.	.75
National Hollywood Stellite Cutter	2.00

standard discounts

National Hollywood aluminum recording discs

(25 per package)

	10″	8″	6½″	12″
Red grade, professional	.95	.65	.45	1.25
Yellow grade	.75	.55	.35	1.00
Blue grade	.60	.40	.30	.80

standard discounts

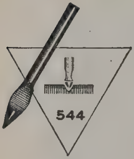
National
HOLLYWOOD

"Golden Moments . . . Forever Recorded"

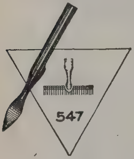
"CARILLON DYNAMIC"

M&A Miller NEEDLES

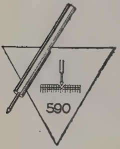
RECORDING AND PLAYBACK



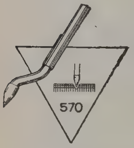
RIGID TYPE
A semi-permanent, precious metal-alloy tip play-back needle for home or commercial use, coin phonographs, etc. Plays 4,000 records. **List 50¢**



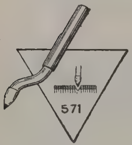
FLEXIBLE TYPE
Semi-permanent needle for home use with new lightweight pick-ups. Reduces record scratch to a minimum. Precious metal alloy tip good for over 4,000 plays. **List $1.00**



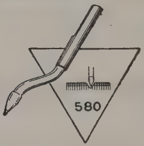
ALUMINUM SHANK
Osmium-alloy tip for high fidelity reproduction is carried on .020 needle shaft for low scratch level. The aluminum sleeve reduces vibration and needle-talk, minimizes record wear. One of the newer needle types. **List $1.50**



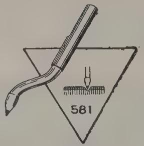
OSMIUM ALLOY
Scientific construction gives highest possible fidelity and full tone with lowest possible distortion and scratch. 1/8" offset. Precision shaped osmium alloy tip for long playing life. **List $1.50**



SAPPHIRE POINT . . . RUBY POINT
Our finest permanent type full tone needle with 1/8" offset Duraluminum shank and precision ground point set with finest quality long wearing sapphire, good for 5,000 plays. **No. 571-S (Sapphire) List $2.00**
No. 571-R (Ruby) List $2.50

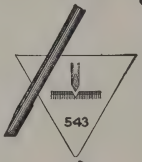


OSMIUM ALLOY
Similar in all respects to our No. needle, but has 3/16" offset shank wh gives a softer tone. A very high fide needle with a minimum of scratch noise. **List $**

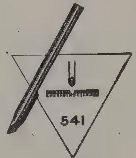


SAPPHIRE POINT . . . RUBY POINT
In all respects similar to our No. 571, has 3/16" offset shank for softer tone. cannot obtain a finer sapphire needle where, regardless of price. Good for 5 plays **No. 581-S (Sapphire) List $**
No. 581-R (Ruby) List $

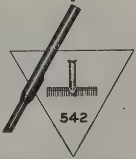
CUTTING NEEDLES



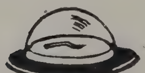
ALLOY TOOL STEEL
Made of the finest alloy tool steel, mic scopically ground and polished with mond dust. Recommended for amat home use. Will cut approximately twe five six-inch records. **List**



PRECIOUS METAL ALLOY
A high grade recording stylus, for the vanced amateur and professional Electrically welded precious metal a tip, microscopically ground, and polis with diamond dust. Hand finished tip smooth, clean groove for best possible sults. Will cut approximately five hund six-inch records. **List $**

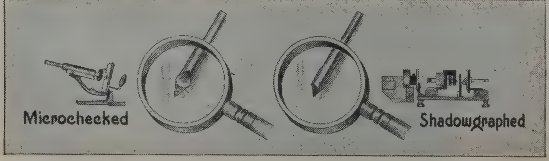


STELLITE
This patented Stellite recording sty when used by the advanced amateur professional, will give results closely proximating the finest Sapphire. Ha finished tip, cuts quiet smooth groo Will cut approximately five hundred inch records. **List $**



*NEW PLASTIC "BLISTER" CONTAINER

A beautiful, eye-appealing new package for added display value and protection. Now supplied as standard packaging on all Miller Sapphire tipped needles at slight additional charge. Other needles are supplied individually on cellophane wrapped cards or may be purchased in bulk.



SHADOWGRAPH AND MICROSCOPE INSPECTION INSURE SUPERIOR QUALIT

Each Miller "Carillon" Dynamic needle triple checked to insure perfection. Microme measurements and microscope inspection frequently used during vital production stag and each needle is finally checked under times magnification in a powerful shado graph machine.

WHEN YOU NEED Needles!

WE WILL HAVE THE NEEDLES YOU NEED

Our greatly increased manufacturing capacity now enables us to give you America's finest quality needles in any quantity. Send your specifications, samples, or blue prints on special needles, Osmium alloy tipped instrument pivots and small metal parts.

PLAYBACK NEEDLES

- Osmium Alloy
- Sapphire
- Ruby
- Diamond

RECORDING NEEDLES

- Osmium Alloy
- Alloy Tool Steel
- Sapphire
- Stellite

Pointed Instruments

Carbide Tipped

CHANGEABLE NEEDLES

FIXED TYPE NEEDLES

PRIVATE LABEL NEEDLES

Manufacturers of the World's Largest Line of Long Life Recording and Playback Needles

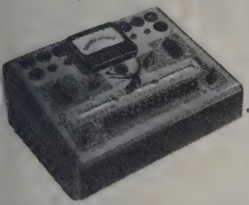
M. A. MILLER MANUFACTURING CO. Inc.
1168 East 43rd Street
Chicago, Ill.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

SYLVANIA ELECTRONIC EQUIPMENT



THE COUNTER TUBE TESTER

Here's the last word in tube testers made for discriminating distributors, retailers and radio servicemen. Besides the special features noted below, they have been provided with extra sockets and switch contacts for newly-developed tube types. Size: 5⅜″ x 14$\frac{3}{16}$″ x 14¾″; weight: 17 lbs.

ynamic Conditions
All tube elements tested under dynamic conditions.

ingertip Controls
make settings easy.

eLuxe Design
helps sell on sight—builds prestige for serviceman or retailer.

Shorts Test
at voltage low enough to prevent tube damage or faulty indications — high enough for full brilliancy on Shorts indicator.

Tests Standard, Lock-In, Acorn Tubes.

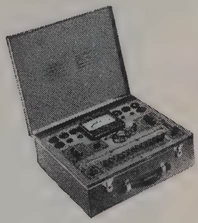
Large Meter
4½″ size for high legibility. Sensitive but rugged.

Legible Dial Markings—
lines and numerals in white against green panel.

8-Ft. Line Cord—
extra long for extra convenience.

Provision for Noise Test.

PORTABLE TUBE TESTER



Type 140

Retains the same electrical characteristics and special features as the Counter Model above left, plus steel carrying case, strong leather handle. Size: 5½″ x 12″ x 16¼″; weight: 17 lbs.

THE POLY (MULTI-PURPOSE) METER (Type 134)

SPECIAL FEATURES

Tests audio, A.C. and R.F. voltages rom 20 cps to 300 mc. Uses proximity uze-type tube built into handy probe. Full scale range of 3, 10, 30, 100, 300.

Measures D.C. from .1 to 1,000 volts n full scale ranges of 3, 10, 30, 100, 300, 1,000.

Measures D.C. current from .1 milliampere to 10 amperes in full scale anges of 3, 10, 30, 100, 300, 1,000 milliamperes and 10 amperes.

Measures resistance from ½ ohm to 1,000 megohms in full scale ranges of 1,000, 10,000, 100,000 ohms and 1, 10, 1,000 megohms.

ACCURACY

.C. ranges ±3% of full scale.

A.C. ranges ±5% of full scale up to 30 volts and ±7% above 30 volts.

R.F. ranges ±5% of full scale up to 10 volts; ±7% from 10-100 volts; ±10% on 300 volt range. Error may be 5% greater from 100 to 300 mc.

Ohms ±6% to the left of ½ scale; ±13% to the left of ¾ scale.

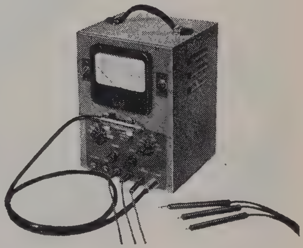
Current ±3% of full scale on all but 10 ampere scale which provides ±5% of full scale.

INPUT IMPEDANCES

R.F. ranges—2.7 megohms resistance shunted by approximately 3 mmf. capacity.

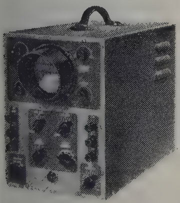
A.C. ranges—2.7 megohms resistance shunted by approximately 40 mmf. capacity.

D.C. ranges—16 megohms resistance.



Beautifully styled, compactly designed; stabilized against errors due to line voltage variations or gas current in tubes. All essential accessories are included.

THE OSCILLOSCOPE (Type 131)



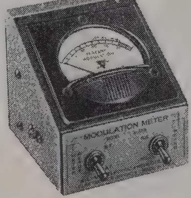
Developed to simplify the solving of problems encountered in radios and electronic equipment. Ideal for servicing FM and Television units.

SPECIAL FEATURES

1. Input Impedances—Through amplifiers—1 meg. 20 μμf. Direct—2.2 meg. 30 μμf.
2. Amplifier Frequency Response — Sine wave uniform within 3 db. from 10 cycles to 100 kilocycles.
3. Deflector Factor—Through amplifiers—0.5 volts per inch.
4. Horizontal Sweep — Direction — left to right. Frequency range — 15 to 40,000 cycles. Synchronizing signal sources—Internal (Vertical Signal); External; 60 cycles.
5. Power Supply—105 - 125 volts, 50 - 60 cycles. 40 watts power consumption. 1 amp. line fuse provided.
6. Cabinet Dimensions — 10¾″ high, 8⅛″ wide, 13¾″ deep.

MODULATION METER

Model X-7018



For monitoring modulation percentage and speech quality — invaluable to the radio amateur.

1. Elimination of battery or AC power supply.
2. Direct, accurate readings.
3. Phone jack provided.
4. Easily-read, three-color scale.
5. Completely shielded.

BIRD ELECTRONIC

Instrumentation for Coaxial Transmission

NO MORE GUESSWORK!

MODEL 63-A WATTMETER AND WIDE BAND LINE TERMINATION

VHF-UHF

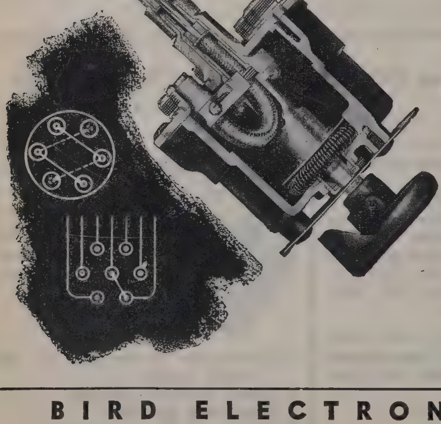
FOR OUTPUT MEASUREMENT

Here is *the* way to measure RF output in the spectrum between 10-1500 megacycles and power levels of 1-500 watts. Combining unique and proven methods of line termination with meter readings, the Model 63-A is now widely used in the VHF-UHF field.

USES: Determination of power output and alignment o transmitters on either the production line or in the laboratory. Ruggedly built, the 63-A is adaptable t most power measurement problems.

METHOD: Employing a length of attenuating coax as a termination, thermocouples, inserted in the line serve as measuring elements. Wide-band impedance constancy is realized and standing-wave ratios (voltage are held to a maximum SWR of 1.25 between 10 and 1500 MC.

CALIBRATION: Meter readings of th Model 63-A are linearly related t power at fixed frequency. Thermocouples, through skin effect, increas in sensitivity with frequency. Wit the instrument, curves are furnishe showing a single multiplying facto which, applied to scale reading gives power value. Control of impedance and individual coupled adjustment permit the use of standardize calibration curves.



CHARACTERISTIC IMPEDANCE IS MAINTAINED THROUGH ALL SWITCH DETAILS WITH . . .

COAXWITCH

The *Selector Switch* for Coaxial Circuits

USES: As a channel selector in transmitter or receiver controls; production line testing of coaxial circuited equipment; selection of antennas; with phase monitors in directionals; etc.

CABLE TYPES AND CONNECTORS: Three models now available for use with 50/52-ohm cables and Type "N" Fittings. Adapters available for use with other type fittings. Other impedance levels, such as 70/75-ohm, can be supplied.

STANDING WAVE RATIOS: At 550 MC, SWR (voltage) is below 1.03; at 1000 MC, below 1.1; and at 3000 MC, it is not over 1.3.

MODELS: Model 74 handles single circuit with choice of six channels. Model 72-2 handles double circuit with choice of two channels (DPDT). Model 718 handles single circuit with choice of eight channels. Can be supplied for remote operation.

BIRD ELECTRONIC CORPORATION
1800 East 38th Street • Cleveland 14, Ohio, U.S.A.

VOLTMETERS
for
EVERY RF NEED

Permanent accuracy, high stability and high impedance input! You get all three with each of these three voltmeters. Suitable for laboratory, test bench or production line! Each has a frequency and voltage range adaptable to your particular needs . . . sturdy construction; easy-to-read meter scales!

WRITE FOR DESCRIPTIVE BULLETINS.

STANDARD ELECTRONIC VOLTMETER MODEL VM-27A

Technical Specifications

RANGE: 0.1 to 100 volts in five ranges a-c and d-c. (1, 3, 10, 30 and 100 volts full scale.)

ACCURACY: 2 percent of full scale on all ranges, on sinusoidal voltages.

CALIBRATION: Calibrated to read 0.707 of peak on a-c voltage, hence r.m.s. of a sinusoidal wave.

FREQUENCY RANGE: 20 cycles to over 100 megacycles with full accuracy from 50 cycles to 50 megacycles.

INPUT IMPEDANCE: d-c input 7 megohms, a-c input 4 megohms at audio frequencies and at radio frequencies equivalent to a capacity of 5 micro-microfarads having a power factor of 0.5%.

POWER SUPPLY: 105 to 125 volts 50-60 cycles at 30 watts.

TUBES: One 6H6 in probe, two matched 6J5GT and one 6X5GT rectifier.

DIMENSIONS: 8 x 8 x 8, probe 2 inches diameter by 4 long.

WEIGHT: 11 lbs. less probe.

PRICE: $150.00 net, F.O.B. Flushing, N. Y.

MODEL VM-27-ZC

Same as Model VM-27A but with means for setting meter to mid-scale on d-c.

PRICE: $155.00 net, F.O.B. Flushing, N. Y.

HIGH VOLTAGE ELECTRONIC VOLTMETER Model 31

Technical Specifications

RANGE: 10 to 10,000 volts r-f in five ranges (100, 300, 1000, 3000 and 10,000 volts full scale).

ACCURACY: 5 percent of full scale on all ranges, on sinusoidal voltages.

FREQUENCY RANGE: 100 kilocycles to 100 megacycles.

INPUT IMPEDANCE: Approximately 1 micromicrofarad at a Q of over 500.

POWER SUPPLY: 115 volts 50-60 cycles at 30 watts.

TUBES: One 6AL5 in probe, two matched 6J5GT and one 6X5GT rectifier.

DIMENSIONS: $5\frac{1}{2}$ x $9\frac{1}{2}$ x $9\frac{1}{2}$.

WEIGHT: 8 lbs.

PRICE: $99.50 net, F.O.B. Flushing, N. Y.

HIGH FREQUENCY ELECTRONIC VOLTMETER Model 32

Technical Specifications

RANGE: 0.3 to 300 volts r-f in five ranges (3, 10, 30, 100 and 300 volts full scale).

ACCURACY: 5 percent of full scale on all ranges, on sinusoidal voltages.

FREQUENCY RANGE: 500 kilocycles to 500 megacycles.

INPUT IMPEDANCE: 0.5 to 1 micromicrofarad at a Q of about 200. (Steatite top.)

POWER SUPPLY: 115 volts 50-60 cycles at 30 watts.

TUBES: One 6AL5 in probe, two matched 6J5GT and one 6X5GT rectifier.

DIMENSIONS: $5\frac{1}{2}$ x $9\frac{1}{2}$ x $9\frac{1}{2}$.

WEIGHT: 8 lbs.

PRICE: $99.50 F.O.B. Flushing, N. Y. (net)

ALFRED W. BARBER LABORATORIES ★ 34-10 FRANCIS LEWIS BLVD.
FLUSHING • NEW YORK

PRECISION MOVEMENTS
Burlington
PANEL INSTRUMENTS

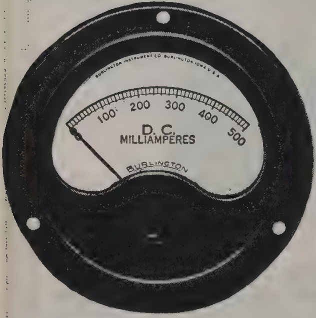
PRECISION MOVEMENTS
BURLINGTON PANEL INSTRUMENTS

Burlington panel instruments are designed an manufactured to fulfill the need for rugge and accurate indicators. Both AC and DC type are accurate to within 2% of full scale valu at any point on the scale.

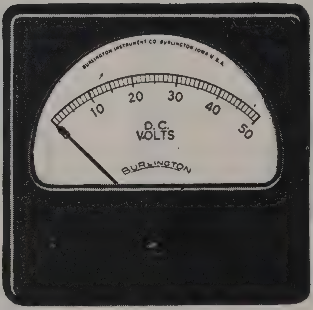
DC instruments combine extremely light weigh moving elements and powerful alnico magne to produce a torque to weight ratio whic reduces frictional error in obtaining readings t a negligible factor. This high torque to weigh ratio also permits the use of pivots with ampl pivot bearing surface to overcome the effec of rough handling, shock, and vibration.

AC instruments are accurate over the entir range of commercial power frequencies (25 t 125 cycles) and may be used at frequencies t 400 cycles if especially calibrated for thes higher frequencies.

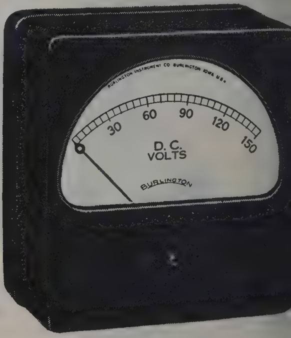
These instruments are of the repulsion van type using carefully aged and impregnate field coils and multipliers which are wound wit conductors of ample size so that temperatur rise of the windings may be maintained at minimum even though the instrument is subjecte to continuous use in the circuit.



MODELS 21, 31, 441 DC
22, 32, 442 AC



MODELS 21, 31 DC
22, 32 AC



MODELS 141 DC
142 AC

DIMENSIONS OF AC AND DC MODELS

Model No.		Body	Flange	Body Depth	Stud Length		Case
DC	AC				DC	AC	
21	22	2.156″ Diam.	2.690″ Diam.	1 13/32″	⅝″	25/32″	Round, flush, Bakelite
21	22	2.156″ Diam.	2⅜″ x 2⅜″	1⅜″	⅝″	25/32″	Square, flush, Bakelite
31	32	2.796″ Diam.	3½″ Diam.	1½″	¾″	¾″	Round, flush, Bakelite
31	32	2.796″ Diam.	3″ x 3″	1½″	¾″	¾″	Square, flush, Bakelite
441	442	3 9/16″ Diam.	4⅜″ Diam.	1 29/64″	¾″	¾″	Round, flush, Bakelite
141	142	....	4″ x 4¼″	2″	¾″	1″	Rectangular, projection, Bakelite

SEE NEXT PAGE FOR FULL DETAILS AND PRICES

Burlington PANEL INSTRUMENTS

D. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	Model 21 (Rd or Sq)	Model 31 (Rd or Sq)	Model 141	Model 441
0–1	50	47 ohms	$9.70	$10.50	$11.85	$11.85
0–5	50	10 ohms	8.50	9.50	11.50	10.90
0–10	50	5 ohms	8.50	9.50	11.50	10.90
0–25	50	5.6 ohms	8.50	9.50	11.50	10.90
0–50	50	2.8 ohms	8.50	9.50	11.50	10.90
0–100	50	1.4 ohms	8.50	9.50	11.50	10.90
0–200	40	.7 ohms	8.50	9.50	11.50	10.90
0–300	30	.466 ohms	8.50	9.50	11.50	10.90
0–500	50	.28 ohms	8.50	9.50	11.50	10.90
0–750	75	.186 ohms	8.50	9.50	11.50	10.90
0–1000	50	.140 ohms	8.50	9.50	11.50	10.90

D. C. AMMETERS

Range	Scale Div.	Terminal Voltage Drop	Model 21 (Rd or Sq)	Model 31 (Rd or Sq)	Model 141	Model 441
0–1	50	50 MV	$8.50	$9.50	$11.50	$10.90
0–5	50	50 MV	8.50	9.50	11.50	10.90
0–10	50	50 MV	8.50	9.50	11.50	10.90
0–25	50	50 MV	8.50	9.50	11.50	10.90
0–50	50	50 MV	8.50	9.50	11.50	10.90
0–60	30	50 MV	8.50	9.50	11.50	10.90
*0–100	50	50 MV	8.50	9.50	11.50	10.90
*0–300	30	50 MV	8.50	9.50	11.50	10.90
*0–500	50	50 MV	8.50	9.50	11.50	10.90
*0–1000	50	50 MV	8.50	9.50	11.50	10.90

* Ranges above 60 amperes are supplied as 50 MV movements to be used with external 50 MV shunts.

D. C. MICROAMMETERS

Range	Scale Div.	Approx. Res.	Model 21 (Rd or Sq)	Model 31 (Rd or Sq)	Model 141	Model 441
0–50	50	1150 ohms	$22.00	$23.50	$24.10	$24.10
0–100	50	1150 ohms	18.85	19.85	21.00	21.00
0–200	40	330 ohms	13.50	15.00	17.75	17.75
0–500	50	225 ohms	12.00	13.35	14.25	13.65

D. C. VOLTMETERS — 200 Ohms Per Volt

Range	Scale Div.	Model 21 (Rd or Sq)	Model 31 (Rd or Sq)	Model 141	Model 441
0–3	30	$8.50	$9.50	$11.50	$10.90
0–5	50	8.50	9.50	11.50	10.90
0–10	50	8.50	9.50	11.50	10.90
0–15	30	8.50	9.50	11.50	10.90
0–25	50	8.50	9.50	11.50	10.90
0–50	50	8.50	9.50	11.50	10.90
0–100	50	8.50	10.50	11.70	11.60
0–150	30	11.10	11.80	12.50	12.40
0–300	30	....	12.75	14.20	14.10

D. C. VOLTMETERS — 1000 Ohms Per Volt

Range	Scale Div.	Model 21 (Rd or Sq)	Model 31 (Rd or Sq)	Model 141	Model 441
0–50	50	$12.00	$12.60	$13.25	$12.75
0–100	50	12.50	13.10	13.75	13.50
0–150	30	12.85	13.45	14.25	13.75
0–300	30	....	13.65	16.40	16.40
0–500	50	....	15.70	18.45	18.45
0–1000	50	....	22.30	23.00	23.00

Ranges above those shown can be supplied as 200 or 1000 ohm per volt instruments for use with external resistors. Prices on application

A. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	Model 22 (Rd or Sq)	Model 32 (Rd or Sq)	Model 142	Model 442
0–10	50	2020 ohms	$8.50	$9.85	$10.90	$10.70
0–25	50	370 ohms	8.50	9.85	10.90	10.70
0–50	50	83 ohms	8.50	9.85	10.90	10.70
0–100	50	20 ohms	8.50	9.85	10.90	10.70
0–500	50	.8 ohms	8.50	9.85	10.90	10.70

A. C. AMMETERS

Range	Scale Div.	Approx. Res.	Model 22 (Rd or Sq)	Model 32 (Rd or Sq)	Model 142	Model 442
0–1	50	.207 ohms	$8.50	$9.85	$10.90	$10.70
0–5	50	.0108 ohms	8.50	9.85	10.90	10.70
0–10	50	.0038 ohms	8.50	9.85	10.90	10.70
0–30	30	.00079 ohms	8.50	9.85	10.90	10.70
0–50	50	.00048 ohms	8.50	9.85	10.90	10.70
*0–75	75	.00035 ohms	8.50	12.15	14.10	14.10
**0–100	50	....	8.50	9.85	10.90	10.70
**0–150	30	....	8.50	9.85	10.90	10.70
**0–300	30	....	8.50	9.85	10.90	10.70

* Models 22 ranges above 50 AMPS are supplied as 5 AMP movements for use with current transformers.

** Models 32, 142, 442 ranges above 75 AMPS are supplied as 5 AMP movements for use with current transformers.

A. C. VOLTMETERS

Range	Scale Div.	Ohms per Volt	Model 22 (Rd or Sq)	Model 32 (Rd or Sq)	Model 142	Model 442
0–1	50	2	$8.50	$9.85	$11.25	$10.70
0–5	50	10	8.50	9.85	11.25	10.70
0–10	50	13	8.50	9.85	11.25	10.70
0–15	30	13	8.50	9.85	11.25	10.70
0–30	30	40	8.50	9.85	11.25	10.70
0–50	50	50	8.50	9.85	11.25	10.70
0–100	50	110	8.50	9.85	11.25	10.70
0–150	30	110	11.10	11.60	12.50	12.00
0–300	30	165	12.00	12.50	13.50	13.00
0–500	50	165	....	13.20	15.95	15.45

NOTE[3] Ranges above 300 volts in Models 22 and above 500 volts in Models 32, Model 142, and Model 442 require external resistors or potential transformers. Prices on application.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

BURLINGTON INSTRUMENT COMPANY
1600 FOURTH STREET . . . BURLINGTON, IOWA

BROWNING LABORATORIES, INC. WINCHESTER, MASS., U. S. A

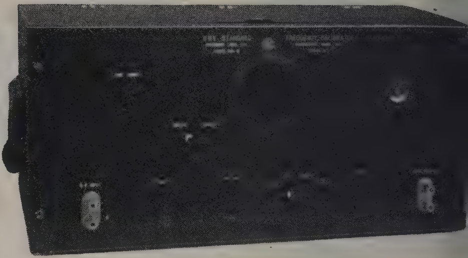
BROWNING

WWV STANDARD FREQUENCY CALIBRATOR

MODEL RH-10

F.O.B. Winchester, Mass. $175.00 Net

Specifically designed for receiving transmissions from radio station WWV on either 5 or 10 megacycles and employing these as primary frequency standards. Provisions are made so that secondary standards which are in harmonic relation with 5 or 10 megacycles may be accurately compared. Filters are employed so that the 440 or 4000 cycle modulation may also be used as primary frequency standards.



ELECTRICAL FEATURES

- Pre-tuned for 5 and 10 megacycles per second reception of radio station WWV. Either frequency may be selected by switch.
- Sensitivity better than ½ microvolt on either band.
- Selectivity 10db down at 5 kc off resonance.
- Excellent image rejection minimizes interference. Rejection ratio of more than 50db at 5 and 10 megacycles.
- Provisions are made for coupling secondary R.F. standard or any R.F. source and comparing their fundamentals or harmonics with WWV carrier on 5 or 10 megacycles. Comparisons can be made to accuracy of at least one part in five million.
- A dual filter system allows selection at will of either th 440 or 4000 cycle modulation of WWV. Either may b employed as a primary frequency standard. Output vol age adjustable from 0 to 5 volts.
- Accurate visual determination of zero beat with cathod ray indicator.
- Voltages supplies to stable local oscillator regulated t reduce drift to a minimum.
- Panel speaker separate control allows output to be varie at will.
- 100-125 volts AC operation. 85 volt-ampere input.
- Tube complement: three Type 6SK7, one 6SA7, two 6SN one 6J5, one 6SQ7, one VR-105, one 5Y3, one 6U5.

MECHANICAL FEATURES

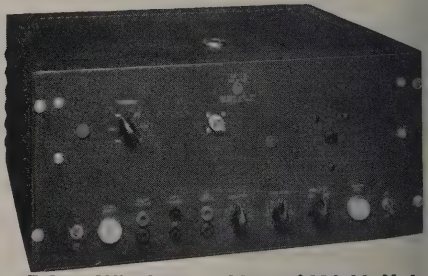
- Supplied in either standard rack panel with dust cove or in a steel cabinet.
- Aluminum panel is finished in black leatherette with e graved labels.
- Large fluted knobs are provided.
- Panel connectors are standard universal binding post which will also accommodate banana type plugs.
- Dimensions: Cabinet Mounting — Height 9", Width 19" Depth 11'. Rack Mounting — Height 8¾", Width 19" Depth 10½".
- Weight: Cabinet Mounting approx. 30 lbs., Rack Mountin approx. 25 lbs., Shipping weight approx. 45 lbs.

BROWNING

POWER SUPPLY AND SQUARE WAVE MODULATOR

MODEL TVN-7

Designed as the basic unit of a signal generator in the super high frequency range, the TVN-7 consists of a regulated power supply and square wave modulator for low powered velocity modulated tubes such as the 417A, 2K28, (formerly 707A and 707B), 2K25, (formerly 723A and 723B).



F.O.B. Winchester, Mass. $210.00 Net

ELECTRICAL FEATURES

- Range of cathode voltage is 280 volts to 480 volts, continuously variable. Provision is made for reduction to 180 to 300 volt range.
- Range of reflector voltage is 15 volts to 210 volts. Controllable from panel.
- Provision is made for grid pulse modulation or reflector pulse modulation. Amplitude of grid pulse is 60 volts while the maximum reflector pulse voltage is 100 volts maximum.
- Square wave modulation frequency is variable from 90 to 5,000 cycles.
- Provisions are made for external modulation.
- Supply voltage held constant by latest series tube elec tronic regulator.
- 110-115 volts 60 cycle AC operation. 170 volt-amper input.
- Tube complement: one Type 80, two VR-150, one 6SN7 one 6V6, one 6A3, one 5R4GY, one 6SJ7.

MECHANICAL FEATURES

- Unit designed for rack mounting.
- Heavy steel panel with black wrinkle finish.
- All labels engraved into panel surface.
- Dimensions: 19" W x 8¾" H x 11" D.
- Weight: 33 lbs. — Shipping Weight: 50 lbs.

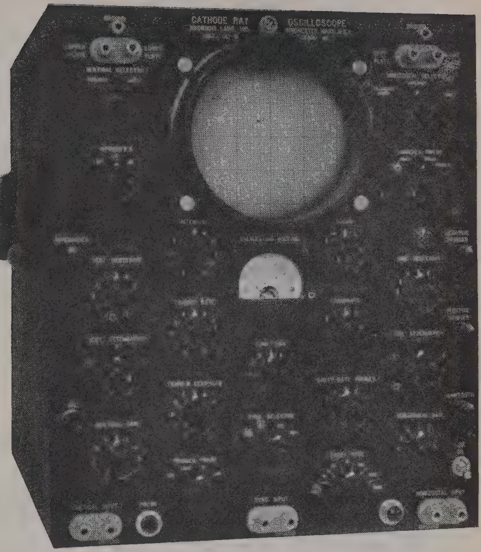
ROWNING LABORATORIES, INC. WINCHESTER, MASS., U. S. A.

ROWNING

MODEL OL-15

SCILLOSCOPE

laboratory instrument designed for the obser- ation of wave forms and transient phenomena equiring a variety of time bases, triggers, phas- ig and delay circuits, and extended range mplifiers. It may be used for work on laboratory pplications where extremely short pulses or henomena of irregular occurrence rate must e studied. It is also designed for television, ommunication, radar, and facsimile work. The pecial features are combined with the functions f a standard oscilloscope with greater ease nd convenience of operation as a result of im- roved design.



F.O.B. Winchester, Mass. $1275.00

ELECTRICAL FEATURES

- Five inch cathode ray tube with 3000V accelerating potential for improved intensity and definition of images.
- Sawtooth sweep with range of 5 cycles per second to 500 kilocycles per second permitting observation of radio frequency wave forms.
- Single sweep triggered time base for observation of transient phenomena or phenomena of varying repetition rates.
- Internal trigger generator and built-in phasing circuit for use with single sweep time base.
- Extended range amplifiers. The vertical amplifier is flat within ±10% of the average value from 20 cycles per second to 4 megacycles per second. Maximum deflection sensitivity at input terminals is .05 R.M.S. volts per inch. The horizontal amplifier is flat within 10% of the average value from 20 cycles per second to 1 megacycle per second. Maximum deflection sensitivity is 0.1 R.M.S. volts per inch.
- Low-capacitance, high-impedance probe for use with vertical amplifier. Voltage attenuation of probe is 10:1.
- Provisions for direct connection to all deflection plates.
- Internal or external blanking of beam for timing purposes and for elimination of retrace.
- Voltage regulation of all low-level stages for stability of operation under varying line voltage conditions.
- Built-in voltmeter and calibrating circuit for determining deflection sensitivity at any setting of the gain controls.
- Tube complement: four Type 6AC7, four 6AG7, four 6SJ7, six 6SN7GT, two 6J5, two 6V6GT, two 807, one 6X5GT, one 5U4G, two 2X2A, one VR-105, one 5LP1.

MECHANICAL FEATURES

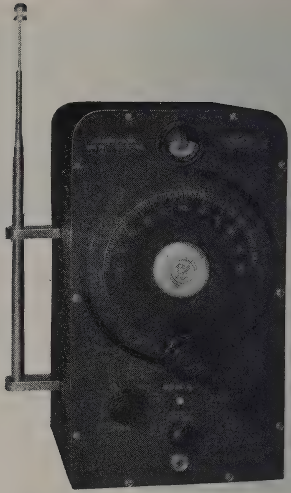
- Steel cabinet finished in black wrinkle with 1/8" aluminum panel.
- Panel finished in black leatherette with all labels engraved directly on panel.
- Chassis of steel copper plated and lacquered finish.
- Controls grouped according to function for convenience of operation.
- Components arranged for electrical efficiency and ease of servicing.
- Dimensions: Height 15¾", Width 12¾", Depth 19¾".

BROWNING LABORATORIES, INC. WINCHESTER, MASS., U. S. A

BROWNING FREQUENCY METER

MODEL S-4

Specifically designed for checking the frequencies (as required by the Federal Communications Commission) of police and fire department, marine, and other special-service transmitters for either AM or FM, operating in the 1.5 to 100 megacycle range.



ELECTRICAL FEATURES

- Custom-built and hand-calibrated for up to five specified frequencies in the range from 1.5 to 100 megacycles.
- Accuracy: ± .0025% of the specified frequency.
- Stable electron-coupled oscillator used in special circuit.
- Extreme accuracy in frequency adjustment with 100 kilocycle crystal as secondary standard, using WWV as primary standard.
- Visual determination of zero beat with cathode ray indicator.
- Audio detection of zero beat.
- Voltage regulation employed in crystal and electron-coupled oscillators.
- 110-115 AC-DC operation. 40 volt-ampere input.
- Telescoping antenna at side of cabinet for easy coupling to transmitter.
- Tube complement: one 6SC7, one 6SA7, one 6J5, one 6SK7, one 6U5, one 25Z6. One special voltage regulator.

MECHANICAL FEATURES

- Rugged steel cabinet and ⅛" aluminum pane
- Accurate reading assured by machined and e graved main dial, graduated to 100 division over 180 degrees. Vernier allows readings t ⅒ of dial division, or readability of one part i one thousand.
- Panel finished in black leatherette.
- Dial in instrument black for ease of reading.
- New non-jamming vernier dial drive for fine ac justment.
- All labels engraved into panel surface.
- Telescoping antenna forms convenient carryin handle.
- Dimensions: exclusive of telescoping antenna Height 13½"; Width 7⅝"; Depth 6⅞".
- Weight: 15 lbs. Shipping Wt. 18½ lbs

PRICES NET (Complete with tubes) F.O.B. Winchester, Mass.

One Band........$170. Two Bands........$190. Three Bands........$21

Four Bands........$230. Five Bands........$250.

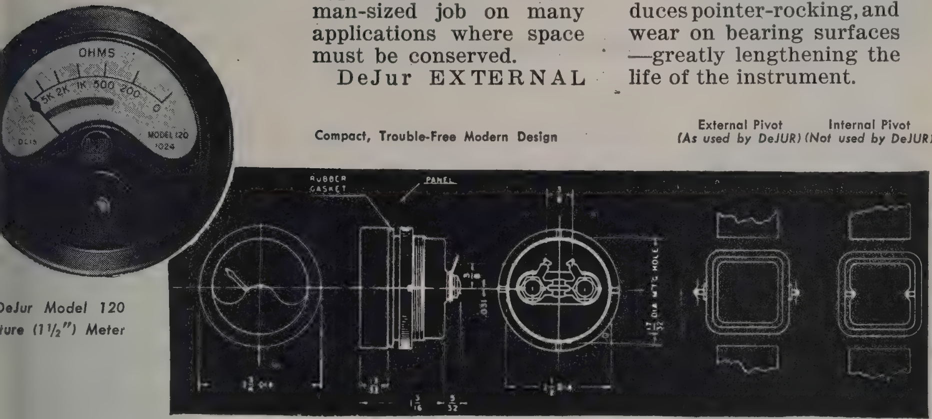
Prices Subject to Change Without Notice

DeJUR

BUILDS GREAT LITTLE METERS

The precision-built DeJur 1½" Meters are doing a man-sized job on many applications where space must be conserved.

DeJur EXTERNAL PIVOT construction gives maximum accuracy — reduces pointer-rocking, and wear on bearing surfaces —greatly lengthening the life of the instrument.



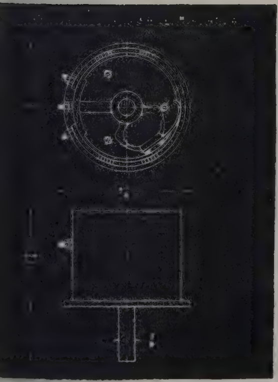
Compact, Trouble-Free Modern Design

External Pivot (As used by DeJUR)

Internal Pivot (Not used by DeJUR)

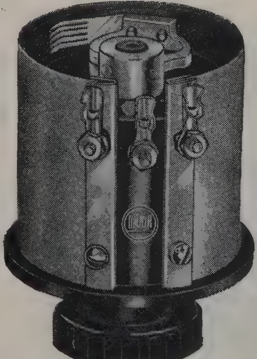
DeJur Model 120
ture (1½") Meter

DeJUR RHEOSTAT—POTENTIOMETERS ARE PRECISION BUILT . . .



in a wide line of models for many electronic and general electrical applications. They are electrically and mechanically engineered to meet the precise requirements of electrical manufacturers.

The 11 Watt Model 275 (illustrated) is typical of DeJur Potentiometers. Rugged yet light in weight, it is built to give outstanding service under the most severe operating conditions.



Send details of your requirements to DeJur. Our engineers will gladly ad- ise the correct instrument to meet our needs.

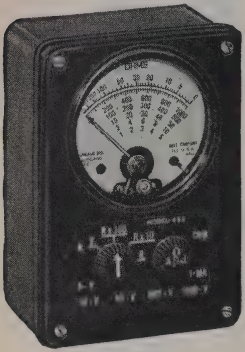
WRITE FOR THE LATEST DeJUR CATALOG

DeJUR-AMSCO CORPORATION

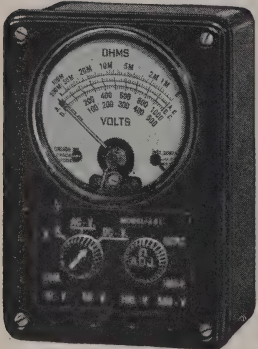
LONG ISLAND CITY 1, N. Y.

AMMETERS . . . VOLTMETERS . . . POTENTIOMETERS

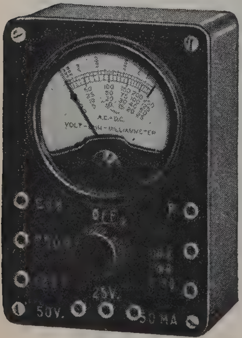
CIICo. **QUALITY INSTRUMENTS AT LOW COST** CIICo.



MODEL 450



MODEL 451



MODEL 312

FEATHERWEIGHT MINIATURE MODELS

This group of three comprises an ideal selection of testing equipment for servic use where compactness and accuracy are required. This original unique desig features built-in D'Arsonval type meter movement, potentiometer, rotary rang selecting switch, and test jacks. The potentiometer compensates for battery vol age drop; the enclosed jacks and rotary switch simplify range selection. Tw standard flashlight cells, secured and connected by spring clips, supply th testing current for the ohms ranges. All multipliers are bridge selected withi one percent. The overall size of the molded panel and case measures 3-15/16" 2⅞" x 2"; average net weight, twelve ounces.

COMPACT VOLT-OHM MILLIAMMETER — MODEL 450A

A sturdy one milliampere meter movement provides 1000 ohms per volt sensitivity on c voltage ranges. Shipping weight 2 lbs. .... **Net $9.**

SPECIFICATIONS: **VOLTS DC: 0-5/10/50/500/1000**
MILLIAMPERES DC: 0-1
OHMS FULL SCALE: 5000/50,000/500,000
OHMS CENTER SCALE: 30/300/3000

COMPACT AC-DC VOLT-OHMMETER WITH OUTPUT RANGES
MODEL 451A

Sensitivity of 1000 ohms per volt is maintained on all voltage ranges. A fixed condenser series with the copper oxide rectifier controls output measurements on AC ranges. Shippir weight 2 lbs. .... **Net $13.**

SPECIFICATIONS: **VOLTS DC: 0-10/50/100/500/1000**
VOLTS AC and OUTPUT: 0-10/50/100/500/1000
OHMS FULL SCALE: 500,000
OHMS CENTER SCALE: 7200

MODEL 451B: 2500 ohms per volt on all voltage ranges..**Net $15.**

COMPACT HIGH SENSITIVITY VOLT-OHMMETER
MODEL 452A

A sensitive 100 microampere meter provides 10,000 ohms per volt sensitivity on all voltag ranges. Shipping weight 2 lbs. .... **Net $13.**

SPECIFICATIONS: **VOLTS DC: 0-10/50/100/500/1000**
OHMS FULL SCALE: 200/20,000/200,000/2,000,000
OHMS CENTER SCALE: 30/300/3000/30,000

SIMPLEX VOLT-OHM-MILLIAMMETERS

These two pocket-size Simplex Models, ruggedly constructed for durability, ar appropriate for communications service, schools, radio shops, and whereve comparative accuracy is acceptable. A two-inch flush mounting meter is set a non-conductive bakelite panel and housed in a convenient bakelite case, si only 1⅞" x 2¾" x 3⅞". These testers, the "Pocket-Size Pioneers" represe thirteen years of acceptability.

VOLT-OHM-MILLIAMMETER — MODEL 371

A permanent magnet, iron vane, solenoid type meter is used. Two standard flashlight cell supported by spring action contact clips, supply testing current. Ranges are selected by mea of phone tip jacks. Shipping weight 2 lbs. .... **Net $4.**

SPECIFICATIONS: **VOLTS DC: 0-3/15/30/300**
MILLIAMPERES: 0-25
OHMS FULL SCALE: 10,000

AC-DC VOLT-OHM-MILLIAMMETER — MODEL 312

A combination AC-DC hairspring repulsion type meter is used. Testing current is obtain from any convenient AC or DC outlet through the power cord furnished. Power cord may al be used for testing voltage of such outlets. Shipping weight 2 lbs. .... **Net $6.**

SPECIFICATIONS: **VOLTS AC and DC: 0-25/50/125/250**
MILLIAMPERES AC and DC: 0-50
OHMS FULL SCALE: 100,000
OHMS CENTER SCALE: 2400
MFD.: .05-15 (Chart furnished)

TEST LEADS #1048

The polarized low-resistance test leads are constructed of 63 strands of tinned flexible # copper wire, insulated for 10,000 volt breakdown. Pointed test prods are assembled in no conductive tenite handles ⅜" diameter by 4" long. Overall length is 48". .... **Net $.**

CIICo. CHICAGO INDUSTRIAL INSTRUMENT CO. CIICo.
CHICAGO 10, ILLINOIS

CIICo. **QUALITY INSTRUMENTS AT LOW COST** CIICo.

PORTABLE TEST INSTRUMENTS

MULTI-RANGE AC-DC VOLT-OHM-MILLIAMMETER WITH OUTPUT RANGES — MODEL 458

MODEL 458

'his versatile instrument incorporates a large 5½" rectangular meter with two-tone alumi-ium scale, set at a 45° angle to facilitate greater reading ease. The special-treated alumi-ium instrument panel is mounted on a welded steel case, finished in harmonizing brown vrinkle; equipped with rubber feet and collapsible handle for portability. Dimensions re 10⅛" high x 6¾" wide x 5½" deep overall. A copper-oxide rectifier is employed to nsure AC range accuracy. All multipliers are bridge selected within one percent. A tandard 22½ volt battery, supplying testing current, is mounted within the case. Range election is accomplished by means of polarized jacks, rotary switch and toggle switch. 'otentiometer compensates for battery voltage drop. Furnished with Test Leads #1048. hipping weight 8 lbs. .... **Net $26.00**

SPECIFICATIONS: VOLTS DC: 0-5/10/50/100/500/2000—1000 Ohms per Volt
VOLTS AC: 0-12.5/25/125/250/1250
MILLIAMPERES DC: 0-1/10/100
MILLIAMPERES AC: 0-2.5/25/250
OHMS FULL SCALE: 1000/200,000/2,000,000
OHMS CENTER SCALE: 50/2250/22,500
OUTPUT: —5 to +55 Decibels

AC-DC VOLT-OHM-MILLIAMMETER — MODEL 431

Employs sensitive 425 microampere square meter mounted on an etched aluminum panel. and set in black wrinkle metal case 5-5/16" x 2-15/16" x 2½" overall. Polarized jacks and rotary switch facilitate range selection. Case provided with "Dot" snap-on carrying strap. A copper-oxide rectifier is employed for accurate AC measurements. All multipliers are bridge selected within one percent. Inclosed standard 1½ volt flashlight cell supplies testing current. Furnished with Test Leads #1048. Shipping weight 4 lbs. .... **Net $15.34**

SPECIFICATIONS: VOLTS DC: 0-30/300/1500—2000 Ohms Per Volt
VOLTS AC: 0-15/150—1000 Ohms Per Volt
MILLIAMPERES: DC: 0-150
OHMS FULL SCALE: 3000/300,000
OHMS CENTER SCALE: 35/3500

MODEL 431

AC-DC VOLT-OHM-MILLIAMMETER — MODEL 421

This multirange portable instrument incorporates a 650 microampere 2½" meter movement built into a bakelite panel, set in a black wrinkle finished steel case; size 5-7/16" x 3-9/16" x 3" overall. Sensitivity of 1000 ohms per volt is maintained on all voltage ranges. Shunts are bridge selected within ½ of one percent. All multipliers are bridge selected within one percent. A copper oxide rectifier is employed for accurate AC measurements. Ranges are brought out to custom built, concealed, high tension, silver plated jacks. Inclosed 4½ volt battery supplies testing current for the ohms ranges. Furnished with Test Leads #1048. Shipping weight 4 lbs. .... **Net $21.45**

SPECIFICATIONS: VOLTS DC: 0-7.5/15/150/750/1500
VOLTS AC and OUTPUT: 0-7.5/15/150/750/1500
MILLIAMPERES DC: 0-7.5/75
OHMS FULL SCALE: 5000/500,000
OHMS CENTER SCALE: 35/3500

HIGH SENSITIVITY VOLT-OHMMETER — MODEL 432

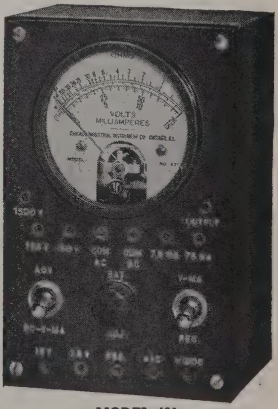
'his tester employs the use of a three-inch square 100 microampere meter movement nounted on an engraved molded panel and set in a black wrinkle finished steel case. sensitivity of 10,000 ohms per volt is maintained on all voltage ranges. Range selection s accomplished by means of toggle switch and jacks. A 4½ volt battery is inclosed to upply testing current for the ohms ranges. Four volt ranges and four ohm ranges insure omplete coverage for most test applications. All multipliers are bridge selected to within one percent. Furnished with Test Leads #1048. Overall size is 5-7/16" x 3-9/16" x 3". hipping weight 4 lbs. .... **Net $21.45**

SPECIFICATIONS: VOLTS DC: 0-3/30/300/600
OHMS FULL SCALE: 2000/20,000/200,000/2,000,000
OHMS CENTER SCALE: 35/350/3500/35,000

SUPER HIGH SENSITIVITY VOLT OHMMETER — MODEL 433

Mechanical construction is the same as the Model 432 shown above. A 50 microampere neter movement is used maintaining 20,000 ohms per volt on all voltage ranges. Furnished vith #1048 Test Leads. Shipping weight 4 lbs. .... **Net $23.40**

SPECIFICATIONS: DC: 0-3/30/300/600
OHMS FULL SCALE: 5000/50,000/500,000/5,000,000
OHMS CENTER SCALE: 70/700/7000/70,000



MODEL 421

CIICo. CHICAGO INDUSTRIAL INSTRUMENT CO. CIICo.
CHICAGO 10, ILLINOIS

DE MORNAY-BUDD TEST EQUIPMENT
the Standard for the Microwave Field

MCS	WAVEGUIDE DIM.	ITEM	PART NO.
4000-6000	2″ x 1″	Tee Junction Wave Meter Mount	DB-330
4000-6000	2″ x 1″	"N" to Waveguide Transformer	DB-331
4000-6000	2″ x 1″	Standing Wave Detector	DB-332
4000-6000	2″ x 1″	Tube Mount	DB-334
4000-6000	2″ x 1″	Low Power Termination	DB-335
4000-6000	2″ x 1″	Wave Meter	DB-336
4000-6000	2″ x 1″	Variable Attenuator	DB-337
4000-6000	2″ x 1″	Pedestals	DB-333
4000-6000	2″ x 1″	Flap Attenuator	DB-339
4000-6000	2″ x 1″	Clamps	DB-340
4000-6000		Power Supply	DB-341
4000-6000		Amplifier	DB-342
4000-6000		Cable with Connectors	DB-343
4000-6000	2″ x 1*	Calibrated Directional Coupler	DB-344
		Adapters:	
4000-6000	2″ x 1″	Choke Flange to Choke Flange	DB-345
4000-6000	2″ x 1″	Cover Flange to Cover Flange	DB-346
4000-6000	2″ x 1″	Cover Flange to Choke Flange	DB-347
4000-6000	2″ x 1″	Variable Slug Tuner	DB-348
4000-6000	2″ x 1″	Meter-Long Waveguide	DB-349
4000-6000	2″ x 1″	Double Slug Tuner	DB-350
4000-6000	2″ x 1″	Tunable Load	DB-351
4000-6000	2″ x 1″	Tunable Crystal Mount	DB-535
4000-6000	2″ x 1″	Hybrid (Magic) Tee	DB-537

MCS	WAVEGUIDE DIM.	ITEM	PART NO
8500-9400	1″ x ½″	"N" Connector Tunable Crystal Cavity	DB-37
8500-9400	1″ x ½″	Tee Junction Wave Meter Mount	DB-37
8500-9400	1″ x ½″	Tunable Crystal Mount	DB-37
8500-9400	1″ x ½″	"N" to Waveguide Transformer	DB-37
8500-9400	1″ x ½″	Standing Wave Detector	DB-37
8500-9400		Type "N" Slotted Section	DB-37
8500-9400	1″ x ½″	Tube Mount	DB-38
8500-9400	1″ x ½″	Low Power Termination	DB-38
8500-9400	1″ x ½″	Wave Meter	DB-38
8500-9400	1″ x ½″	Variable Attenuator	DB-38
8500-9400	1″ x ½″	Pedestals	DB-38
8500-9400	1″ x ½″	Flap Attenuator	DB-38
8500-9400	1″ x ½″	Clamps	DB-38
8500-9400		Power Supply	DB-38
8500-9400		Amplifier	DB-38
8500-9400		Cable with Connectors	DB-38
8500-9400	1″ x ½″	Calibrated Directional Coupler	DB-39
		Adapters:	
8500-9400	1″ x ½″	Choke Flange to Choke Flange	DB-39
8500-9400	1″ x ½″	Cover Flange to Cover Flange	DB-39
8500-9400	1″ x ½″	Cover Flange to Choke Flange	DB-39
8500-9400	1″ x ½″	Meter-Long Waveguide	DB-39
8500-9400	1″ x ½″	Double Slug Tuner	DB-39
8500-9400	1″ x ½″	Tunable Loads	DB-3
8500-9400	1″ x ½″	Variable Slug Tuner	DB-53
8500-9400	1″ x ½″	Hybrid (Magic) Tee	DB-53

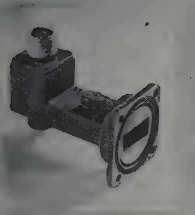
MCS	WAVEGUIDE DIM.	ITEM	PART NO.
6000-8500	1½″ x ¾″	Tee Junction Wave Meter Mount	DB-352
6000-8500	1½″ x ¾″	"N" to Waveguide Transformer	DB-353
6000-8500	1½″ x ¾″	Standing Wave Detector	DB-354
6000-8500		Type "N" Slotted Section	DB-355
6000-8500	1½″ x ¾″	Tube Mount	DB-356
6000-8500	1½″ x ¾″	Low Power Termination	DB-357
6000-8500	1½″ x ¾″	Wave Meter	DB-358
6000-8500	1½″ x ¾″	Variable Attenuator	DB-359
6000-8500	1½″ x ¾″	Pedestals	DB-360
6000-8500	1½″ x ¾″	Flap Attenuator	DB-361
6000-8500	1½″ x ¾″	Clamps	DB-362
6000-8500		Power Supply	DB-363
6000-8500		Amplifier	DB-364
6000-8500		Cable with Connectors	DB-365
6000-8500	1½″ x ¾″	Calibrated Directional Coupler	DB-366
		Adapters:	
6000-8500	1½″ x ¾″	Choke Flange to Choke Flange	DB-367
6000-8500	1½″ x ¾″	Cover Flange to Cover Flange	DB-368
6000-8500	1½″ x ¾″	Cover Flange to Choke Flange	DB-369
6000-8500	1½″ x ¾″	Variable Slug Tuner	DB-370
6000-8500	1½″ x ¾″	Meter-Long Waveguide	DB-371
6000-8500	1½″ x ¾″	Double Slug Tuner	DB-372
6000-8500	1½″ x ¾″	Tunable Load	DB-373
6000-8500	1½″ x ¾″	Tunable Crystal Mount	DB-448
6000-8500	1½″ x ¾″	Hybrid (Magic) Tee	DB-538

MCS	WAVEGUIDE DIM.	ITEM	PART NO
23000-27000	½″ x ¼″	Standing Wave Detector	DB-39
23000-27000	½″ x ¼″	Tube Mount	DB-39
23000-27000	½″ x ¼″	Low Power Termination	DB-40
23000-27000	½″ x ¼″	Wave Meter	DB-40
23000-27000	½″ x ¼″	Variable Attenuator	DB-40
23000-27000	½″ x ¼″	Pedestals	DB-40
23000-27000	½″ x ¼″	Flap Attenuator	DB-40
23000-27000	½″ x ¼″	Clamps	DB-40
23000-27000		Power Supply	DB-40
23000-27000		Amplifier	DB-40
23000-27000		Cable with Connectors	DB-40
23000-27000	½″ x ¼″	Calibrated Directional Coupler	DB-41
		Adapters:	
23000-27000	½″ x ¼″	Square Choke Flange to Square Cover Flange	DB-41
23000-27000	½″ x ¼″	Square Choke Flange to Square Choke Flange	DB-41
23000-27000	½″ x ¼″	Square Cover Flange to Square Cover Flange	DB-41
23000-27000	½″ x ¼″	Round Choke Flange to Round Cover Flange	DB-41
23000-27000	½″ x ¼″	Round Choke Flange to Round Choke Flange	DB-41
23000-27000	½″ x ¼″	Round Cover Flange to Round Cover Flange	DB-41
23000-27000	½″ x ¼″	Round Choke Flange to Square Cover Flange	DB-41
23000-27000	½″ x ¼″	Round Choke Flange to Square Choke Flange	DB-41
23000-27000	½″ x ¼″	Round Cover Flange to Square Choke Flange	DB-42
23000-27000	½″ x ¼″	Round Cover Flange to Square Cover Flange	DB-42
23000-27000	½″ x ¼″	Meter-Long Waveguide	DB-42
23000-27000	½″ x ¼″	Crystal Adapter	DB-42
23000-27000	½″ x ¼″	Tunable Load	DB-42
23000-27000	½″ x ¼″	Hybrid (Magic) Tee	DB-54

DE MORNAY
BUDD
EQUIPMENT FOR 97% OF ALL RADAR SETS

All test equipment is supplied with inner and outer surfaces gold-plated unless otherwise specified.

EVERY DE MORNAY-BUDD WAVE GUIDE is Electrically Tested, Calibrated and Tagged

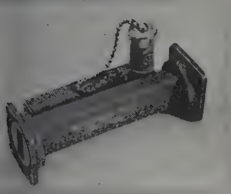

Crystal Mount DB-531

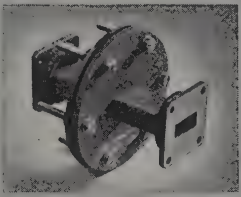
Rotating Joint DB-446

90° Elbow (H Plane) DB-433

Pressurizing Unit DB-452

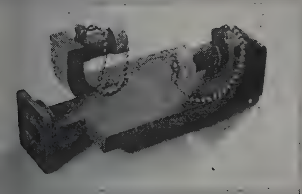
Mitered Elbow (H Plane) DB-439

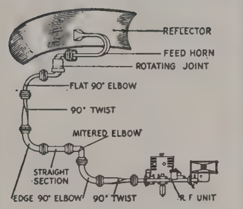

ni-directional Broad Band Coupler DB-442


Bulkhead Flange DB-451

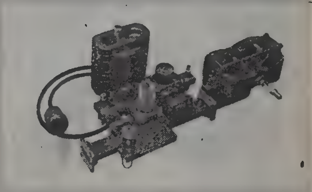
Uni-directional Narrow Band Coupler DB-440

90° Twist DB-435


Bi-directional Narrow Band Coupler DB-441



Typical wave guide assembly illustrating use of De Mornay-Budd components available from standard stocks.


RF Radar Assembly DB-412

When you use any De Mornay-Budd wave guide assembly, you know exactly how each component will function electrically. You avoid possible losses in operating efficiency through impedance mismatches, or breakdown and arcing caused by a high standing wave ratio. (See chart below.)

De Mornay-Budd wave guides are manufactured from special precision tubing, and to the most stringent mechanical specifications. Rigid inspection and quality control insure optimum performance.

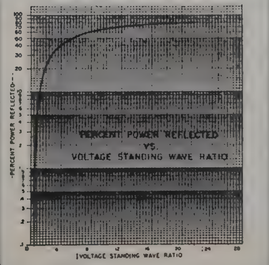
De Mornay-Budd standard microwave components operate on the following frequencies: 4000-6000 mcs., 6000-8500 mcs., 8500-9400 mcs., 23000-27000 mcs.

Complete laboratory service and consultations on micro-wave transmission line problems available.

Write for catalog of standard components and test equipment.

The curve shows the manner in which the reflected power increases with an increase in the voltage standing wave ratio. The curve is calculated from the following equation:

$$\%\ \text{Power Reflected} = \left(\frac{\left(\frac{V_{max}}{V_{min}}\right) - 1}{\left(\frac{V_{max}}{V_{min}}\right) + 1}\right)^2$$



DE MORNAY BUDD
EQUIPMENT FOR 97% OF ALL RADAR SETS

De Mornay-Budd, Inc., 475 Grand Concourse, New York 51, N. Y.
Cable Address "Dembud", N. Y.

All standard components are supplied with inner surfaces silver-plated (50 msi) and outer surfaces baked wrinkled gray.

DUMONT Cathode-Ray

TUBES ★ OSCILLOGRAPHS ★ EQUIPMEN

"Precision electronics" is more than a slogan with Du Mont . . . it is a tradition!

The superiority of the Du Mont cathode-ray oscillograph has made it the preferred instrument among colleges, research laboratories, and industrial users throughout the world.

A few of the many practical uses includes the study and testing of: radio and television receivers, transmitters, welding circuits, transmission lines, electron control devices, circuit breakers, relays, and oth electrical equipment. It is equally valuable in the stu of vibrations, acoustics, metal properties, detonati in internal combustion engines, as well as the analys of colors and the precision adjustment of watches.

CATHODE-RAY
OSCILLOGRAPH
DUMONT

5" DU MONT TYPE 274 OSCILLOGRAPH

The Du Mont Type 274 cathode-ray oscillograph was developed as an inexpensive gener purpose instrument for laboratory radio service and educational applications. A speci design feature has been incorporated so that a series of demonstration units may be us in conjunction with the instrument deriving their power from it. A complete series demonstration units is now under development and will offer an exceptionally convenie and practical method of instruction in electronic principles for schools, colleges, and laboratori

SPECIFICATIONS

Five-inch 5BP1-A tube with green, medium persistence screen and removable calibrated scale are standard equipment.

INPUT IMPEDANCE: Y axis: Direct 5 meg., 50 uuf. X axis: Direct 5 meg., 60 uuf.

AMPLIFIER: Y amplifier: 1 meg., 40 uuf. X amplifier: 5 meg., 40 uuf.

FREQUENCY RANGE: X and Y Amplifiers: Sine wave response uniform within ±20% from 20 cycles to 50 kc. Down less 50% at 100 kc.

DEFLECTION SENSITIVITY: With Amplifier, to Y-Axis 0.65 rms volts/in., to X-Axis 0.65 rms volt/in. Direct to deflection plates, Y-Axis 18 rms volts/in., X-Ax 18 rms volts/in.

LINEAR-TIME-BASE: Continuously variab frequency range from 8 cps to 30 kc. Sy chronizing signal sources: internal or e ternal.

Z-AXIS: 10 rms volts to blank.

TUBES: All tubes furnished.

PHYSICAL: Green wrinkle-finish steel cab net with carrying handle. Dark green, sat finish panel with polished characters, whi knobs. Height 14". Width 8⅝". Dep 19⅜". Weight 35 lbs.

Cat. No.	Type No.	Description	Net Pri
1220-A	**274**	115 v. 50-60 cycles with 5BP1A Cathode-Ray Tube	**$ 99.5**
1222-A	**274**	115 v. 50-60 cycles with 5BP11A Cathode-Ray Tube	**102.2**

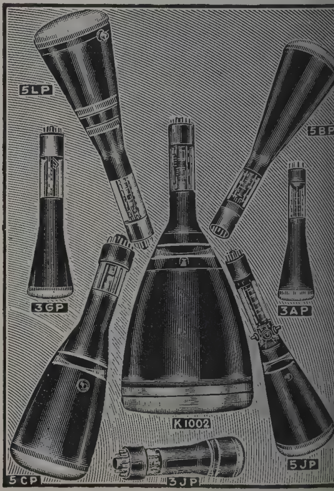
DU MONT CATHODE-RAY TUBES

Into the making of the modern Du Mont Cathode-Ray Tube has gone all the experience, skill, and knowledge acquired during the many years since Du Mont commercially pioneered the cathode-ray tube from its infancy to its present improved state. Complete specialization, constant research, and careful supervision of eve step from the design sheet to the finished manufactured produ is largely responsible for making Du Mont cathode-ray tubes th accepted standard for quality, accuracy, and performance.

INDUSTRIAL TYPES OF TUBES

(As in effect March 1, 1946)

Type No.	Cat. No.	Persistence	Price
3AP1	2001-B	Medium	$14.85
3AP11	2006-B	Short	16.50
3GP1	2019-B	Medium	22.00
3GP11	2024-B	Short	23.65
3JP1	2025-B	Medium	24.00
3JP2	2026-B	Long	27.50
3JP7	2029-B	Long	28.75
3JP11	2030-B	Short	25.65
5BP1	2031-B	Medium	24.75
5BP11	2036-B	Short	27.50
5CP1	2037-B	Medium	34.90
5CP2	2038-B	Long	40.40
5CP7	2041-B	Long	42.40
5CP11	2042-B	Short	37.65
5JP1	2049-B	Medium	52.50
5JP2	2050-B	Long	58.00
5JP7	2053-B	Long	60.00
5JP11	2054-B	Short	55.25
5LP1	2055-B	Medium	33.00
5LP2	2056-B	Long	38.50
5LP7	2059-B	Long	40.50
5LP11	2060-B	Short	35.75
K1002P1	2103-B	Medium	71.50
K1002P2	2104-B	Long	81.00
K1002P7	2107-B	Long	84.50
K1002P11	2108-B	Short	76.50



DUMONT Cathode-Ray
TUBES ★ OSCILLOGRAPHS ★ EQUIPMENT

5" DU MONT TYPE 241 OSCILLOGRAPH

CATHODE-RAY OSCILLOGRAPH
DUMONT

esigned for application requiring the observation of audio and video frequency signals above ie operating range of standard oscillographs, the Type 241 is well adapted for problems ivolving non-sinusoidal waveshapes such as pulses and square waves. Cathode-loaded input .ages to the balanced deflection amplifiers permit the use of a low-impedance attenuator thus reventing attenuator frequency discrimination. Elimination of over-compensation at high equency greatly extends the useful range of the amplifiers. A test probe and shielded cable, r high frequency work, is contained in the removable front cover.

SPECIFICATIONS

ive-inch intensifier-type 5JP1 tube with reen medium persistence screen and calirated scale are standard equipment. Four ee deflection plates with neck terminals duce input capacitance and permit the se of improved wide band deflection amlifiers.

NPUT IMPEDANCE: X and Y Axis; Terinals 2 meg. 40 uuf; Probe 1 meg., 10 uf; Direct (balanced) 5 meg. 20 uuf. irect (unbalanced) 5 meg., 25 uuf.

REQUENCY RANGE: Uniform within 3 b., Y-axis 20 c. to 2 mc., X-axis 5 c. to 00 kc., Z-axis 30 c. to 2 mc.

EFLECTION SENSITIVITY: With amplier, to Y-axis 0.07 rms volt/in., with probe 0.70; to X-axis 0.70; to deflection plates, Y-axis 22 rms volts/in.; X-axis 21.

LINEAR TIME-BASE: Continuously variable 15 to 30,000 cps. Synchronizing signal sources, internal Y-axis signal, power supply frequency, or external. Synchronization by either polarity of synchronizing signal.

POWER SUPPLY: 115 volts, 50 to 60 cycles. Power consumption 160 watts.

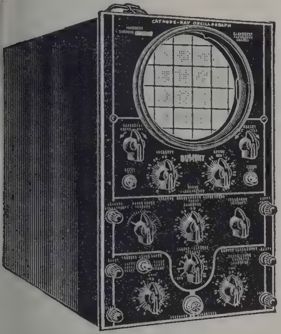
TUBES: All tubes furnished.

PHYSICAL: Black wrinkle-finish steel cabinet with carrying handle. Satin finish steel panel with etched black markings. Height 17½", width 20¾", depth 21". Weight 65 lbs.

at. No.	Type No.	Description	Net Price
.192-A	241	115 v. 50-60 cycles with 5JP1 Cathode-ray Tube	$458.00
.204-A	241	115 v. 50-60 cycles with 5JP7 Cathode-ray Tube	463.50
.205-A	241	115 v. 50-60 cycles with 5JP11 Cathode-ray Tube	460.75

5" DU MONT TYPE 208-B OSCILLOGRAPH

moderately priced 5-inch instrument embodying many recent mirovements that facilitate its application to the great majority of aboratory and production requirements. The Type 208-B is furnished vith a 5-inch intensifier type, high vacuum tube which operates at n accelerating potential of 1,400 volts thus insuring trace brilliance. Freedom from origin distortion, sharp focus at all deflecting frequencies, and a high deflection sensitivity that permits the viewing of moderately low potential signals without the use of amplifiers are additional features. The wide-band amplifiers provide symmetric deflection and are direct coupled to eliminate "electrical backlash."



SPECIFICATIONS

Type 5LP1 intensifier type, high vacuum CRT with four free deflection plates and green medium persistence screen is standard. Type 5LP11 with blue short persistence screen available at slight additional cost. Removable calibrated scale supplied.

INPUT IMPEDANCE: Amplifiers, X-axis 5 meg., 25 uuf, Y-axis 2 meg. 30 uuf. Continuous attenuation control without frequency discrimination or amplitude distortion.

FREQUENCY RANGE: Plus or minus 10% from 2 to 100,000 sinusoidal cycles for both X and Y-axis amplifiers.

VOLTAGE GAIN: Y-axis 2,000, X-axis 43.

DEFLECTION SENSITIVITY: Maximum, Y-axis 0.010 rms volt/in., X-axis 0.5; Direct, Y-axis 21 rms volts/in., X-axis 22 rms volts/in.

LINEAR TIME-BASE: Recurrent over continuously variable range from 2 to 50,000 cycles.

POWER SUPPLY: 115 or 230 volts. 40 to 60 cycles a.c. Power consumption 90 watts. Voltage regulation for amplifiers and positioning controls.

TUBES: All tubes furnished.

PHYSICAL: Black wrinkle-finish steel cabinet with carrying handle. Black finish front panel with raised polished characters. Height 15¾", Width 8⅞", Depth 20¼". Weight 54 lbs.

Cat. No.	Type No.	Description	Net Price
1146-A	208-B	115 v. 40-60 cycles with 5LP1 Cathode-ray Tube	$235.00
1147-A	208-B	230 v. 40-60 cycles with 5LP1 Cathode-ray Tube	235.00
1148-A	208-B	115 v. 40-60 cycles with 5LP11 Cathode-ray Tube	237.75
1149-A	208-B	230 v. 40-60 cycles with 5LP11 Cathode-ray Tube	237.75
1150-A	208-B	115 v. 40-60 cycles with 5LP7 Cathode-ray Tube	240.50
1151-A	208-B	230 v. 40-60 cycles with 5LP7 Cathode-ray Tube	240.50

3" DU MONT TYPE 224-A OSCILLOGRAPH

The wide range response of this instrument provides faithful reproduction of all waveforms with steep fronts and resultant large harmonic content, thereby permitting the study of signals, such as pulses and square waves involving frequency components as high as 5 megacycles. Numerous combinations of signal input connections at the front panel provide added flexibility and convenience of operation. A special feature is the provision for intensity modulation of the grid of the cathode-ray tube. Included is a test probe with shielded cable for high frequency work and to eliminate stray pickup.

SPECIFICATIONS

Three-inch Type 3GP1 tube with green medium persistence screen and removable calibrated scale are standard equipment.

INPUT IMPEDANCE: X and Y-axis; Terminals, 2 meg., 30 uuf; Probe, 1 meg., 20 uuf; Direct (Balanced), 10 meg., 20 uuf; Direct (Unbalanced), 5 meg., 25 uuf.

FREQUENCY RANGE: Sine wave response uniform within 3 db, Y-axis from 20 c. to 2 mc., X-axis from 10 c. to 100 kc.

DEFLECTION SENSITIVITY: With amplifier, to Y-axis 0.1 rms volt/in. deflection, to X-axis 0.7, Y-axis with probe 0.4, Direct to deflection plates, Y-axis 25 rms volts/in. deflection, X-axis 28 volts.

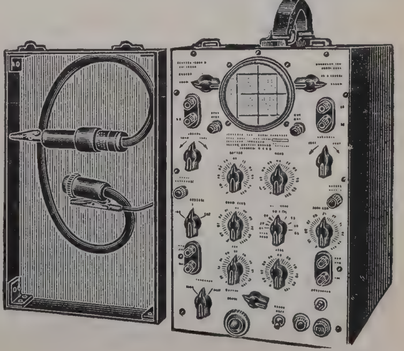
LINEAR TIME BASE: Continuously variable frequency range from 15 to 30,000 cps. Synchronizing signal sources: internal Y-axis signal, power supply frequency, or external. Synchronization by either polarity of synchronizing signal.

POWER SUPPLY: 115 volts, 50 to 60 cycles. Power consumption 150 watts.

TUBES: All tubes furnished.

PHYSICAL: Olive-drab wrinkle-finished steel cabinet with carrying handle. Black characters on etched bright metal panel. Height 14⅛", Width 8⅜", Depth 15⅛". Weight 49 lbs.

Cat. No.	Type No.	Description	Net Price
1191-A	224-A	115 v. 40-60 cycles with 3GP1 Cathode-ray Tube and Test Probe	$250.00
1203-A	224-A	115 v. 40-60 cycles with 3GP11 Cathode-ray Tube and Test Probe	252.75



Electronic Voltmeter Ohmmeter

FOR ACCURACY · STABILITY · CONSTANCY

ELECTRONIC MFG. CO.
HARRISBURG, PA.

A stable bridge circuit type vacuum tube for measuring AC-DC voltages and ohms by electronic means.

Measures DC volts up to 600 volts with a constant input resistance of 11 megohms. Resistor in DC probe permits readings in signal carrying circuits. Positive or negative indications simply obtained by use of a reversal switch. External multiplier extends range to 2400 volts.* (Input circuit for DC voltages well filtered and shielded against AC voltages.)

On AC input capacity is less than 9-MMF giving a frequency response of less than 50 cycles to better than 100 megacycles. Input resistance on AC is 8 megohms on all ranges.

Uses shunt type ohmmeter circuit, only one adjustment necessary for all ranges. Meter is protected by saturation in electronic circuit. Cannot be damaged by accidental overload. Accuracy not affected by average line voltage variations. Size of instrument 10 x 10 x 7 inches.

Acid etched panel.

Positive Accuracy

- Perfectly balanced — circuit highly degenerative
- Low Grid Current
- Hand Calibrated
- Hand Calibrated Resistors

●

METER RANGE

DC Volts 0-3; 0-30; 0-150; 0-300; 0-600; (Up to 2400 with multiplier probe)*.

AC Volts 0-3; 0-30; 0-150; 0-300.

Ohms 0-1000; 0-10M; 0-100M; 0-1 Meg; 0-100 Meg.

NET PRICE MODEL 100 $75.00

OUTSTANDING FEATURES....

1. Zero control constant. Production samples have been run several months without changing zero control.
2. Easy to operate. Controls are self-explanatory.
3. Fungicide treatment protects against extremes in temperature and humidity.
4. All parts well overrated.
5. Instrument can be run continuously.

●

*External Multiplier Probe, $5.00 Net Supplied Only When Requested.

ELECTRONIC MANUFACTURING CO.

714 RACE STREET, HARRISBURG PA.

Electronic Measurements Corporation

*VOLOMETER

*Trade Name for Volt-Ohm-Milliammeter

MODEL 101B

Open face as shown.

Price **$20.95**

Size: 5⅜" x 8⅝" x 2¾".

In portable case.

Price **$24.95**

Size: 7⅛" x 8⅝" x 3¾".

Complete with test leads.

Here is an unusually attractive, EXCEPTIONALLY LOW-PRICED volt-ohm-milliameter. It is a rugged, flexible instrument, combining features which are not available in competitive models selling for more than double this price.

You will be convinced when you read the "Specifications" and "Special Features" that MODEL 101 VOLOMETER is just the instrument to have around the shop or lab whenever the type of measurement does not justify the use of expensive, complicated, highly sensitive equipment.

The fact that resistances between 1/20 OHM and 20 MEGS and AC voltages between 25 CYCLES and 1 MEGACYCLE in frequency can be measured with this unit, makes it a handy and very valuable instrument. In short, when it comes to value and versatility, MODEL 101 really sets the pace.

SPECIFICATIONS

5 DC VOLTAGE RANGES (approx. 1000 ohms per v.): 0 to 6-60-300-600-3000 volts.

4 AC VOLTAGE RANGES: 0 to 12-120-600-1200 volts.

3 DC CURRENT RANGES: 0 to 6-60-600 milliamperes.

4 RESISTANCE RANGES: 0 to 200-2000-200,000 20 megohms.

MODEL 101A

Open face as shown.

Price **$17.50**

Size: 4½" x 7½" x 3¼".

In portable case.

Price **$21.50**

Size: 6¼" x 7½" x 3¼".

Complete with test leads.

SPECIAL FEATURES

Resistances from 1/20 ohm to 20 megohms. Low ohm scale is low drain back-up type. First 10 divisions are 1/20 ohm each.

AC volts from 25 cycles to 1 megacycle with no temperature error. No external source of power required.

Battery and rectifier replaceable without use of soldering iron.

Matched-pair multiplier resistors accurate within 1%. Meter accurate within 2%.

*VOLOMETER MODEL 100

*Trade Name for Volt-Ohm-Milliammeter

A new pocket size volt-ohm-milliammeter with features never before available in an instrument of this size and price. Quality engineered both electrically and mechanically, this instrument will satisfy the exacting requirements of the electronics engineer, laboratory worker or service man. Employing a spcial rectifier circuit, this unit will accurately measure AC voltages from 25 CYCLES to 1 MEGACYCLE with no temperature errors and without the necessity of plugging into any external source of power. For this reason it is invaluable for Audio, I. F. or low R. F. voltage measurements. In addition, the instrument can be used to measure resistances from ½ ohm to 30 megohms.

Bakelite panel and wooden case prevent any voltage breakdowns to either the panel or case when measuring high voltages.

SPECIFICATIONS:

6 D. C. VOLTAGE RANGES (1000 ohms per volt)
0 to 3-12-60-300-1200-6000 volts.
6 A. C. VOLTAGE RANGES (1000 ohms per volt)
0 to 3-12-60-300-1200-6000 volts.
4 D. C. CURRENT RANGES
0 to .6-6-60-600 milliamperes.
3 RESISTANCE RANGES
0 to 3000-300,000 ohms; 0 to 30 megohms.
4 DB RANGES
—10 to plus 8-20-34-48.

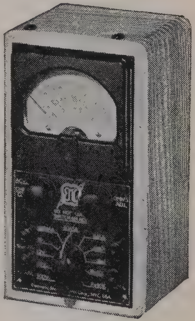
SPECIAL FEATURES:

A. C. volts from 25 cycles to 1 megacycle with no temperature errors. No external source of power required.
Bakelite panel.
Battery and rectifier replaceable without soldering iron.
Resistances from ¼ ohm to 30 megohms.
Voltages to 6000 volts.
0-400 Microampere Meter.

All multipliers are matched within 1%.

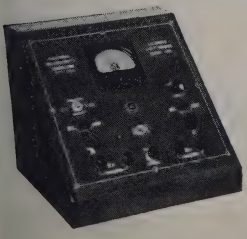
Open face model, Size: 6⅜" x 3½" x 3". ....Price **$21.95**

Portable Model. Complete with set of test leads. Size: 6⅜" x 4½" x 4¼". ....Price **$25.95**



MODEL 100

MODEL 400 ELECTRONIC LIMIT BRIDGE



MODEL 400

Here is an Electronic Limit Bridge that has ALL the features you've been looking for:

SIMPLICITY OF OPERATION—No adjustments to be made. Just plug into any 115 Volt A. C. line.

NO BATTERIES TO BE REPLACED—Model 400 is completely A. C. operated and contains no batteries.

WIDE RANGE—Resistance from 1 ohm to 3 megohms can be measured.

STABILITY—Zero does not shift every time the unit is turned on. Special push-pull circuit assures constancy of readings in spite of changing tube characteristics.

ACCURACY—Standard internal resistors are accurate to ±0.1%.

PROTECTION AGAINST OVERLOAD—Meter can't be damaged even if resistor to be measured is open or shorted.

DIRECT READING IN % DEVIATION—Available with either 5% or 10% full scale deflection. Specify which is desired.

INDICATES WHETHER PLUS OR MINUS DEVIATION—Each division represents 0.2%.

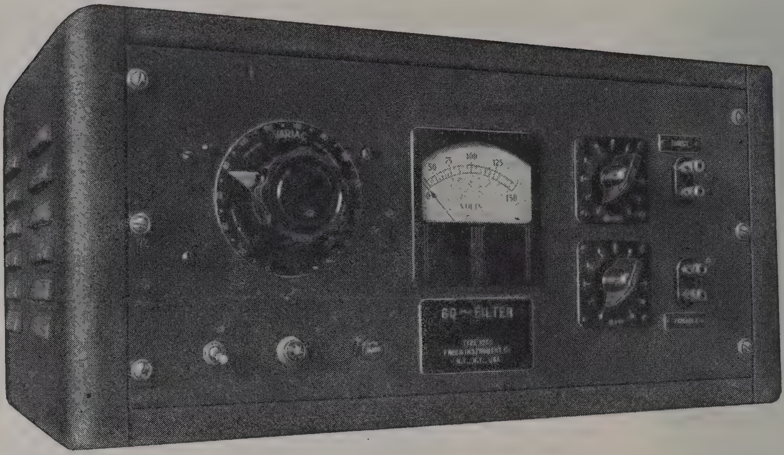
QUALITY WORKMANSHIP—Bus bar wiring used.

Model 400A with 3" meter as illustrated ....Low Price **$75.00**

Model 400B with 4"¼ square meter ....Low Price **$85.00**

Model 400C with 7½" square meter ....Low Price **$99.50**

FREED 1050–60 CYCLE FILTER



Uses: The calibration of instruments, where the form factor of the applied voltages is important (AC voltmeters and vacuum tube voltmeters).

The measurement of harmonic distortion of amplifiers, transformers and tubes.

Description: The instrument is composed of a constant voltage transformer, a variac, a 60 cycle low pass filter, a decade attenuator and a 1% AC voltmeter.

The constant voltage transformer makes the instrument independent of the line variations.

The variac makes the instrument extremely flexible, since any voltage value can be obtained.

The decade attenuator makes it possible to vary the output voltage from 0 to 110 volts in increments of 1 volt.

The 1% AC voltmeter measures the AC voltage in the output of the filter.

The instrument is self contained and AC operated.

SPECIFICATIONS

Frequency: 60 cycles.

Stability: There is less than 1% variation in output voltage for a plus or minus 10% variation in line voltage.

Output Impedance: 600 ohms unbalanced to ground.

Load Impedance: Where the filter is used without the attenuator the optimum matching impedance is 600 ohms.

When the filter is used with the attenuator the load impedance should be high (grid of a tube) or not less than 100,000 ohms.

Output Voltage and Power: When used directly, the open circuit voltage is 150 volts.

With matched load (600 ohms) the maximum power is 20 watts. When used with the attenuator the maximum voltage is 150 volts.

Output Control: The output voltage is made continuously variable by the use of the variac or made variable in steps by the use of the two attenuators.

Waveform: The harmonic distortion is less than .5% in full load conditions.

Temperature and Humidity Effects: The instrument is not affected by wide variations of temperature and humidity.

Power Supply: 105-125 volts 60 cycles. The total power consumption is 60 watts.

Mounting: The instrument is mounted on a standard 19" panel and is supplied with a portable streamlined all metal cabinet.

Dimensions: 10½x14½x22 inches.

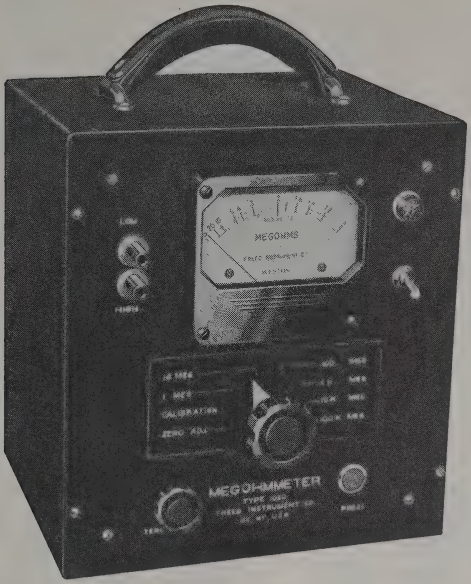
Net Weight: 75 lbs.

FREED TRANSFORMER CO., INC.

INSTRUMENTS DIVISION

72-78 SPRING STREET **NEW YORK 12, NEW YORK**

FREED No. 1020 MEGOHMMETER



Jses: The measurement of leakage resistance of insulating ma- erials, condensers, cables, motor and transformer windings.

Description: The instrument is a precision balanced electronic ohmmeter.

The high voltage potential necessary for insulation measurements is included in the instrument. An exceptionally wide range of resistances can be measured on the six overlapping ranges. zero adjustment is provided for setting all the six ranges in a ingle operation. The resistance is read directly on a 4" meter cale. The meter is protected against overloads.

A relay operated from the front panel disconnects the high voltage from the binding posts and this eliminates all danger of shock due to exposed high voltage potential.

In the stand by position, the relay connects a high resistance between the high voltage binding post and the chassis (ground) thus eliminating the danger of shock when measuring the leakage resistance of condensers.

The instrument is self contained, completely AC operated and has electronically regulated high voltage supplies.

SPECIFICATIONS

ange: 1 megohm to 1,000,000 megohms in six overlapping anges.

ccuracy: Plus or minus 3% on the first four ranges; plus or ninus 8% on the last two ranges.

emperature and Humidity Effect: The accuracy of the instrument is substantially independent of temperature and relative umidity variations within the normal range.

Stability: A plus or minus 10% variation in the line voltage auses less than a 1% variation in the meter reading.

oltage on the Unknown: The voltage applied to the unknown is 500 volts and is independent (less than 1%) of the value of the unknown.

Tubes: The necessary tubes are:

2—6C6
2—6SH7
1—VR 105
1—VR75
1—1-V
1—6X5

Power Supply: 105 to 125 volts AC 50 or 60 cycles. Power Consumption—32 watts.

Cabinet: Portable and of all metal construction.

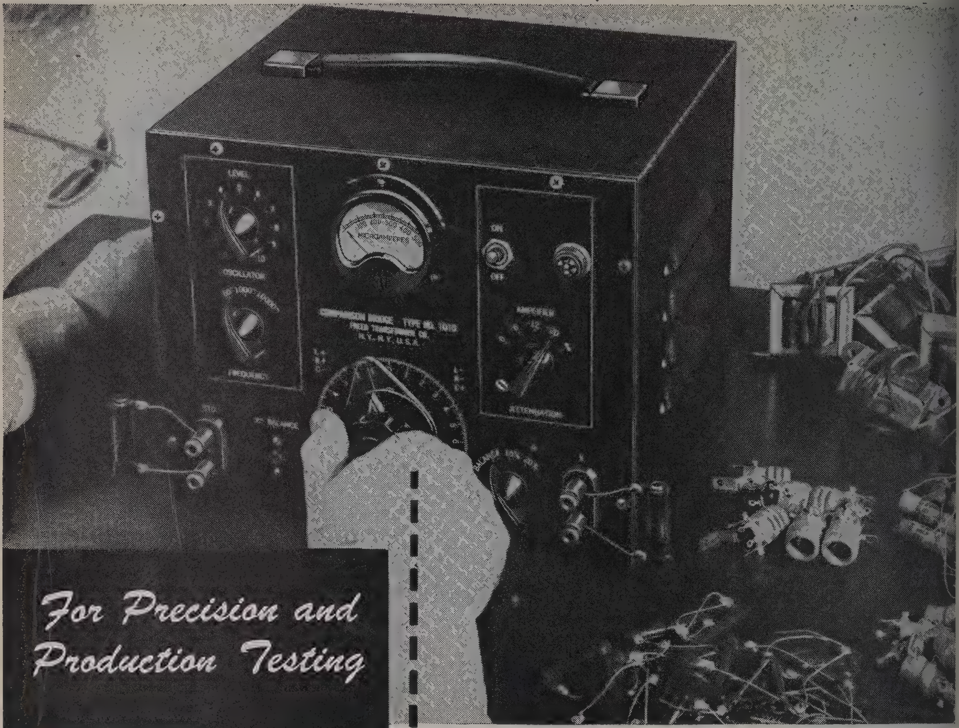
Dimensions: 9½" x 10½" x 8".

Net Weight: 21 lbs.

FREED TRANSFORMER CO., INC.

INSTRUMENTS DIVISION

72-78 SPRING STREET NEW YORK 12, NEW YORK



For Precision and Production Testing

FREED NO. 1010
COMPARISON AND LIMIT BRIDGE

Frequencies: 50 or 60 cycles, 1000 cycles, and 10,000 cycles.
Range: 10% and 20%, selected by a rotary switch.
Resistor Measurements: Resistors from 10 ohms up to 1 megohm measured by comparison method at 60 cycles. Those of greater value can be measured by using the instrument as a limit bridge.
Condenser Measurements: Condensers from 500 mmf. up to 10mf. measured by comparison at 1000 cycles, above 10 mf. at 60 cycles. Using as a limit bridge, condensers of 500 mmf. to 25 mmf. are measured at 1000 cycles.
Inductor Measurements: Depending on their values, inductors may be measured at 60 cycles, 1000 cycles, or 10,000 cycles.
Accuracy: On 10% position, components adjusted to within .5% accuracy.
Voltage Applied To Unknown: Voltage impressed across unknown terminals varies with absolute value of unknown. Maximum voltage: 15 volts. Minimum voltage: .5 volts.
Power Supply: 105 to 125 volts, 50-60 cycles. Power consumption: 40 watts.
Net Weight: 15½ lbs.
Dimensions: 10½" x 8¾" x 12".

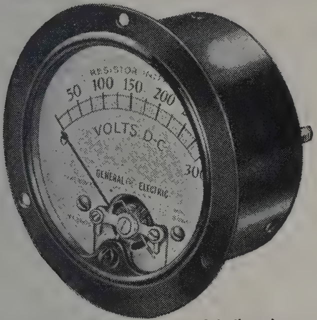
PRICE $150.
F.O.B. NEW YORK

This compact, lightweight instrument is extremely useful to manufacturers of resistors, condensers and inductors for production testing, to consumers for inspection and acceptance tests, and for laboratory work requiring very accurate components.

A product of Freed specialized engineering, the No. 1010 contains many outstanding features both as a comparison and precision limit bridge. Completely self-contained, its small size and light weight allow it to be moved easily and set up wherever necessary — even in a noisy location. Percentage difference between unknown and standard components is easily read on a specially calibrated dial, and accuracy of measurement is assured by use of precision components in the arms of the bridge. High gain amplifier and adequate internal shielding guarantee sharp and distinct balance. Technical Folder Available.

FREED TRANSFORMER CO., INC.
INSTRUMENTS DIVISION
72-78 SPRING STREET **NEW YORK 12, NEW YORK**

ELECTRIC INDICATING INSTRUMENTS
For Panel Mounting
Internal-pivot Direct-current and Radio-frequency Types



Type DW-51 voltmeter in a metal (brass) case

1
2
3
4
AMPERES R-F
GENERAL ELECTRIC

Type DW-52 ammeter in a molded Textolite case

These small panel instruments are particularly suitable for use in radio and other communications equipment where compactness, especially minimum depth behind the panel, is essential. Thinness is obtained by the use of a unique single-unit, high-torque element of the permanent-magnet, moving-coil type. In this element, the pivots, instead of being secured to the outside of the armature winding, are solidly mounted on the inside of the armature shell..

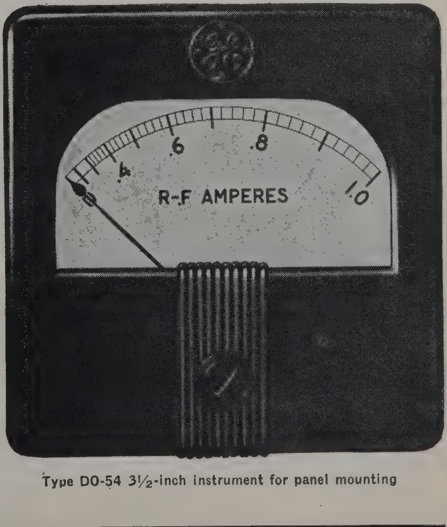
G-E internal-pivot instruments are available in a variety of standard ratings to measure direct current and voltage (Type DW-51), and radio-frequency current (Type DW-52). They are of the 2½-inch classification. The depth behind the panel is 0.89 inch for the molded Textolite case; 1.03 inches for the metal case.

OTHER TYPES

Many other types of G-E indicating instruments are available for panel mounting. They include 3½-inch a-c, d-c, r-f, and rectifier types in standard round cases as well as in rectangular cases, such as the one shown below. Also 2½-inch alternating-current instruments. Still other types can be supplied to meet unusual requirements.

LISTINGS

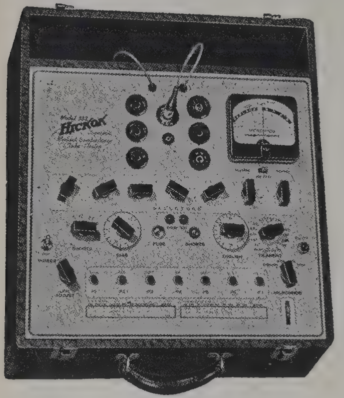
Range	Approx. Resistance in Ohms	Cat. No.	List Price
volts	1,000	258X65	$10.50
	5,000	258X68	10.50
	20,000	258X72	10.50
	50,000	258X74	10.50
	100,000	258X76	11.00
	150,000	258X77	11.75
milliammeters	25	258X90	8.50
	7.4	258X93	7.50
	2.16	258X96	7.50
	.50	258X98	7.50
	.252	259X1	7.50
	.100	259X4	7.50
microammeters	2,030	259X5	22.00
	693	259X7	19.50
	302	259X9	12.75
	68.5	259X11	12.75
amperes (r-f)	.29	259X13	14.50
	.034	259X16	14.50
	.017	259X19	14.50
milliammeters (r-f)	6.8	259X22	16.50
	4.0	259X25	16.50
	.68	259X28	16.50



Type DO-54 3½-inch instrument for panel mounting

HICKOK TEST EQUIP

DYNAMIC MUTUAL CONDUCTANCE (TRANSCONDUCTANCE)



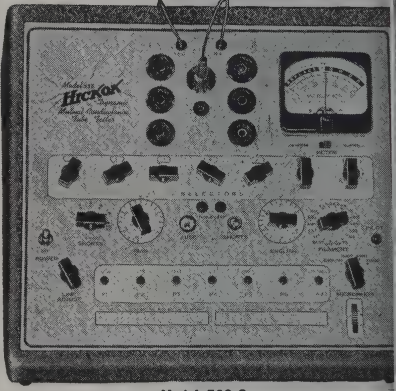
Model 532-P

MODELS 532-P AND

The most complete full coverage, all purpose tube tester avail
today.
The HICKOK Model 532 P (Portable) and 532C (Counter type) T
Testers accurately test and sell more tubes in less time. Both h
the world famous HICKOK Dynamic Mutual Conductance (Tr
conductance) circuit which was first choice of both Army and N
throughout World War II. Duplicates the method actually used
tube manufacturers in the tube factory. Easy to read scales h
MICROMHO ranges of 0-3,000, 0-6,000, 0-15,000 and English lege
reading "Replace", "Doubtful" and "Good". Gas test provi
quickly eliminates gassy tubes (which ruin AVC and IF stag
Highly sensitive noise test detects radio frequency disturban
Locates shorts—hot or cold. Tests diodes separately with low
age to prevent paralysis of the elements. Indicates accurately
voltage on a large test meter—from 100 to 130 volts. Tests all p
ent-day tubes including Octal, Loktal, Miniature, Ballast
Magic Eye Tubes.

Provisions for new tube designs are made—this tester will rem
up to date for a long time to come. Uses rectified current to e
gize both plates and grids using two rectifiers. Has filament volt
in steps to 117 volts. Panel is modern, legible, has satin chr
finish. In our selector switches complete flexibility has been provided to take care of unusual base pin connections; but in routine testing seldom more than one or two manipulations are necessary. Roll chart in the panel makes tube data easily and quickly available. Tests grid controlled rectifier tubes. Continuity checks can be made by a special new feature of design. Wide range of voltage checks can be made.

*Mutual conductance and transconductance mean the same thing.



Model 532-C

Specify "P" for Portable, "C" for Counter Type When Ordering.

●

SPECIFICATIONS

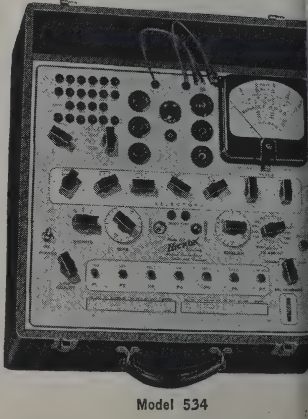
Size—17" x 18" x 8½". Weight 27 lbs.
Shipping Weight—34 lbs.
Power Supply—110-130 Volts 50-60 Cycles.
Tube Complement—1 No. 83—1 No. 5Y3 GT.
Other voltage or cycles available.

NEW DESIGN ALL-PURPOSE TUBE AND SET TESTER — Model 534

In addition to the many tube tester features of the 532, the Model 534 tube and set tester measures volts, ohms, milliamperes, capacitance, inductance, leakage and decibels. Specific features are as follows: Voltage Ranges: 0-20-200-500-1,000-5,000V A.C. and D.C. Sensitivity—20,000 ohms per volt, D.C. 1,000 ohms per volt, A.C. Resistance—0.1 ohm to 100 megohms in three overlapping ranges. No batteries needed. Capacitance—0.0001 to 100 microfarads in overlapping ranges. Checks leakage of electrolytic or paper condensers. Inductance up to 100 henries (or higher by simple calculation) with or without D.C. component. Decibel ranges —10 to + 50 D.B. (or higher by simple calculation). Checks hum in any stage of the receiver. Meter scale 4½" long clearly marked for easy reading. Portable carrying case, black imitation leather covered hardwood with detachable cover.

SPECIFICATIONS

Size 17" x 18" x 8½"
Weight—28 lbs.
Shipping Weight—35 lbs.
Power Supply—110-130 Volts, 50-60 Cycles
Tube Complement—1 No. 83, 1 No. 5Y3GT
2 No. 6H6, supplied and installed.
Panel—Two-tone Satin Chrome finish



Model 534

Made only in portable type.

ICKOK

TEST EQUIPMENT

Crystal Controlled

Microvolt Signal Generator

Model 191X

Model 191-X

Model 191X is an accurate and dependable source of calibrated, modulated or unmodulated, radio frequency test voltages ranging in frequency from 125 kc to 120 mc, on fundamentals. Precision tests such as receiver sensitivity and selectivity tests are possible, as a vacuum tube voltmeter has been incorporated to accurately control the calibrated output voltages. Rapid and exact calibration and alignment of all bands of a receiver can be made by using the crystal controlled output, at 100 kc, or 1000 kc, and its harmonics. Alignment and resonance may be very conveniently checked with the decibel meter. Permits direct calibration of radio frequency output from ½ microvolt to 100,000 microvolts on all ranges.

SPECIAL FEATURES

Internal vacuum tube voltmeter permits direct calibration of radio frequency output from ½ microvolt to 100,000 microvolts on all ranges. AF output variable from 0 to 2 volt. Minimum signal leakage as a result of complete shielding and newly developed cast aluminum attenuator housing. .01% accurate crystal controlled outputs. Both fixed and variable percent of amplitude modulation. Provision for external amplitude modulation from 50 to 10,000 cycles. Self-contained decibel output meter calibrated from —10 to +38. Large 8″ dial with over 100″ of scale.

SPECIFICATIONS

Dimensions—14″ x 16½″ x 8″.
Weight—29 lbs.
Meters—Model 51
Scale—Over 100″
Satin-chrome finish panel
Blue baked crackle lacquer finished case.
Power: 105-125V, 50-70 cycles, A-C.
Power Consumption: 20 watts at 115 volts

INDICATING TRACEOMETER

MODEL 156

e Model 156 rapidly locates troubles in radio and television receivers and facilitates the alignment and provides a means of check-
: the over-all or individual stage performance of such electronic equipments.
ve precision meters make possible seven simultaneous measurements without interfering with the normal operation of the receiver.
e r-f signal can be traced and measured as well as local oscillator frequency and voltage, A-V-C and A-F-C voltages, etc., so that with
is instrument any possible trouble in radio receivers can immediately be located and isolated.

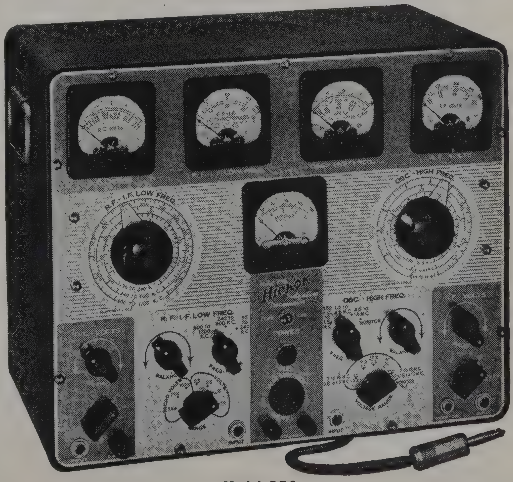
SPECIAL FEATURES

ilt-in speaker for monitoring either i-f, r-f or a-f
annels. Vacuum tube voltmeters cannot be damaged by
erload. Four 42″ low capacity shielded cables are
pplied. D-C voltmeter with zero center to permit
easurement of voltages positive or negative with re-
ect to ground.

SPECIFICATIONS

Dimensions—14″ x 16½″ x 11″
Weight—32 lbs.
Meters—Four-Model S46
One—Model S47
Satin-chrome finish panel
Blue baked crackle lacquer finished case.

ower Supply Required: 105-125V, 50-70 cycles, A-C.
ower Consumption: 55 watts at 115 volts. **Frequency**
ange: RF-IF—Low Freq. 95-240 kc, 240-600 kc,
)0-1700 kc. OSC—High Freq. 550-1500 kc, 1.5-4.5
c, 4.5-14 mc. AF Voltmeter—20-20,000 cycles ±
db. **Voltage Ranges:** DC Volts: 0 ± 2.5, 5, 25, 50,
50, 500. **RF-IF Volts—Microvolts:** 0-5K-25K-100K,
olts: 0-.5-2.5-10-25. OSC-High Freq.—0-.3-1.5-7.5-30.
50-750. **AF Volts:** 0-.1-10-100-500. **Wattage Range:**
-150 watts. **Input Impedance:** DC Volts—18 megohms,
F-IF Volts-Microvolts—0.85 mmf, OSC-High Freq. 1.2
mf, AF Volts—2.0 megohms. **Tube Complement:** 3
SK7—r-f amplifiers, 3 6SQ7—diode rectifiers and volt-
eter tubes, 1 6SQ7—a-f amplifier, 1 6AG7—audio
mplifier and oscillator intput amplifier, 1 6J5—d-c
oltmeter, 1 5Y3—power rectifier, 1 OD3/VR150—
oltage regulator.



Model 156

UNIVERSAL CRYSTAL CONTROLLED SIGNAL GE

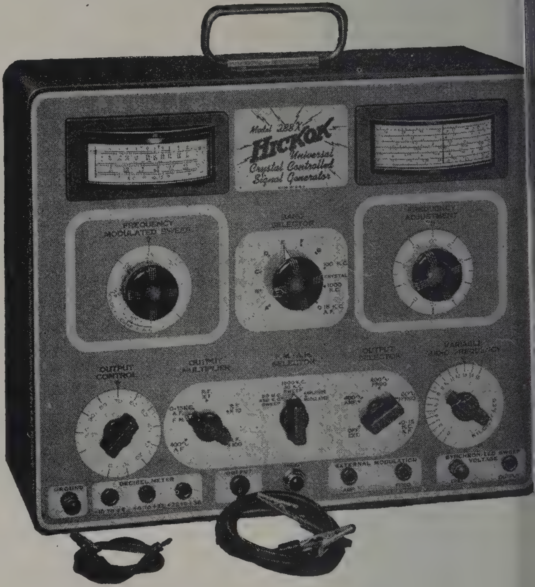
Models 277, 277X and 288X

The Universal Crystal Controlled Signal Generators, Models 277, 277X and 288X, are specifically designed to meet the many and varied needs of the radio engineer and service man working with frequency and amplitude modulated receivers and with television equipment. The wide range in radiofrequencies and audio-frequencies available, with the many choices of type of modulation, makes these Models most versatile and practical instruments.

All three models are the same except for the following features: 0.01% accurate crystal controlled outputs, both amplitude modulated at 400 cycles and unmodulated, offered in Models 288X and 277X only. Self-contained decibel meter with 42″ cable, Model 288X only.

SPECIAL FEATURES

Complete frequency modulation coverage with three variable bandwidths of sweep: 0-30 kc, 0-150 kc, 0-450 kc. Frequency modulation at two self-contained modulating frequencies: 60 cycles and 400 cycles. Provisions for external amplitude and frequency modulation to 15,000 cycles. Self-contained amplitude modulation at 400 cycles. Continuously variable audio frequency from 0-15,000 cycles. Audio frequency and radio frequency outputs are continuously variable from zero to maximum. 60 cycle synchronized sweep voltage is available for use with an oscillograph.



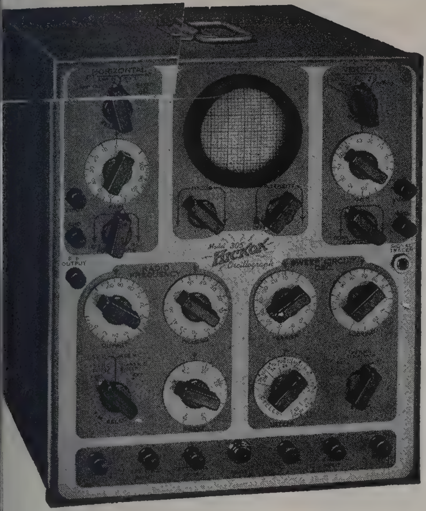
Model 288-X

SPECIFICATIONS

Dimensions—14″ x 16½″ x 8″
Weight—28 lbs.
Meter—Model 51X, Model 288X only

Scale—over 100″
Satin-chrome finish panel
Blue baked crackle lacquer finished case

POWER SUPPLY: 105-125 V, 50-70 cycles, A-C. Power Consumption: 20 watts at 115 volts. Amplitud Modulated, Pure R-F Frequency Range: 100 kc-110 mc. Frequency Modulated R-F Frequency Ranges Narrow Band (0-30 kc Sweep): 100 kc to 110 mc in 7 ranges: Wide Band (0-150-450 kc Sweep) 1 m to 160 mc in 7 ranges. Modulation: Amplitude Modulation—400 cycles; Frequency Modulation—0-45 kc variable sweep, 50 mc. modulating frequency 60 cycles; 0-150 kc variable sweep, 50 mc, modulatin frequency 400 cycles; 0-30 kc variable sweep, 1000 kc, modulating frequency 60 cycles; External Modu lation—Amplitude or frequency modulation, variable 0-15,000 cycles. A-F Range: Fixed at 400 cycles variable from 0-15,000 cycles. Crystal Controlled Output (Models 277X and 288X only)—100 kc, Unmodulated 100 kc-15 mc, utilizing harmonics; 100 kc, 400 cycle amplitude modulated: 100 kc-15 mc, utilizing harmonics 1000 kc, Unmodulated: 1000 kc-125 mc, utilizing harmonics; 1000 kc, 400 cycle amplitude modulated: 1000 kc 125 mc, utilizing harmonics. Output: R-F, continuously variable from 0 to maximum (with multipliers X1, X1 and X100); A-F, continuously variable from 0 to maximum, linear control, for both 400 cycle and variabl frequency outputs. Synchronized Sweep Voltage: for horizontal deflection of oscillograph (60 cycles.) DE Meter Range (Model 288X only): —10 to +6, +6 to +22, +22 to + 38. Tube Complement—1 6C4, 1 6SN7 1 6SG7, 1 6SJ7, 1 6X5G.



Model 305

ower Supply: 105-125 V, 50-70 cycles, A-C. Deflection nsitivity: Vertical—0.2 volts (rms)/inch. Horizontal—3 volts (rms)/inch. Horizontal, Direct—45 volts (rms)/ch. Input Impedance: Vertical—1 megohm, 25 mmf. Horintal, Direct—3 megohm. Tube Complement: 1 906—thode ray tube, 1 6K8—r-f oscillator and mixer, 1 6J5—thode follower, 1 6AG7—vertical amplifier, 1 6J7—rizontal amplifier, 1 6SG7—reactance tube, 1 5Y3—high ltage rectifier, 1 5Y3—low voltage rectifier, 1 884—veep circuit oscillator.

VACUUM TUBE VOLT OHM MILLIAMMETER

Model 125

odel 125 combines all advantages of a true .C. vacuum tube voltmeter with the accuracy nd high impedance input of an electronic D.C. oltmeter and electronic ohmmeter. Its operaon is unaffected by variations in supply lineoltage or tube characteristics. No zero reset is quired in changing ranges. Circuit design lectronically protects the meter from damage ue to overload. D.C. polarity switching arrangeent eliminates the necessity of reversing the ads.

SPECIFICATIONS

Dimensions—10" x 11½" x 6"
Weight—15 lbs.
Meter—Model S44A
Satin-chrome finish panel
Blue baked crackle lacquer finished case

ower Supply—105-125 V, 50-70 cycles, a-c. Power Consmption—20 watts at 115 volts. Ranges: A-C Volts, D-C olts and Mils: 0-2.5, 10, 25, 100, 250, 1000 Ohms; 0.1 m to 1000 megohms in 6 ranges. Input Impedances—D-C: megohms; A-C: 15 megohms shunted by 6 mmf. Freency Range—10 cycles to over 150 megacycles. Tube omplement—1 9006, 1 6X5GT, 2 6SN7, 1 OD3/VR150.

OSCILLOGRAPH

Model 305

Specifically designed for use with frequency modulated, amplitude modulated and television equipment. Permits a complete visual analysis of the electrical and electronic circuits of the i-f and r-f bands as well as the audio frequency stages. The effectiveness of a tube or circuit as an amplifier, rectifier, or source of special wave shapes may be readily determined.

Interprets modulation, phase relations, voltage amplitudes, distortion, etc. Responds accurately to voltages in wide ranges of both frequencies and amplitudes.

SPECIAL FEATURES

Wide band, high gain vertical amplifier, 30 cycles to 1 megacycle. Self-contained wide-band frequency modulated oscillator with variable sweep width, 0-450 kc. Self-contained narrow-band frequency modulated oscillator with variable sweep width, 0-30 kc. Signal tracer jack is incorporated so that, when used in conjunction with a speaker or ear phones, the signal may be simultaneously seen and heard. Provisions for modulation by an external audio frequency source to provide the equivalent of a frequency modulated transmitter for receiver checks. Self-contained mixer circuit provided so that when used in conjunction with any good external oscillator, wide band or narrow band frequency modulated outputs may be produced within the frequency limits of the external oscillator. High sensitivity amplifiers. Calibrated screen. Has self-contained frequency modulated oscillator. Can be used with any signal generator for servicing FM or AM sets.

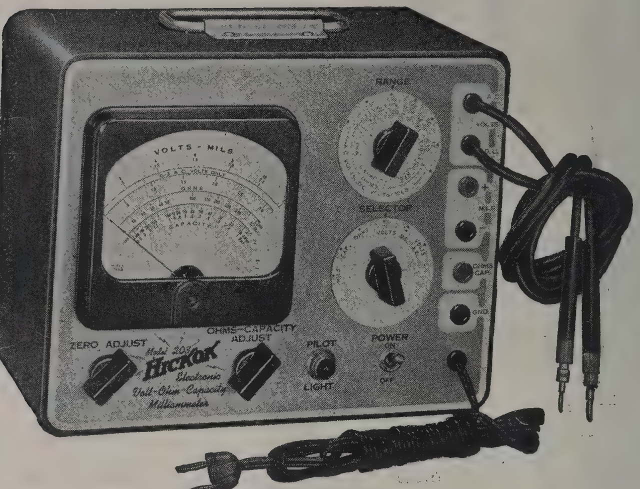
SPECIFICATIONS

Dimensions—14" x 11½" x 15"½
Weight—32 lbs.
Cathode Ray Tube—3"
Satin-chrome finish panel
Blue baked crackle lacquer finished case

Model 125

ELECTRONIC VOLT-OHM-CAPACITY MILLIAMETER

Model 203



Model 203

A universal test instrument for all radio and electronic service work. Accurately and easily measures wide ranges of inductances, capacitances, resistances, currents and voltages, both A.C. and D.C.

SPECIAL FEATURES

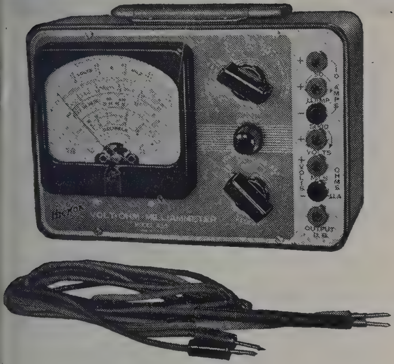
High input impedance prevents loading when making voltage tests. Electronic ohmmeter circuit permits measurements throughout the wide range of 1.0 ohm to 10,000 megohms. Capacitance measuring circuit uses a low voltage to measure capacities of 1 mmf to 1000 mf. Measurement of inductances are possible with the use of a conversion chart supplied in the instruction book. Damage due to overload is impossible in all except current measurements. Regulated power supply incorporated permits normal operation and accuracy with wide line voltage fluctuation. Shielded cables for A-C and D-C voltage measurements and the A-C power line cable are permanently attached. Two unshielded cables for ohmmeter and milliameter measurements are also furnished.

SPECIFICATIONS

Dimensions—9″ x 11½″ x 7″
Weight—13 lbs.
Meter—Model S44A
Satin-chrome finish panel
Blue baked crackle lacquer finished case

POWER SUPPLY: 105-125 V, 50-70 cycles. Ranges: Volts, A-C and D-C 0-3, 12, 30, 120, 300, 1200. Mils (D-C): 0-3, 12, 30, 120, 300, 1200. Cap: 0-10,000 mmf in 2 ranges, 0-1000 mf in 5 ranges. Ind: 50 mh-100 henries. Ohms: 1.0 ohm to 10,000 megohms in 7 ranges. Frequency: A-C up to approximately 5 megacycles may be measured. Input Impedance: Volts D-C: 15 megohms, Volts A-C: 12 megohms. Tube Complement: 6X5GT A-C rectifiers, 6SJ7 cathode follower, 6SN7GT vacuum tube voltmeter, OD3/VR150 voltage regulator.

HICKOK TEST EQUIPMENT



Model 435

VOLT OHM MILLIAMMETER

Model 435

The Model 435 is built to the highest Hickok standards of engineering design, workmanship and material. The meters used in these Volt-Ohm-Milliammeters are especially built by Hickok for this service. The movement is large and rugged and the very high torque weight ratio gives lively, instantaneous pointer action. The movement is curve-corrected by an exclusive Hickok process which gives a higher accuracy at all points on the scale.

SPECIAL FEATURES

20,000 ohms per volt sensitivity on A.C.
A-c power is not required for operation—especially convenient in many areas. Microampere, milliampere and ampere measurements provide an extremely wide range in current measurements. A.C. voltage output with D.C. components may be measured. Decibel power output measurements from —20 to +29 db may be made. Wide ranges in A.C. and D.C. voltage and resistance values may be measured.

SPECIFICATIONS

Dimensions—6″ x 8¼″ x 4″
Weight—5 lbs.
Meter—Model S48
Satin-chrome finished panel
Blue backed crackle lacquer finished case

Ranges—AC Volts and DC Volts: 0-2.5, 10, 50, 250, 1000, 5000; Ohms 0-10 megohms (4 ranges); Microamperes: -50; Milliamperes: 0-2.5, 10, 50, 250, 1000; Amperes: 0-10; Decibels: —20 - +3, —8 - +15, +6 - +29; Output Volts: 0-2.5, 10, 50, 250, 1000, 5000. Sensitivity: AC Volts: 20,000 ohms/volt; DC Volts; 20,000 ohms/volt; Meter: 40 microamperes. Battery Complement: 1 Dry Battery, Radio C, 4.5 volts.

VOLT-AMPERE WATTMETER

Model 900

Electrical Appliance Tester and Circuit Analyzer. True to the Finest Hickok Tradition

For Measuring Actual Values of Volts, Amperes and Watts. Ranges: A.C. Watts: 0-20-100-500-1000-2000. **A.C. Amperes:** 0-1.3-6.-5-13-26. **A.C. Volts:** 0-130-260. **A.C. Milliamperes:** 0-260.

Scale is 3¾″ long, clear and legible. The Model 900A Volt-Amp-Wattmeter has been designed for all A.C. appliance-testing, from bell transformers and clocks to electric ranges operating on the 220-volt three-wire Edison system. The extremely low range of 0-20 watts will measure the power consumed by the smallest of appliances and is protected from accidental overload by a fuse. For measuring electric ranges the Number 9A and 9B special leads are available with standard three-wire range connnctors. It tests appliances while in actual operation, indicating wattage consumption, amperes, and line voltage.

Mounted in a durable welded steel case with strap handle and rubber bumpers. Detachable leads, for small appliances, are furnished. Test leads with prods also included.

Service men will find a wattmeter especially handy for checking all A.C. sets.

Part No. C-105—This external current transformer is designed to give ranges of 5,000 and 10,000 watts and 65 and 130 amperes when used with Model 900A. Part No. C-105 transformer may be installed in lead compartment of carrying case. When transformer and carrying case are ordered together, transformer will be installed before shipping.

Model 900A—Size: 9½″ high, 6¼″ wide, 3″ deep.
Shipping Weight: 8½ lbs.

VOLTS
AMPS
WATTS
LOAD
LINE
HICKOK
MODEL
SERIAL NO.
MADE IN U.S.A.

Model 900A

Industrial Instruments

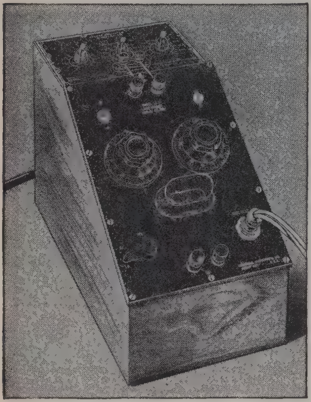
Electrical Test Equipment

THE WHY OF "INDUSTRIAL INSTRUMENTS"

- In the design of production test apparatus the aim of "Industrial Instruments" is to take basic laboratory technique and, using the tried and tested principles that are known to give high accuracy, adapt them to plant production use. In so doing the following goals are set and adhered to:

1. To retain the inherent accuracy and reliability of accepted laboratory circuits and techniques
2. To aim at modification toward simplicity so that the factory layman can use instruments without previous knowledge of them.
3. To increase the speed of readings for production use by utilizing basic laboratory circuits with novel adaptations.

Herewith listed are representative standard instruments. Other instruments are also available Furthermore, special instruments can be designed and built.



CAPACITY LIMIT BRIDGE

For high-speed production testing of capacitors and inductances for conformance with tolerance specifications. Negligible setup time, great flexibility, wide range, accuracy, extreme ruggedness, moderate cost. Normally supplied complete with Decade Capacitor Model DK-2AA providing capacitance standards in .001 mfd. steps from .001 to 1.11 mfd.

This is a modified Wheatstone Bridge with high and low limit dials. Two "magic eyes" provide high and low indications. Self-incorporated switch-operated relays provide speed test operation either from switch on panel or at test fixture.

Accuracy: Plus/minus 1% of standard. Unaffected by line voltage variations and tube characteristics. **Range:** Measures impedance at 60 cycles from 600 ohms to 2.6 megohms. Capacitors from .001 to 4 mfd. Inductors from 2 to 7000 henries. Limit dials continuously variable—any tolerance between 0 and 30% low, and 0 and 40% high. **Speed:** Up to 1000 capacitors per hour. Instantaneous readings—no needle to come to rest. Hardwood case. Sloping bakelite panel. 15 x 8 x 10" high.

MODEL LB-1-DK2AA Capacitance and Impedance Limit Bridge with Decade Capacitor covering range .001 mfd. to 1.11 mfd. in .001 steps. Wt. 20 lbs. net; 22 lbs., shipping....................$200.00

MODEL LB-1 Capacitance and Impedance Limit Bridge alone for use with external standards. Wt. 14 lbs. net; 16 lbs., shipping............$105.00

MODEL TL-1 High-Speed Test Fixture for use with above. Wt. 7 lbs. net; 10 lbs., shipping....................$20.00

RESISTANCE LIMIT BRIDGE

For high-speed production testing. Features negligible setup time, great flexibility, wide range, accuracy, extreme ruggedness. Built-in D.C. source. Balance indicated by sensitive galvanometer. Normally supplied with Model DR-1 Resistance Decade providing resistance standard in 1000 ohm steps from 1000 to 999,999 ohms. Other ranges available.

This is a modified Wheatstone Bridge with high and low limit dials. Self-incorporated switch-operated relays for speedy test operation either from switch on panel or on test fixture. Used with external resistance standards, will check resistors between 1 ohm and 3 megohms. External batteries may be used for other voltages.

Accuracy: Model LB-2, guaranteed to plus/minus 1% of standard; Model LB-3, plus/minus .1%. **Range:** LB-2, from 1 ohm to 3 megohms. Limit dials continuously variable for any tolerance between 0 and 30% low, and 0 and 40% high. Model LB-3, same resistance range but limits from plus/minus 0 to 11% in .1% steps.

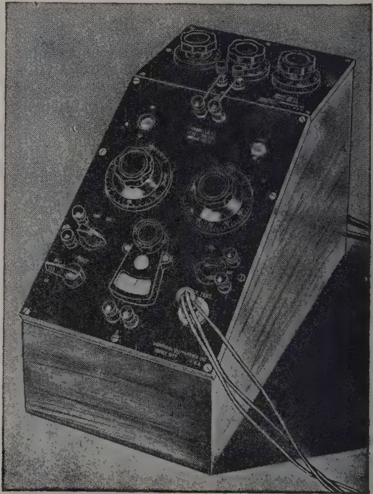
Hardwood case. Bakelite sloping panel. 15 x 8 x 10" high.

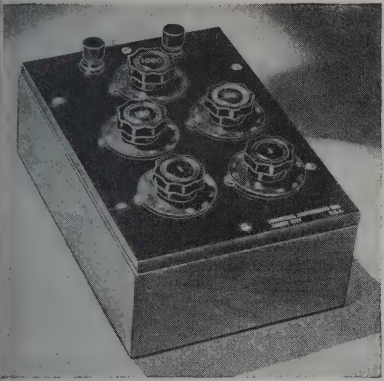
LB-2 DR-1 Resistance Limit Bridge with Resistance Decade, 1000 to 999,999 ohms, in 1000 ohm steps. Wt.: 19 lbs.. net; 23 lbs. shipping $155.00

LB-2 Resistance Limit Bridge singly for use with external standards. Wt.: 12 lbs. net; 16 lbs. shipping....................$105.00

LB-3 Resistance Limit Bridge, with accuracy of plus/minus .1%, for use with external standards. Wt.: 12 lbs. net; 16 lbs. shipping. $150.00

DR-50 Resistance Decade, range .1 ohm to 9,999.9 ohms in .1 ohm steps. Accuracy .1%. Wt.: 5 lbs. net; shipping 8 lbs.....$65.00





RESISTANCE DECADES

Standard models with resistance ranges of .9 to 999,999 ohms total. Individual units and combinations available for any effective range between .1 ohm and 1 megohm.

Manganin-wire bifilar-wound coils with exception of 10,000 ohms and above, which are nichrome wire non-inductively wound. Ceramic cores. Oven aged and dipped. Switches are self-cleaning type, with four-leaf phosphor-bronze spring wipers and detent mechanism for position location on switch points. All switches and resistors mounted below panel for protection.

Accuracy: Models DR-1 and DR-2 guaranteed to plus/minus 1% of nominal. Other models guaranteed to plus/minus .1% of nominal value and adjusted to .05% in manufacture, excepting values below 1 ohm which are guaranteed to plus/minus .25% of nominal. Zero resistance, .025 ohm or less.

Model	Total Ohmage	Decade Steps	Accuracy	Price
DR-1	999,000	9 x (1,000 + 10,000 + 100,000)	± 1%	$ 50.00
DR-2	99,900	9 x (100 + 1,000 + 10,000)	± 1%	50.00
DR-3	9,990	9 x (10 + 100 + 1,000)	±.1%	45.00
DR-4	999	9 x (1 + 10 + 100)	±.1%	44.00
DR-10	.9	9 x .1	±.1%	20.00
DR-11	9	9 x 1	±.1%	20.00
DR-12	90	9 x 10	±.1%	20.00
DR-13	900	9 x 100	±.1%	20.00
DR-14	9,000	9 x 1,000	±.1%	22.00
DR-50	9,999.9	9 x (.1 + 1 + 100 + 1,000)	—.1%	65.00
DR-51	99,998	9 x (1 + 10 + 100 + 1,000 + 10,000)	—.1%	70.00
DR-52	999,990	9 x (10 + 100 + 1,000 + 10,000 + 100,000)	—.1%	100.00

DR-1 to DR-4: 5¾ x 8 x 4" high. Net wt. 4 lbs:; shipping, 6. DR-10 to DR-14: 4⅛ x 6 x 4" high. Net wt. 3 lbs.; shipping, 5. DR-50 to DR-52: 6⅛ x 9 x 4¼" high. Net wt. 5 lbs.; shipping, 7 lbs.

WHEATSTONE BRIDGE

A sturdy, carefully engineered instrument for service in laboratory or plant. Entirely self-contained with galvanometer and 4½ volt battery. External galvanometer and batteries may be used if desired.

Both models have ratio dial settings of .001, .01, .1, 1, 10, 100 and 1000, as well as built-in resistance standards of 1, 10, 100 and 1000 ohm decades. Model RN-2 has both Murray and Varley loop circuits with additional multiplier steps on ratio dial for Murray loop. **Accuracy:** Ratios are guaranteed to .05% tolerance, and resistance dial resistors to .1% of nominal value.

Self-cleaning switches with four phosphor-bronze spring wipers and detent mechanism for position location on switch points. Switches and resistors mounted below panel for protection. Manganin-wire bifilar-wound coils on ceramic cores, oven aged and dipped, and finally adjusted to .05%. Galvanometer of well-known moving coil type. Pointer dial has fifteen 1 milliameter divisions each side of zero. Adjusting knob and safety clamp. Sensitivity of 1 microampere per milliameter. Hardwood case with slide-type hinges for removable cover. 9¼ x 7½ x 6¼" high.

MODEL RN-1. Standard Portable Wheatstone Bridge complete with batteries, ready to operate. Wt. 9 lbs. net; shipping, 12 lbs. $100.00

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley loops, complete with battery ready to operate. Weight 9¼ lbs. net; shipping, 12¼ lbs. $125.00

VOLTAGE BREAKDOWN TESTERS

A simple, positive, safe and quick means of testing voltage breakdown of materials or components. Step-up transformer is accurately controlled by Variac. By an ingenious switching arrangement connected directly to Variac, varying resistance is placed in circuit to limit load to approximately 5 milliamperes over full range of Type P-1 (illustrated) for SAFETY. Also, safety switch makes power supply inoperative if chassis is removed from case.

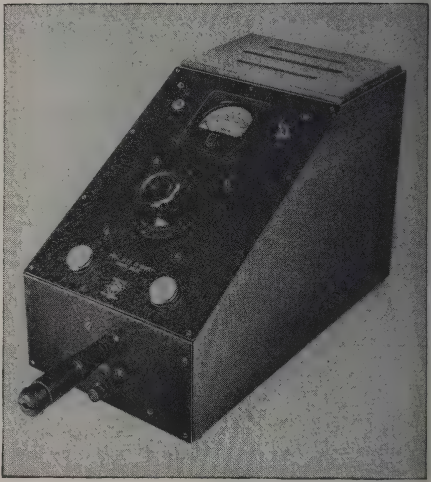
Operates directly on A.C. line. Green light indicates when instrument is operative. Red light flashes to indicate voltage breakdown of sample. Direct reading taken from meter.

Range: Type P-1 or small model (shown) continuously variable from 0 to 4000 volts D.C. Type P-2, similar to P-1, but has an A.C. high-potential outlet in addition to D.C. voltage. Model P-3 or large upright cabinet model (not shown) has range from 0 to 10,000 volts D.C., and A.C. outlet for 0 to 8000 volts, with short-circuit current limit of 50 milliamperes.

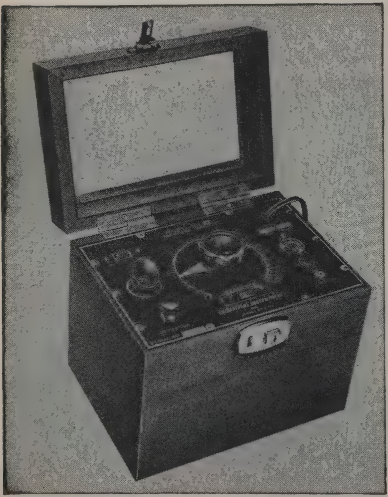
MODEL P-1 Voltage Breakdown Tester, complete with tubes, ready to operate. Hardwood case with sloping metal panel. 15 x 8 x 10″. Wt. 29 lbs. net; 32 lbs. shipping. $150.00

MODEL P-2 Voltage Breakdown Tester, complete with tubes, ready to operate, with added 0-3000 volts A.C. outlet. Hardwood case with sloping metal panel. 15 x 8 x 10″ high. Wt. 29 lbs. net; 32 lbs. shipping........................$200.00

MODEL P-3 Voltage Breakdown Tester, complete with tubes, ready to operate. Upright metal cabinet. 15 x 21 x 28″ high. Wt. 150 lbs. net; 195 lbs. shipping.............$350.00



MEGOHM BRIDGE



A rapid, accurate instrument for routine insulation tests. Simple, compact, portable. Equally useful to laboratory and non-laboratory workers for accurate, instantaneous readings.

This instrument is an adaptation of the Wheatstone Bridge, utilizing the "magic eye" indicator in place of costly and delicate galvanometer. Operates entirely from A.C. power line. Self-contained D.C. supply. Unaffected by line voltage variations. When testing capacitors and high-capacity cables, it automatically charges the tested unit as soon as connected with test terminals, thus facilitating rapid testing.

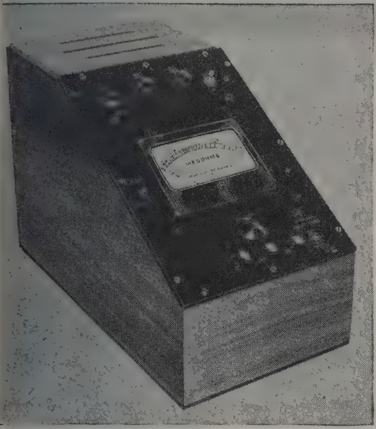
Accuracy: Within 5% from 1 to 15 on scale, and as close as readabye on remainder of scale. Hardwood case with slip-hinge removable cover. Wt. 6¼ lbs. net; shipping, 8¼.

MODEL MB-4. 100 megohms to 100,000 megohms. 500 volt D.C. bridge source $60.00

MODEL MB-6. 100,000 ohms to 100 megohms; 10 megohms to 10,000 megohms $60.00

BODEL MB-8. 1 megohm to 1,000 megohms; 100 megohms to 100,000 megohms $75.00

MODEL MB-11. 1 megohm to 1,000 megohms; 10 megohms to 10,000 megohms; 100 megohms to 100,000 megohms.......$120.00



MEGOHM METER

For high-speed testing of capacitor leakage resistance, insulation resistance and insulation measurements in production and inspection of components. Extra charging terminals charge capacitors prior to test. Broad scale meter dial with wider than usual spacing at high end of scale.

Self-contained source applies voltage not exceeding 200. External battery voltage may be used up to 1000 volts. Internal checking standard enables operator to check and adjust calibration. Stability of operation, assured.

Accuracy: Within plus/minus 3% of full scale from infinity position on meter. **Range:** 1 megohm to 100,000 megohms on four multiplier ranges of 1, 10, 100 and 1,000. Highest range can be extended up to 500,000 meegohms by using external 1,000 volt D.C. supply.

Hardwood case. Sloping bakelite panel, 15 x 8 x 10″ high. Wt. net 19 lbs.; shipping, 25.

MODEL L-2A Megohm Meter complete with tubes ready to operate $145.00

MODEL L-2AU Universal Model for use on 110-220 V. A.C. power line available on special order........ $160.00

CAPACITY DECADES

alibrated directly in capacitance so that reading from eft to right, dial settings give exact value in microfarads. rogressive adjustments in small uniform steps by means f three dials rotating parallel switches.

Accuracy of Models DK-3, DK-4 and DK-2A adequate for nost laboratory and industrial applications. Where closer olerances are desired, Models DK-10 and DK-11 are rec mmended.

Hardwood cabinet. Bakelite top. DK-3, DK-4, DK-10 and K-2A, 7 x 8 x 5½″ high; DK-11, 11 x 8¼ x 7″ high. Veight: DK-3, DK-4, DK-10 and DK-2A, net 8 lbs.; ship ing, 10 lbs. DK-11, net 10 lbs.; shipping, 12 lbs.

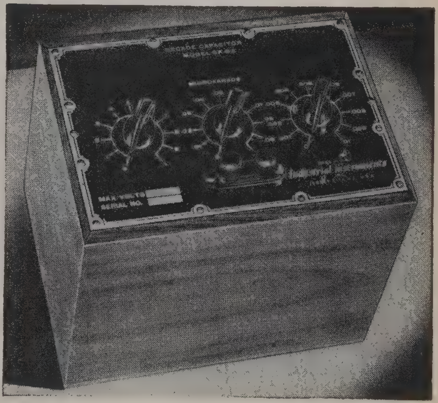
ODEL DK-3. 11.1 mfd. in .01 mfd. steps. 1% accuracy. aper dielectric. 1% P.F. 150 D.C. Peak Volts........ $50.00

ODEL DK-4. 1.11 mfd. in .001 mfd. steps. 1% accuracy. aper and mica dielectric. 1% and .2 P.F. 150 and 700 .C. Peak Volts........ $50.00

ODEL DK-2A. 1.11 mfd. in .001 mfd. steps. 1% accuracy. ica dielectric throughout, .2% P.F. 700 D.C. and 500 A.C. eak Volts........ $100.00

ODEL DK-10. .111 mfd. in .001 mfd. steps. .5% or 10 mmfd. accuracy. Mica dielectric. .2% P.F. 700 D.C. and 00 A.C. Peak Volts........ $100.00

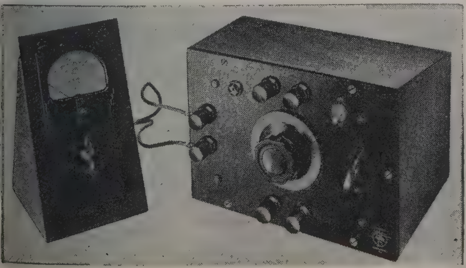
ODEL DK-11. 11.1 mfd. in .01 mfd. steps. 1% and .5% ccuracy. Paper and mica dielectric. 1% and .2% P.F. 50 D.C., 700 D.C. and 500 A.C. Peak Volts........ $125.00



DIRECT-READING COMPARISON BRIDGE

.C. slidewire bridge with vacuum tube null indicator arranged so that resistors, capacitors or inductors can be compared with similar standard. Covers range of approximately plus/minus 50% of value of standard.

Designed specifically for rapid production testing where moderate accuracy is required. Since slidewire is uncalibrated, external standards are used. Resistors, capacitors or inductors under test are connected to "X" terminals, and rejected or passed by direct reading of meter. Components outside limits set up will result in meter deflection greater than set value. Limits may be set for any combination of high and low values such as minus 5% plus 14%.



Range: Capacitance, between .0001 and 1.0 mfd. Resistance, between 2000 ohms and 20 megohms. Inductance, between 5 and 50,000 henries. Bridge source voltage, 75 volts at line frequency. **Accuracy:** Sensitivity and stability permit successful operation within limits set as close as plus/minus 5%, or as wide as plus/minus 50% of nominal.

Hardwood cabinet. 7 x 8 x 5½″ high. Metal meter stand. Wt. 6 lbs. net; shipping, 8 lbs.

LB-10 Comparison Bridge, complete with tubes, milliammeter, and meter stand, ready to operate.... $60.00

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

APPLIANCE TEMPERATURE TESTERS

Appliance Temperature Testers are time savers, developed by J-B-T for service men, factory maintenance men, laboratory technicians, contractors, and maintenance engineers. Handy and accurate for maintenance, installation and inspection work.

MODEL 60-JRT

A 3-way portable tester with two temperature scales to cover quick-freeze and deep-freeze temperatures as low as —100°F up to high oven temperatures of 600°F. Four cold zones and two heat zones can be measured at one time, simply by turning a selector switch to proper bulb and thermocouple positions. It gives accurate readings, on the spot, for checking new installation performance and for trouble shooting — on deep-freeze units, walk-in coolers, refrigerated display cases, water and beverage coolers, air conditioning, and controlled processing and heating equipment. And it checks line voltage at the same time, AC reading to 300 volts.

Sturdy polished walnut case, 15½" x 10$\frac{3}{16}$" x 4¾", with compartments to accommodate 4 bulbs, 2 thermocouples and voltmeter leads. Rheostat and selector switch adjustments.

When the lower temperature scale of —100°F to 80°F is used, 60-JRT operates as a resistance thermometer. Bulbs have flat leads so refrigerator doors can be closed during tests. Four zones can be checked at one time.

When higher scale of 0° to 600°F is used, the tester acts as thermocouple millivoltmeter with bridge compensation for ambient temperature. After thermocouples are placed and leads connected, procedure is the same as for bulbs.

Operation is simple, fast, positive. Once set, meter shows temperature changes as they occur, without further adjustment. Voltmeter scale to 300 volts AC and leads are provided for checking supply voltage to the equipment under test. Voltmeter circuit employs a copper oxide rectifier, which gives a linear scale.

Two bulbs with 14' leads are supplied. Accuracy of resistance thermometer and accessories, ±2% of full scale.

Two 5½" iron constantan couples with attachment clip and aluminum convection shield are supplied. Accuracy of thermocouple circuit and accessories, ±2% of full scale.

One set of 4' voltmeter leads with prods and plugs. Voltmeter accuracy, ±2%; rectifier accuracy ±3% full scale. One size D flashlight cell.

SCALES: —100° F to 80° F
0° F to 600° F
0 to 300 volts AC

PRICE:

60-JRT APPLIANCE TEMPERATURE TESTER

Complete with two standard bulbs, two thermocouples, and voltmeter leads **$79.50**

ACCESSORIES:

SA-142—Resistance Bulbs, with 14' leads, each	**$5.00**
SA-116—Thermocouple, 5½', complete with shield and clip (stud polarity marked), each	**1.65**

MODEL 32-JP-1

Model 32-JP-1 Oven Temperature Tester is a pocket-size portable unit in black leatherette case, 6" x 3½" x 3½", especially developed to assist the range service man and utility trouble-shooter. It will also measure temperature in other appliances.

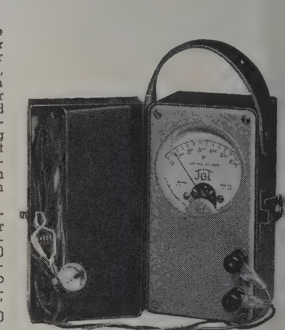
Supplied with 5½' calibrated #20 iron-constantan flexible thermocouple, SA-116, clip for attaching, and convection shield. The 2⅜" meter scale reads from 0 to 650°F and is automatically compensated for room temperature, so it is never re-set to zero.

PRICE:

32-JP-1, PORTABLE OVEN TEMPERATURE TESTER

Complete with leatherette case, 5½' calibrated thermocouple, attachment clip and convection shield **$21.65**

MODEL 32-JP-2



Model 32-JP-2 Portable Oven Temperature Tester is a handy, rugged tester in a black steel case, 6" x 3¾" x 3⅞", with fungus-treated leather strap. Metal case and meter panel are of one-piece construction, giving a superior seal against field conditions. Detachable leads are carried in a hinged compartment in the cover.

The Model 32-JP-2 Portable Temperature Tester is supplied with 5½' detachable calibrated #20 iron-constantan thermocouple, SA-116, with clip for attaching and convection shield. The 2⅜" meter scale reads from 0 to 650°F and is automatically compensated for temperature, so it is never re-set to zero.

PRICE:

32-JP-2 PORTABLE OVEN TEMPERATURE TESTER

Complete with steel case, 5½' calibrated thermocouple, attachment clip and convection shield **$25.00**

LABORATORY GALVANOMETERS

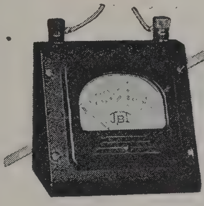
MODEL G-6, Laboratory Galvanometer, double pivoted, moving coil construction, designed for high flux density, is an extremely sensitive yet rugged instrument. Lightweight 4⅛" knife-edge pointer is easy to read against 30-0-30 scale with 1 mm. divisions. Short period and ability to withstand vibration make this instrument ideal for test and production conditions. Good zero stability. Current sensitivity 3.3 microamperes per mm. division with 6 ohm DC coil—sensitivity higher with higher resistances. Case is handsome natural finished mahogany 7¼" x 4¾" x 2¼" with heavy phenolic panel. For best results, it is recommended that galvanometer and circuit resistances be reasonably matched. Resistances are indicated by model number. **G-6, G-17, G-33, G-156, G-400, and G-950.**

PRICE, each **$25.40**

TEMPERATURE INDICATORS

WHERE TO USE: To check heat rise of motors, transformers and coils; for laboratory furnaces, inspection set-ups, for remote indication of infra-red and other oven temperatures; and to maintain controlled industrial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples, as in Diesel exhaust manifold applications.

MODEL 32-J



MODEL 32-J PYROMETER IN SN-3 STAND. Mounted in sloping front black metal stand, 4¼'' high x 4⅜'' deep x4⅛'' wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2⅜'' scale, assures ruggedness and pointer stability. To retain the 1% accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead—coil it — change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.

MODEL 32-J IN SN-3 STAND

0°— 650° F includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block	$25.00
0°—1200° F includes SA-87, SA-82, and CB-1	25.00
0°—2000° F includes SA-87, SA-82, and CB-1	25.00

Note: Centigrade equivalent scales available on order.

MODEL 32-J IN SN-5 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations.

0°—650° F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible lead and thermocouple	$28.00

MODEL 60-JPS

MODEL 60-JPS. This portable makes it easy to **know** temperatures at **one to ten** locations. Excellent for study of heat in various parts of the same equipment, or in a battery of units. Knife-edge pointer, 5.6'' scale. Heavy-duty thermocouple switch has average contact resistance of .00075 ohms or less. Automatically compensated for ambient temperature, indoors or outdoors. To retain accuracy of 1% full scale, use leads and thermocouples equal to resistance and e.m.f.vs-temperature characteristics for which instrument is calibrated. Medium resistance system assures portability. Housed in natural-finish wood case 11⅜'' x 8⅝'' x 4⅝'' over rubber feet. A "must" for inspection, maintenance, and engineering.

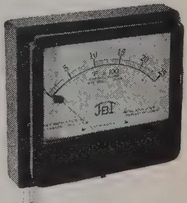
60-JPS—0°—600° F with SA-86, 7' thermocouple and lead for small apertures	$87.60
60-JPS—0°—1200° F with SA-88, SA-82, and CB-1	90.00
60-JPS—0°—2000° F with SA-88, SA-82, and CB-1	90.00

60-JP—For one thermocouple only; furnished with thermocouple and lead same as 60-JPS, but without selector switch.

0°— 600° F, with SA-86	$62.60
60-JP—0°—1200° F, with SA-88, SA-82, and CB-1	65.00
60-JP—0°—2000° F, with SA-88, SA-82, and CB-1	65.00

Note: When ordering additional thermocouples, specify couples and leads as above. Centigrade equivalent scales available on order.

Model 70-J



MODEL 70-J PYROMETER, for accurate reading at a distance, has full 6'' scale and spade pointer, with accuracy of 1% of total scale deflection. Automatically compensated for ambient temperature. Molded case mounted in steel shielding shell 7⅜'' x 8⅛'' x 1½''. Connections through bottom of case for wall or front-of-board mounting. When ordering, specify which standard scale range: 0°—600° F for 1938 std. I-C; 0°—1200° F for C-A; 0°—2000° F for C-A thermocouples.

PRICE, including 24'' thermocouple and 26' lead	$55.00

TEMPERATURE ACCESSORIES

LEAD WIRES. To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include:

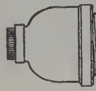
SA-82	6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block	$1.40
SA-83	26' compensating lead for chromel-alumel as above	$4.40
SA-84	6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; prepared as above	$1.40
SA-85	26' extension lead for iron-constantan, 1938 calibration; similar to above	$4.40
SA-86	7' iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 600° scales; terminals at instrument end; other end welded; resistance is not interchangeable with SA-84 and SA-85	$1.70

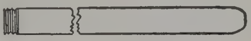
THERMOCOUPLES. For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

SA-87	12'' No. 14 Ga. chromel-alumel, 2-hole ceramic beads, fits 5/16'' hole; welded tip	$2.80
SA-88	same except 24'' No. 14 Ga.	$3.50
SA-89	12'' No. 8 Ga. chromel-alumel, 2-hole ceramic beads, fits 7/16'' hole; welded tip	$2.80
SA-90	same except 24'' No. 8 Ga.	$3.50
SA-91	12'' No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits 5/16'' hole; welded tip	$2.35

Flexible Thermocouple, 7' length, see SA-86 lead wire.

CONNECTOR BLOCK Model CB-1. Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head. **$1.25**





CONNECTOR HEAD Model CH-6. Connector head encloses connector block and rigidly supports protection tube around thermocouple. Opens for thermocouple inspection without disconnecting circuit. Normally supplied with reducing bushing for ½'' i.p.s. Composition bushing at top can be removed for permanent ½'' conduit installation. Including block **$2.00**

PROTECTION TUBES protect and support "base-metal" thermocouples such as above. Used in permanent installations at higher temperatures, or in damaging atmospheres. One end is closed, other end normally threaded for ½'' i.p.s. Proper quality of tubing is very important.

No. 1 Wrought Iron—For temperatures to 1200° F in oil baths, brazing, and general intermittent duty.

TU-11 No. 1—12 inches **$1.50** **TU-12** No. 1—24 inches **$2.00**

No. 7 Alloy—27% chromium, iron; drilled tube; for cyanide pots, salt baths with cyanide, open fire with sulphurous content; to 2300° F.

TU-5 No. 7—12 inches **$8.00** **TU-6** No. 7—24 inches **$12.00**

No. 9 Alloy—62% nickel, 13% chromium; seamless drawn; for salt baths without cyanide; for gas and oil open fire furnaces and general use, except sulphurous atmospheres; to 2300° F.

TU-2 No. 9—12 inches **$4.50** **TU-3** No. 9—24 inches **$8.00**

Note: For temperatures above 2300° F; platinum, platinum-rhodium thermocouples are available.

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

VIBRATING REED FREQUENCY METERS (PATENTED)

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards in central stations and industrial plants—wherever constant or known frequency is important to efficient operation of equipment.

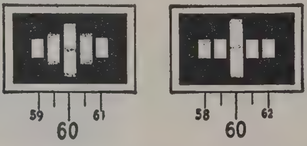
PRINCIPLE OF OPERATION:

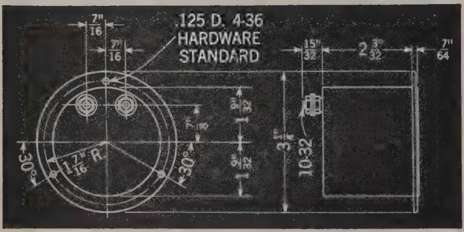
Simple in design, the J-B-T Meter consists of a case, base, dial and central mounting frame, with a series of spring steel reeds screwed to a reed mounting bar, individual driving coil surrounding each bank of reeds, permanent magnet, series resistor and terminal studs.

Each reed is adjusted to respond by resonance to but one frequency. As the alternating current (or interrupted direct current) excites the driving coil, the one reed "in tune" with the frequency in the coils will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. Frequency of the current is read on the graduated face of the instrument.

ADVANTAGES:

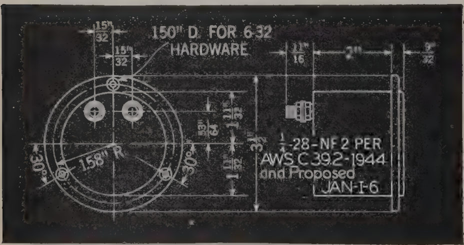
Some standard models are available in either half cycle or full cycle steps, as shown below on two meters indicating a frequency of 60 cycles.





Above: Models 30-F, 31-F, 33-F, 34-F; Metal Case

Below: Models 30-FX, 31-FX, 33-FX, 34-FX; Molded Case



Both response patterns are extremely easy to read. In the half cycle instrument the response is broad; in the full cycle instrument, the response is sharp.

Guaranteed accuracy of ±0.3% or better, depending on the model—not an overall percentage based on the maximum scale reading, but applied to each frequency being measured.

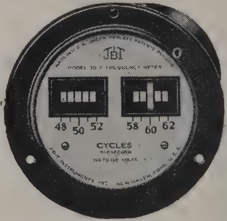
High fatigue safety factor for continuous operation, and outstanding temperature stability. Temperature compensators are not required.

All meters are permanently calibrated at the factory and do not require subsequent adjustment. Accuracy is not affected by wave form or external magnetic fields.

These meters are rugged. Built with no pivoted parts and with lock washers at every critical point, they can take rougher treatment than many instruments.

CAUTION:

If a meter plugged in on a 60 cycle AC power line does not indicate a frequency of exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions beyond the control of Utility. All J-B-T Vibrating Reed Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply.



MODEL 30-F

MODEL 30-F

Range: 48-52 and 58-62 cycles. Double window for ease of reading frequency in either range. Often specified for export. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy ±0.3%. Flush panel mounting.

30-F, 48-52 and 58-62 cy., 3¼" Metal Case **$25.00**

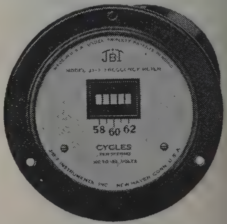
30-FX, 48-52 and 58-62 cy., 3½" Molded Case, AWS mtg. **$25.00**

MODEL 31-F

Used in standby power equipment. Handy for accurately measuring frequency of power source. Five reeds, 58-62 cycles. Other characteristics same as Model 30-F.

31-F, 58-62 cy., 3¼" Metal Case **$21.50**

31-FX, 58-62 cy., 3½" Molded Case, AWS mtg. **$21.50**



MODEL 31-F

MODEL 34-FX

MODEL 34-FX

Used where a broader frequency band is desirable. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy ±0.2%) 58-62 cycles. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting.

34-F, 56-64 cy., 3¼" Metal Case **$24.75**

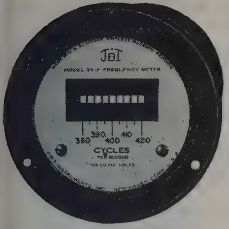
34-FX, 56-64 cy., 3½" Molded Case **$24.75**

34-F, 58-62 cy., 3¼" Metal Case **$26.25**

34-FX, 58-62 cy., 3½" Molded Case, AWS mtg. **$26.25**

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.



MODEL 33-F

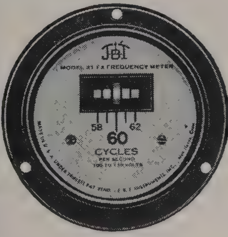
400-cycle. Used for measuring frequency of high-cycle power sources, including new heavy aircraft. Accuracy ±0.3%. Nine reed, 380 to 420-cycle range. 100-300 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting.

33-F, 380-420 cy., 3¼'' Metal Case **$31.00**
33-FX, 380-420 cy., 3½'' Molded Case, AWS mtg. **$31.00**

MODEL 21-FX

Smallest frequency meter manufactured. Meets ASA (AWS) C39.2-1944 in depth of case as well as in mounting dimensions and mounting hardware. Matches other 2½'' panel instruments. Weighs only 4½ oz. 100-130 volts; 5 reeds; 58-62 cycles; 190 ohms per volt; 0.6 watt power consumption. Also 116 to 124 cy.; 160 ohms per volt; 0.7 watt power consumption. Flush panel mounting.

21-FX, 58-62 cy., 2-11/16'' Molded Case **$20.50**
21-FX, 116-124 cy., 2-11/16'' Molded Case, AWS mtg. .. **$23.00**



PORTABLE FREQUENCY TESTERS

MODEL 33-FP-9. Handy, compact, portable instrument of exceptional accuracy even under poor wave-form conditions, fluctuating voltage or external magnetic disturbances. Meets exacting test requirements of aviation, signal and communication equipment. Treated against fungus and moisture. Housed in sturdy metal case 6'' x 3¾'' x 3⅞''. Hinged top compartment provided for the 4' leads which are supplied complete with sharp 5'' insulated test picks and banana plugs. Electrical characteristics identical with 400 cycle 33-F. Model 34-FP-9 electrical characteristics identical with 60 cycle 34-FX.

33-FP-9, 380-420 cy.,	**$38.00**
34-FP-9, 56-64 cy.,	**$31.75**

ELAPSED TIME COMBINATION

MODEL 31-FE. A unique panel instrument which combines the elapsed time meter or running time meter with frequency reeds. It is especially useful on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. Reads 9,999.9 hours; 58-62 cycles at 100-130 volts.

31-FE **$30.00**

JBT
58 60 62
CYCLES PER SECOND
ELAPSED TIME

VACUUM TUBE FREQUENCY METERS

(PATENTS PENDING)

PRINCIPLES OF OPERATION:

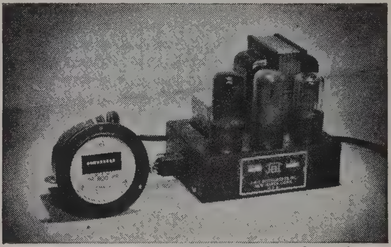
J-B-T Models 33-VTF and 39-VTF Vacuum Tube Frequency Meters are designed to provide the maximum degree of accuracy in measuring frequencies located within definite bands. A special multi-vibrator circuit in the electronic unit divides the incoming frequency by two or three or even higher integers, then permits the use of a vibrating reed frequency meter in measuring the resultant frequency. The inherent accuracy and ruggedness of the vibrating reed instrument are thus used to full advantage in this combination.

WHERE USED:

J-B-T Models 33-VTF and 39-VTF are especially useful for checking audio oscillators, frequency converters, radar equipment, and for standardizing less accurate frequency measuring units.

ADVANTAGES:

Extreme Accuracy—Measurement within ±0.25% for any indicated frequency. **Permanent Accuracy**—Calibrated at factory—no subsequent calibration or standardization required at any time. **Temperature Drift Eliminated**—No initial stabilization period required. **Burn-Out Proof**—No protection needed against accidental frequencies above the range being measured. **Few Controls**—Requires no complicated controls for operation. **Stability of Circuit**—Accuracy of reading is independent of line voltage variation. No voltage regulator, external or internal, is required.



Model 33-VTF with cover removed. Vacuum tube unit attaches to rear of panel, meter mounts flush.

MODEL 33-VTF, FIELD TYPE

Frequency ranges: 380-420 cycles; 760-840 cycles; 1140-1260 cycles; available singly or in combination. (See Model 33-F for single range 380-420 cycle meters). Voltage range: 100-130 volts. Power to operate the units is obtained from an inverter or other source of frequency being measured. Power consumption: approximately 20 watts. This model requires no power supply other than the source whose frequency is being checked. Input impedance: approximately 650 ohms. Tubes used: 1—6N7-GT/G multi-vibrator; 1—6V6-GT/G amplifier; 1—6X5-GT/G rectifier. Size: 4⅝'' x 5½'' x 6''; weight: approximately 6 lb. Black wrinkle finish. Unit is provided with 3—¼-28 vibration-proof nuts for either panel or bracket mounting. Frequency meter, std. 3½'' flush panel mounting. Connecting leads included are a 6' power cord and 2' leads between the electronic unit and frequency meter. They may be located any desired distance apart, however.

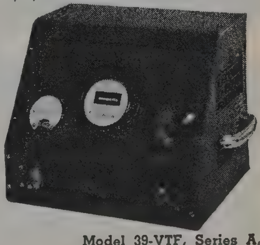
MODEL 33-VTF

Single range 760-840 cy.	**$110.00**
Single range 1140-1260 cy.	**117.50**
Double range 760-840; 1140-1260 cy.	**125.00**

MODEL 39-VTF, LABORATORY TYPE

Frequency ranges: Basic range, 380-420 cycles. Multiplier switch permits use in ranges of 2, 3, 4, 6 and 9 times the fundamental range. (400, 800, 1200, 1600, 2400 and 3600 cycle bands). Voltage range: 100 - 350 volts. Power consumption: Approximately 25 watts at 115 volts. 60 cycles. Input sensitivity: 500,000 ohms. Tubes: 2—6N7 multi-vibrators; 1—6N7 input; 1—6J5 buffer; 1—6V6 amplifier; 1—6X5 rectifier. Size: — housed in metal cabinet 8'' x 10'' x 8'' with sloping panel.

Model 39-VTF, Series A—$257.00



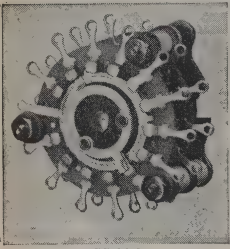
Model 39-VTF, Series A, showing portability

Instruments J-B-T **Testers**

J-B-T INSTRUMENTS, INC.

INSTRUMENT AND TESTER SWITCHES

Rotary Selector — Single and Multi-Gang — Non-Shorting and Shorting*


SS-14-2

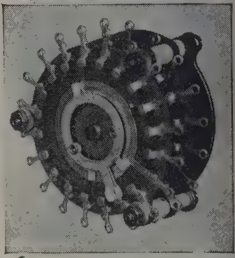
The switch that's IN LAST PLACE on the trouble-shooter's check list . . . AND PROUD OF IT!

J-B-T Instrument Type Rotary Selector Switches were designed and developed to meet the need for trouble-free, dependable performance in hard service. These superior switches are used extensively in high quality test equipment, portable instruments, inspection setups and experimental circuits. Available in two basic types—14 and 20 position—the design gives extra contacts in minimum space. One to six decks.

FEATURES:

Reliability—Rigid, 3-post deck suspension, instead of the usual 2; all parts heavily coin silver plated to meet 200 hour salt spray test; ball bearing action, beryllium-copper spring, and special design detent wheel assure positive indexing. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength.

Exceptional Compactness—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23/32" circle. Additional decks require only 5/16" spacing per section.


SS-20-2

Low Contact Loss—Double-grip collector arms, and triple contacts on collector rings, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

Ample Dielectric—Normal make-and-break with resistance load, 25 Ma. at 300 volts AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts and ground, 1000 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

★ Standard items, but not regularly stocked; check with your distributor.

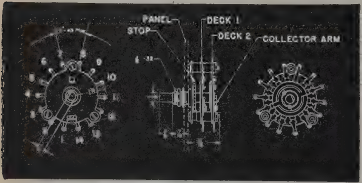
BASIC 14-POSITION: Knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown, 13 contacts per deck. **One to six decks;** for each additional deck (or gang) add 5/16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Adjustable Stop** supplied when requested. **Panel Locator** available on special order. Special **stabilizing end ring** used on switches with three or more decks.

BASIC 20-POSITION: Knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft, unless otherwise specified. **Contact lugs** and common lug positioned as shown, 19 contacts per deck, continuous rotation types. **One to six decks;** for each additional deck, add 5/16" to depth. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

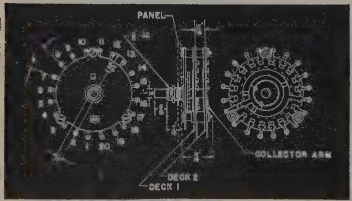
NEW SWITCHES — 12-POSITION, 30° INDEXING

For those unable to take advantage of the exceptional compactness of the SS-14 and SS-20 switches, such features as the 3-post deck suspension will be made available in the new SS-12 Series. Design provides a stop which can be adjusted at any time.

The SS-12 Series will appeal to those who require high quality replacements for 30° indexing switches. As no special assembly fixtures are required, kits will be offered when parts are available. As this catalog goes to press, prices and delivery information have not yet been released.



SS-14-2



SS-20-2

STANDARD SWITCHES, SS-14 TYPE

(14 positions; angular indexing 25° 43′)

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed, Including Knob
SS-14-1	14	1	1	N-S	$1.35
SS-14-1A*	7	2	1	N-S	1.38
SS-14-1S*	14	1	1	S	1.35
SS-14-1AS*	7	2	1	S	1.38
SS-14-2	14	1	2	N-S	1.55
SS-14-2A*	7	2	2	N-S	1.61
SS-14-2S	14	1	2	S	1.55
SS-14-2AS*	7	2	2	S	1.65
SS-14-3	14	1	3	N-S	1.85
SS-14-3S*	14	1	3	S	1.85
SS-14-4	14	1	4	N-S	2.35
SS-14-6	14	1	6	N-S	3.35

★ Standard items, but not regularly stocked; check with your distributor.

STANDARD SWITCHES, SS-20 TYPE

(20-positions; angular indexing, 18°)

SS-20-1	20	1	1	N-S	$1.75
SS-20-1A*	10	2	1	N-S	1.78
SS-20-1S*	20	1	1	S	1.75
SS-20-1AS*	10	2	1	S	1.78
SS-20-2	20	1	2	N-S	2.05
SS-20-2S*	20	1	2	S	2.05
SS-20-3	20	1	3	N-S	2.65
SS-20-4	20	1	4	N-S	3.15
SS-20-6	20	1	6	N-S	4.35

★ Standard items, but not regularly stocked; check with your distributor.

ETCHED DIAL PLATES

SS-14 Series
SS-20 Series

EP-13
off thru 13 ....**$0.19**

EP-14
1 thru 14 ....**$0.19**

EP-19
off thru 19 ....**$0.19**

EP-20
1 thru 20 ....**$0.19**

JACKSON *Radio Testing Equipment*

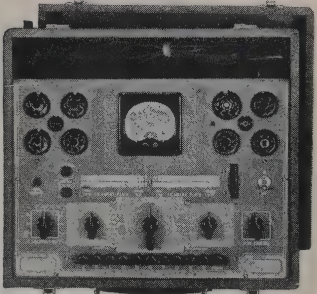
THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

DYNAMIC TUBE TESTERS

With Built-in Rotary Tube Chart

This tester has every feature of finest design and construction including Dynamic test method, roll chart, noise test, neon shorts test, line control, power switch, etc.

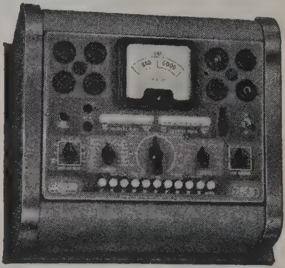
- **NEW** in design and performance, including the latest Jackson patented switching circuits.
- **MODERN** in every feature of construction, appearance and operation.
- **COMPLETE** with every valuable feature. Up to date for all newest tube types.


Dynamic Tube Tester—Model 636-P, portable

FEATURES

"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate, frequently finding "poor" tubes which might pass for "good" in ordinary testers.

NEW HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.


DynamicTubeTester—Model 636-C, counterstyle

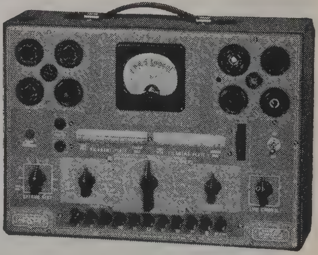
TESTS ALL TUBES—ALL of the popular receiving types and television amplifiers, including BANTAMS — LOCTALS — SINGLE ENDED — HIGH VOLTAGE FILAMENT TYPES and MINIATURES. Provision for many more. The tester is protected against obsolescence in every possible feature.

ROLL CHART tube index—simplifies correct settings.

FULL RANGE FILAMENT SELECTION—From 3/4 V. to 115 V. Selector marked directly in volts. This feature eliminates guess work and helps the operator to avoid mistakes.

MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions provided for future use. Two "spare" socket positions.

NOISE TEST jacks are provided for audible test of this possible tube noise.


DynamicTubeTester—Model 636-B, benchstyle

★ ★ ★

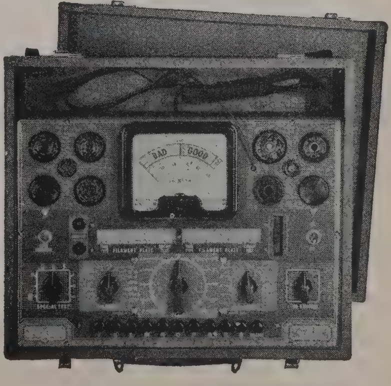
MODEL 636-P Portable—This tester is installed in sturdy leatherette case. Hinged lid is removable. Provides extra convenience and protection for instrument panel. Dimensions: 14" long x 12" x 5½". Wt. 11 lbs. **Net Price $55.00**

MODEL 636-C Counter Style—Attractive, modern counter case in two-tone grey finish. Large 4" square meter. Tests dial lights and ballast tubes. Dimensions: 16" wide x 7" high x 13¾" front to back. **Net Price $65.00**

MODEL 636-B Bench Style—Installed in welded steel cabinet, with sturdy handle and rubber bumpers on both base and back. Two-tone grey finish. Dimensions: 13" x 9½" x 5½". Wt. 10 lbs. **Net Price $49.00**

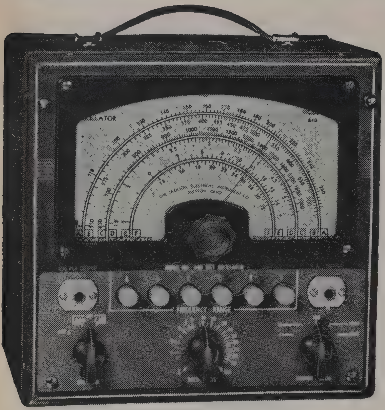
MODEL 636-CP—Identical with 636-C except that Main Panel is installed in portable leatherette case. Has large 4" square meter. **Net Price $62.50**

MODEL 636-CB—Identical with 636-C except that instead of sloping front case, a rectangular case is used. **Net Price $56.50**


Dynamic Tube Tester—Model 636-CP

JACKSON *Radio Testing Equipment*

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO



Test Oscillator—Model 640

TEST OSCILLATOR — MODEL 640

A complete test oscillator for all general purpose work. Has full range direct reading dial from 100 KC up to 30 Megacycles. No skips or harmonics calibrated. All ranges are fundamental frequencies.

FEATURES

PUSH-BUTTON selection of all ranges makes speedy and accurate operation possible.

GLASS ENCLOSED DIAL—prevents dust and avoids possibility of damage to pointer.

TWO CIRCUIT ATTENUATOR provides variable ratio and also vernier control.

HAS POWERFUL SIGNAL OUTPUT which may be used either as pure R.F. or Modulated R.F. Carrier is modulated at approximately 30%. The A.F. voltage is available for external use.

ACCURACY GUARANTEED to ½ of 1% on all ranges. Operates from 100 volt 60 cycles. Uses three tubes (rectifier, oscillator and modulator).

MODEL 640 ....**NET CASH PRICE $49.00**

Condenser Tester—Model 650-A

CONDENSER TESTER — MODEL 650-A

The Model 650 is a modern, accurate and complete instrument for detecting faulty condensers—ELECTROLYTIC, PAPER or MICA. Uses a new method for Leakage Test which will reveal otherwise unnoticed condenser defects.

FEATURES

AUTOMATIC PUSH BUTTON CONTROLLED—Amazing in speed and simplicity of use. Capacity readings almost instantaneousl Leakage test by just pressing a button.

SCALE IS GLASS ENCLOSED and is equipped with the new Jackson SCALE EXPANDER indicating pointer—doubles effective scale length.

MEASURES ALL VALUES direct reading in Microfarads.

RANGES: .00001 to .001 mfd. .1 to 100 mfd.
.001 to .1 mfd. 50 to 1000 mfd.

MEASURES POWER FACTOR on direct reading dial. Power Factor range calibrated from 0 to 60%.

COMPLETE SELECTION OF TEST VOLTAGE. 20 volts to 500 volts.

ELECTRON RAY TUBE indicates exact balance or shows if leakage is present.

INSTANTANEOUS LEAKAGE INDICATION—counting of flashes eliminated. No other guess-work with this modern tester. Has special built-in amplifier stage which actually responds to slightest leakage, if present. Thus all leakage defects may be located.

MODEL 650-A ....**NET CASH PRICE $49.00**

COMPACT VOLT-OHM-MILLIAMMETER — MODEL 615

An excellent general purpose instrument, compact in size but unusually complete in ranges. Panel is finished in attractive two-tone grey with white lettering.

FEATURES

RANGE SELECTION—Rotary switch method saves time and reduces errors.

HIGH QUALITY METER—Three inch square type meter with two jewelled bearings.

RANGES—
Two Ohms Ranges—0-1000/0-500,000

Five D.C. Volts Ranges—0-5/50/100/250/1000

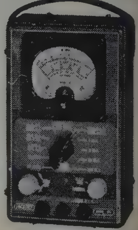
Four D.C.M.A. Ranges—0-1/5/50/250

Five A.C. Volts Ranges—0-10/100/200/500/2000

Additional High Voltage D.C. Range—0-2500 v.

Each instrument supplied complete with self-contained battery for ohms ranges.
Test leads not included. Dimensions—7" x 4¼" x 3".

MODEL 615 ....**NET CASH PRICE $24.95**

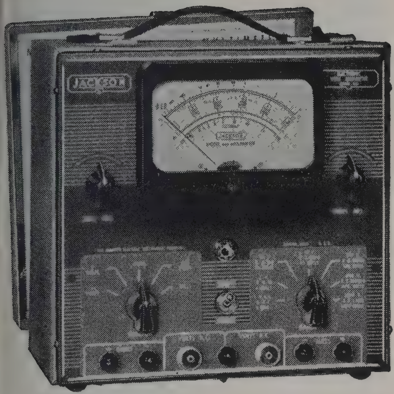


Volt-Ohm-Milliammeter Model 615

JACKSON Radio Testing Equipment

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

VACUUM TUBE VOLTMETER — MODEL 645



AC-DC Vacuum Tube Voltmeter—Model 645

Model 645 is an ultra-modern high sensitivity instrument, with all of the famous Jackson features, including exceptional accuracy and simplicity of use.

FEATURES

BOTH A.C. AND D.C. VOLT RANGES ARE ELECTRONIC. This provides the maximum of sensitivity and overload protection for all A.C. ranges as well as D.C. and ohms ranges.

MEASURES RESISTANCE UP TO 1 BILLION OHMS (1 thousand megohms)—and as low as 2/10 ohm.

3 MILLION OHMS PER VOLT SENSITIVITY on 0-4 volt D.C. range. Constant input resistance 12 megohms on all D.C. volts ranges.

Over 4 million ohms per volt sensitivity on 0-1 volt A.C. range. Input resistance of 4.4 megohms on all A.C. ranges. Flat frequency response between 50 cycles and 200,000 cycles.

METER CANNOT BE DAMAGED BY ACCIDENTAL OVERLOAD on any electronic range. Electronic overload-protection on all A.C. and D.C. volts, and ohms ranges. Variations in line voltage do not affect accuracy within the range of 100 to 125 volts. Instrument is equipped with ballast control tube and compensating circuits.

Contains 3 tubes (6X5GT/6K6GT/7N7); 1—4½ volt battery and ballast; all self-contained and furnished with the instrument.

METER RANGES—

A.C. Volts: 0-1/4/10/40/100/400/1000.
D.C. Volts: 0-4/10/40/100/400/1000.
Ohms: 0-1000/10,000/100,000/1 meg/10 meg/100 meg/1000 meg.
M.A.: 0-1/4/10/40/100/400/1000.
Decibels: Minus 30 to minus 5/minus 10 to plus 15/10 to 35/30 to 55.

Either positive or negative D.C. voltmeter indications instantly by means of reversal switch. Signal Tracing type test lead with isolation resistor in probe.

MODEL 645 .... NET PRICE $75.00

UNIVERSAL VOLT-OHM-MILLIAMMETER—MODEL 642

(20,000 Ohms Per Volt)

Universal Volt-Ohm-Milliammeter—Model 642

A valuable and necessary instrument for all measurements o sensitive circuits such as A.V.C. voltages, etc. Many measurements may be made with current drain as low as 10 microamperes!

AUTOMATIC RANGE SELECTION — PUSH BUTTON CONTROLLED. Instant selection of any meter range is made simple with the eleven key push button selector.

TWENTY-THREE RANGES—SEVEN FUNCTIONS AC/DC volts—ohms—decibels—milliamperes—microamperes and amperes. Has special built-in shunt and 10 ampere range.

OHMS RANGES from ½ ohm up to thirty megohms. No external batteries or line power required. Current readings may be made as low as 2/1000ths of one milliampere. All D.C. volts ranges are 20,000 ohms per volt.

METER RANGES—

A.C. Volts: 0-10/100/250/500/1000/5000. D.C. Volts: 0-10/100/250/500/1000/5000. Decibels: Minus 10 to plus 14/10 to 34/30 to 54. D.C. M.A.: 0-10/100/250. Microamps: 0-100. Amperes: 0-10. Ohms: 0-3000/300,000/30,000,000.

CONSTRUCTION is of the finest in materials and workmanship. Case is welded steel finished in grey morocco. Fitted with removable hinged steel cover. Protects meter and controls. Case dimensions: 8½" x 8½" x 6". Weight 6 lbs. Complete with self-contained battery. Furnished with test leads.

MODEL 642 .... NET CASH PRICE $64.50

UNIVERSAL VOLT-OHM-MILLIAMMETER—MODEL 643

(1000 ohms per volt)

MODEL 643 .... NET CASH PRICE $45.00

Same ranges as the Model 642 except micro-amps range is 0-1000 and ohms ranges are 0-3000/300,000/3,000,000.

JACKSON *Radio Testing Equipment*
THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

DYNAMIC OUTPUT TUBE TESTER — MODEL 637

With Complete Universal Meter Ranges

IN THE SHOP or OUT ON THE JOB, here's the ideal tester for modern servicing. Combines 27 ranges and 10 functions including—

1—Dynamic Output Tube Tester—accurate, thorough.
2—Ballast tube tester—finds shorts or burn-outs.
3—High sensitivity neon continuity tester.
4—Condenser test for finding shorted or leaky condensers.
5—Multi-range A.C. Voltmeter 0-10/100/250/500/1000/2500.
6—Multi-range D.C. Voltmeter 0-10/100/250/500/1000/2500.
7—Decibel Meter—Ranges from minus 10 to plus 14/10 to 34/30 to 54.
8—Multi-range D.C. Miliameter 0-1/10/100/250.
9—Ammeter range—0 to 10 amperes D.C.
10—Triple range Ohmmeter 0-3000/300,000/0-30 megohms.

FEATURES

AUTOMATIC PUSH BUTTON SELECTOR provides for instant use of any meter range. This new selector marked directly in volts at each position. This feature eliminates guess work and helps the operator to avoid mistakes

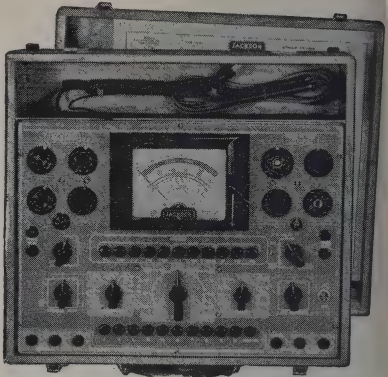
TESTS ALL TUBES—All of the popular receiving types and television amplifiers including BANTAMS—MINIATURES—LOCTALS—SINGLE ENDED—AND HIGH VOLTAGE FILAMENT TYPES. Provision for many more. Tester is protected against obsolescence in every possible feature of design and manufacture.

"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "DYNAMIC" method is more accurate and frequently finds "poor" tubes which might pass for "good" in ordinary testers.

NEW—HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions are provided for future use if new or different tubes are announced. Two "spare" socket positions are provided on the tester panel.

REMARKABLY EASY TO USE—Notice the simplicity of panel and controls. The engineering is all BENEATH THE PANEL—you don't lose valuable time figuring out "the next move."



Dynamic Output Tube Tester—Model 637

NOISE TEST jacks are provided for audible test of possible tube noise.

ALL READINGS DIRECT on "Good-Bad" Scale. No special marks for diodes, etc.

The **FULL VISION** Jackson Meter is an exclusive feature of this tester. Meter measures 6 inches over flanges.

OAK CASE is of finest construction and has removable hinged lid. Dimensions 14¾" x 13¾" x 6". Weight 14 pounds.

ACCESSORIES—Furnished complete with self contained battery (for ohmmeter), and test prods.

MODEL 637 .... NET CASH PRICE $82.00

AUDIO OSCILLATOR MODEL 652

Audio Oscillator—Model 652

SPECIFICATIONS

Frequency Range—20 cycles to 20,000 cycles in 3 ranges. 20-200 cycles/200-2000 cycles/2000-20,000 cycles.

Accuracy—Frequency calibrations accurate to within 3% or 1 cycle. **Output Impedance**—Five values of output impedance 10 ohms/250 ohms/500 ohms/5000 ohms/HIGH. Controlled by selector switch. **Output power**—500 milliwatts. Continuously variable from zero to maximum.

Waveform—Less than 5% Harmonic Distortion between 30 and 15,000 cycles.

Frequency Characteristic—Plus or minus 1 DB between 30 and 15,000 cycles.

Line Voltage—105-120 Volts—50-60 Cycle A.C.

Tubes—1-80, 1-6SJ7, 2-6F6 furnished installed in instrument.

Dimensions—13" wide, 9½" high, 9⅝" deep. Wt. 26 lbs.

MODEL 652 .... NET CASH PRICE $117.00

The Model 652 provides an audio frequency voltage DEVELOPED AT ITS FUNDAMENTAL FREQUENCY. The basic design of the instrument is entirely different from the "beat frequency" type of Audio Oscillator.

FEATURES

RESISTANCE CAPACITY TUNED CIRCUIT DESIGN, engineered for modern needs of audio measurements.

NO ZERO ADJUSTMENT—Tuned Fundamental Frequency method provides permanently locked calibration.

OUTPUT CHARACTERISTICS—Model 652 meets the most exacting requirements as to WAVEFORM — UNIFORM FREQUENCY CHARACTERISTIC—AND OUTPUT LOAD IMPEDANCE SELECTION. A special feature of the output system is the ten ohm tap for low impedance circuits such as speaker voice coils, etc.

COMPLETE STABILITY—The stability of frequency calibration is constant throughout the entire range. The stabilized circuit permits large changes in line voltage to occur without affecting frequency or waveform and having negligible effect on output voltage.

SIMPLIFIED OPERATION—It is only necessary to select desired FREQUENCY and OUTPUT. THERE ARE NO OTHER CONTROLS. Therefore the possibliity of errors in operation is eliminated.

HIGH OUTPUT POWER—More than THREE TIMES the output usually available from ordinary audio oscillators.

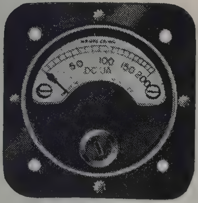
CONSTRUCTION—Frequency dial is glass enclosed. All controls are legibly marked. Rugged mechanical construction assures trouble-free operation under service conditions.

MB MINIATURE INSTRUMENTS

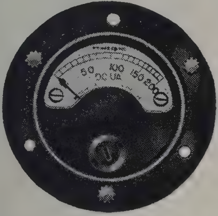
1-INCH INSTRUMENTS

50
100
150
200
DC UA

MODEL 100



MODEL 101



MODEL 102

A precision movement—the smallest made—provides fast response and dependable operation in the complete line of MB indicating instruments. It's a lightweight, conventional, moving coil type, ruggedly built to withstand vibration, shock, and long use. Expertly designed, the many outstanding features of MB instruments include: soft iron pole pieces; Alnico No. 5 magnet; standard jewels and pivots; easy-to-read, all metal scale; anodized aluminum case. Accuracy of ± 2% of full scale at any point is standard in each model.

1-INCH INSTRUMENTS

MODEL 100 is the last word in miniature instruments . . . it's the smallest, lightest made. The precision-machined case is hermetically sealed against moisture and dust. Fastens to panel with threaded mounting ring.

MODEL 101 is the smallest square meter you can find. It has a pressed aluminum case that mounts with four mounting screws. Securely sealed against moisture and dust.

MODEL 102 is similar to model 101 in constructional details, except for round shape. The pressed aluminum case offers savings to the user of this series.

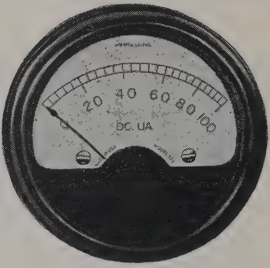
1½-INCH INSTRUMENTS

MODEL 150 contains the same accurate movement as the 1-inch series. Its finely machined, hermetically-sealed, anodized aluminum case self contains all necessary shunts, multipliers and rectifiers. Mounts with threaded, locking ring.

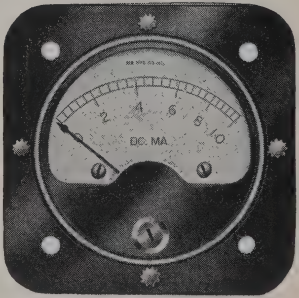
MODEL 151 has an economical, pressed aluminum round barrel and a square face plate. Self contained in all standard DC and AC ranges. Mounts to panel with four screws.

MODEL 152 offers the same fine features of Model 150, plus the economies of a pressed aluminum case. Self contained in all standard DC and AC ranges. Mounts to panel with three screws.

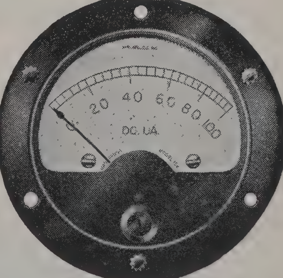
1½-INCH INSTRUMENTS



MODEL 150



MODEL 151



MODEL 152

LIST PRICES (Direct Current Instruments)

RANGE	MODEL 100	MODEL 101	MODEL 102	MODEL 150	MODEL 151	MODEL 152
0-100 Microamperes	$13.25	$11.50	$11.50	$13.25	$11.50	$11.50
0-200 Microamperes	12.50	10.75	10.75	12.50	10.75	10.75
0-500 Microamperes	11.75	9.75	9.75	11.75	9.75	9.75
0-1 Milliamperes	10.00	8.00	8.00	10.00	8.00	8.00
0-5 Milliamperes	10.00	8.00	8.00	10.00	8.00	8.00
0-10 Milliamperes	10.00	8.00	8.00	10.00	8.00	8.00
0-25 Milliamperes				10.50	8.50	8.50
0-50 Milliamperes				10.50	8.50	8.50
0-100 Milliamperes				10.50	8.50	8.50
0-200 Milliamperes				10.50	8.50	8.50
0-500 Milliamperes				10.50	8.50	8.50
0-1 Amperes				10.50	8.50	8.50
0-5 Amperes				10.50	8.50	8.50
0-10 Amperes				10.50	8.50	8.50
0-5 Volts				11.75	9.75	9.75
0-10 Volts (1000				11.75	9.75	9.75
0-25 Volts Ohms per				11.75	9.75	9.75
0-50 Volts Volt))				11.75	9.75	9.75
0-100 Volts				12.25	10.25	10.25
0-150 Volts				12.25	10.25	10.25
0-300 Volts				13.25	11.25	11.25
.5-0.5 Milliamperes	10.00	8.00	8.00	10.00	8.00	8.00

AC RECTIFIER-TYPE INSTRUMENTS

RANGE		MODEL 150	MODEL 151	MODEL 152
0-5 Volts		$15.00	$13.25	$13.25
0-10 Volts	(1000 Ohms	15.00	13.25	13.25
0-50 Volts	Per Volt)	15.00	13.25	13.25
0-100 Volts		16.00	14.25	14.25
0-150 Volts		16.00	14.25	14.25
0-300 Volts		17.00	15.25	15.25

LIST PRICES SUBJECT TO CURRENT DISCOUNTS

MARION ELECTRICAL INSTRUMENT CO.
MANCHESTER, NEW HAMPSHIRE

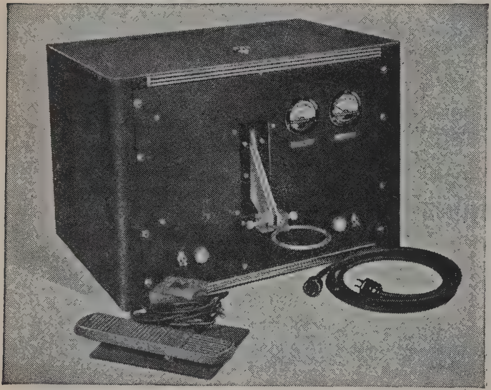
JOBBER SALES DIVISION
Electrical Instrument Distributing Co.
433 Broadway New York, N. Y.

Export Division;
458 Broadway, N. Y. 13, N. Y., U.S.A.
Cables; Morhanex

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

A new weapon to help in the fight to reduce production costs . . .

MARION BENCH-TYPE INDUCTION SOLDERING UNIT



A low-cost, low-powered induction heating unit, designed for use wherever production soldering of small metal parts and assemblies is part of the job. It increases the quality of soldering operations . . . minimizes time and expense involved . . . requires no experienced help . . . and can be put to work in such diverse fields as radio, electronics, jewelry, electrical fixtures, toys, kitchenware, motors, paint brush ferrules, can sealing, etc.

As a production "tool" the value and performance of the Marion Portable Bench-type Induction Soldering Unit have been proved. Its many advantages in design and construction and surprisingly small initial cost and maintenance make it a safe and profitable investment for even the most cautious of investors or the smallest of shops. It may prove to be the economical solution to your present and future production problems.

COMPACT . . . ADAPTABLE . . . EFFICIENT . . . ECONOMICAL . . . SAFE

- It increases the speed of soldering operations—and provides a result often impossible with other methods.
- Produces cleaner work and eliminates many cleaning operations.
- An entire seam, or a number of small parts which are jig-located, can be soldered simultaneously. This is not possible with torch or iron techniques.
- The unit lends itself to precise timing and exact duplication of work, consequently minimizing mistakes and rejects.
- Ideal for use with belt-line or turntable types of automatic feed.
- Even those with little experience can operate it efficiently once the job is properly set up and its time cycle established.
- It is cheaper than a solder pot, consuming only 775 watts at full load and only 100 watts on standby. Power is drawn only when soldering is taking place.
- There are no moving parts to wear out. Tube replacement costs low. All components are designed with generous safety factor.
- The heater offers less hazard than a soldering iron, and yet does a neater, cleaner, faster job . . . without danger of sparking or radio frequency burns.

SPECIFICATIONS

Power Supply: 115 volts, 60 cycle.
Size: 15¾" x 21½" x 15".
Mounting: Standard relay rack cabinet.
Weight: 150 pounds.
Power: 775 watts at full power output, 100 watts standby.

The entire unit is rigidly assembled and mounted to prevent arc-over and failure of components.

Priced at only $360.00 F.O.B. Manchester

(Foot Treadle Extra)

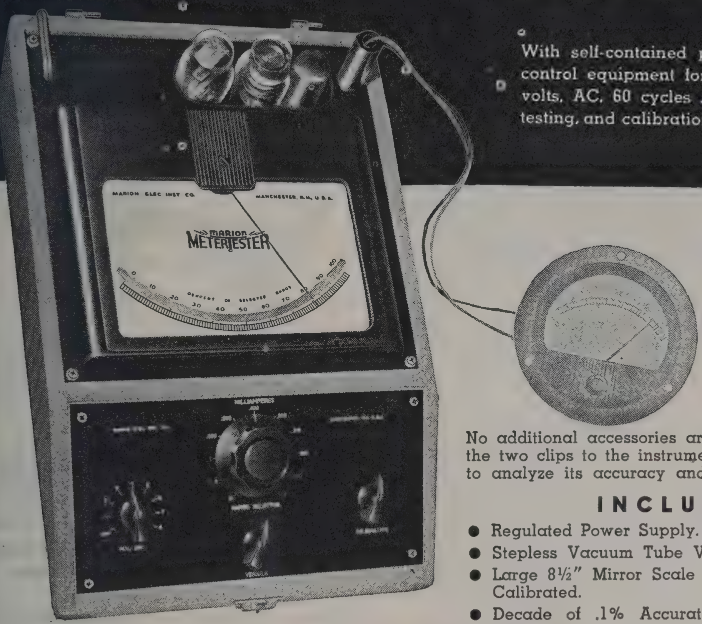
Each heater is accompanied by a manual which covers not only operating and service information, but also the design of the work coils for fundamental shapes such as square, rectangular, round and oval. Engineering assistance is available when involved work pieces are encountered.

PARTIAL LIST OF APPLICATIONS

- Solder windows in instruments, gauges, watches.
- Solder Kovar glass terminals to casings.
- Solder button and variable ceramic capacitors.
- Solder indicators, circuit breakers, fixed resistors.
- Solder potentiometers, rectifiers, relays, switches.
- Solder metallized jewels, small seams, assemblies.
- Solder glass-to-metal structural assemblies as in variable condenser bushings.
- Solder Alnico and other magnet assemblies without affecting properties of materials.
- Solder-seal all types of electronic components.

MARION Multi-Range METERTESTER

With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing, and calibration of DC instruments



For use in any department and all laboratories where instruments are employed and their performance must be carefully checked. With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing and calibration of DC instruments. No additional accessories are required. Merely connect the two clips to the instrument under test, and proceed to analyze its accuracy and general performance.

INCLUDES...

- Regulated Power Supply.
- Stepless Vacuum Tube Voltage Control.
- Large 8½″ Mirror Scale Standard Instrument, Hand Calibrated.
- Decade of .1% Accurate Manganin Wire Wound Resistors.

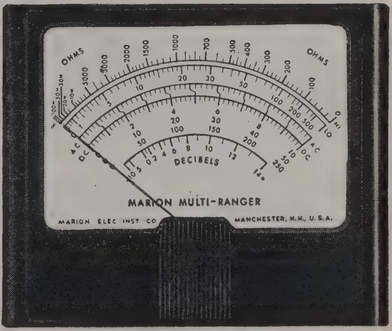
The MARION METERTESTER is designed with many operational features which will definitely improve the production rates of any meter inspection department. Moreover, its accuracy is such that it may be used for checking purposes in any department and all laboratories employing instruments. It may also be used as a source of DC current and voltage. Overall accuracy is better than ½ of 1%. Basic sensitivity of the Mirror Scale Standard Instrument is 10 milliamperes. The complete unit is housed in a hand-rubbed, solid walnut carrying case.

Ranges of MeterTester

0-25 UA
0-50 UA
0-100 UA
0-200 UA
0-400 UA
0-500 UA
8-800 UA
0-1 MA
0-5 MA
0-10 MA
0-100 Volts

MARION MULTI-RANGER—MODEL 57S

The MARION MULTI-RANGER is designed to permit the user to assemble a highly accurate instrument for use as a voltmeter, milliammeter, high and low resistance ohmmeter, AC voltmeter and decibel meter. Multi-Rangers are available in 3½″, 4½″ and 8½″ sizes, and each size is interchangeable electrically. All instruments use Alnico magnets, have full 100° three-color scales, and use the new, tough Marion "Bulldozer" moving system which combines the engineering features essential to long life under severe service with those essential to the highest order of accuracy.



SCALE RANGES AS NORMALLY SUPPLIED

VOLTS AC-DC

0-10 Volts
0-50 Volts
0-250 Volts
0-1000 Volts

MILLIAMPERES

0-1 MA
0-10 MA
0-50 MA
0-500 MA

OHMS

0-500 Ohms
0-100 M
0-1 MEG
0-10 MEG

DECIBELS

—10 - +14 decibels
+ 4 - +28 decibels
+18 - +42 decibels
+30 - +54 decibels

MARION ELECTRICAL INSTRUMENT CO.

MANCHESTER, NEW HAMPSHIRE

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Cables; Morhanex

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

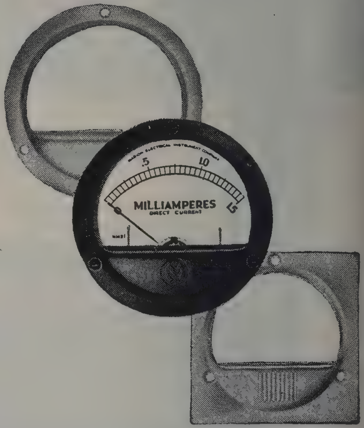
MARION GLASS-TO-METAL TRULY HERMETICALLY SEALED 2½" AND 3½" ELECTRICAL INDICATING INSTRUMENTS

The Marion Approach in design, sealing and manufacturing now solves many of the problems which have been troubling manufacturers and consumers of equipment employing electrical indicating instruments. Marion "hermetics" are not affected by the extremes of heat or cold . . . the cases cannot warp or split . . . the moving systems are totally, permanently protected against dust, dirt, moisture . . . rejects of complete equipment due to instrument failure are minimized, if not altogether eliminated . . . and sustained performance over a longer period of time is assured.

The magnetic and electrostatic shielding so important in modern high frequency equipment, particularly small size equipment for portable applications, is afforded by the heavy steel case of the Marion Glass-to-Metal Truly Hermetically Sealed Electrical Indicating Instrument. This case, with its high conductivity plating, obviates the need for separate shielding, even when the instruments are to be placed in close proximity to strong alternating current fields. In many instances, this feature permits simplified, more desirable panel arrangements.

Interchangeable Feature Permits Universal Application — Simplifies Ordering

With the interchangeable flanges, it is now possible to order a minimum number of instruments in the most popular sizes and apply either the round or square flange as the individual use demands. One instrument can thus fill four different needs: for a round case, for a round case to be used in steel panel, for a rectangular case, for a rectangular case to be used in steel panel. This feature simplifies both ordering and inventory procedures for the manufacturer and jobber.



Interchangeable Round and Square Black and Colored Flanges at no Extra Cost

Marion "hermetics" are supplied with either round or square flanges in black or any one of 12 iridescent colors—including blue, red, silver, green and gold. Added eye-appeal of these flanges has been found to greatly enhance the sales value of the products in which they are used.

SPECIFICATIONS

Model HM2—2½" **Model HM3—3½"**

- There are no rubber gaskets, and no cement seals.
- Can withstand all extremes of temperature and humidity, required by any service, or test specification, without deterioration to the seals, or harm to the efficiency of the moving system.
- Windows are of double thickness tempered glass processed for solder sealing, and are highly resistant to shock.
- Instruments are completely dehydrated and are filled with dry air at sea level pressure.
- A newly designed crowned crystal permits greater scale length, reduces shadows, and makes for better visibility.
- Magnetic shielding permits interchangeability on any type of panel without affecting calibration; can be supplied silver plated for extra R.F. shielding.
- Silver clad beryllium copper hair springs reduce zero shift at all temperatures.
- Standard Kovar glass bead type terminals with solder lugs.
- Special enamel finish on cases meets 200-hour salt spray test.
- Window sealing process developed and perfected with the cooperation of the engineers of the Corning Glass Works.
- Instruments manufactured in accordance with AWS Spec. C-39.2 1944 and JAN I-6 plus hermetic sealing.
- They are positively interchangeable—Type HM2 with AWS Types MR24 and 25; Type HM3 with AWS Types MR34 and 35.

100% GUARANTEED — COMPETITIVELY PRICED

Marion Glass-to-Metal Truly Hermetically Sealed Electrical Indicating Instruments are 100% guaranteed for six months, after which we will replace any 2½" and 3½" type, ranging from 200 microamperes upward, for a flat fee of $1.50, regardless of whether the instrument has been overloaded, burned out, or in any way mistreated, provided the seal has not been broken. We will replace, for a flat fee of $2.50, any 2½" and 3½" instrument, with sensitivity greater than 200 microamperes, under similar circumstances. It is our faith in the quality and performance of Marion "hermetics" that prompts us to make this guarantee which is offered to customers in all parts of the world.

RANGES

DC INSTRUMENTS

MODEL HM3 (3½")

DC MICROAMPERES
0-20
0-50
0-100
0-200
0-500
0-800

DC MILLIAMPERES
0-1
0-1.5
0-3
0-5
0-10
0-15
0-25
0-50
0-100
0-200
0-250
0-500
0-800

MODEL HM2 (2½")

DC MILLIVOLTS
0-15
0-25
0-50
0-100

DC VOLTS
0-1.5
0-3
0-5
0-10
0-15
0-25
0-50
0-150
0-250
0-500

AC INSTRUMENTS

MODEL HM3 (3½")

0-5 Volts AC
0-15 Volts AC
0-50 Volts AC

MODEL HM2 (2½")

0-150 Volts AC
0-250 Volts AC
0-500 Volts AC

0-5 Amps AC
0-15 Amps AC
0-25 Amps AC

MARION ELECTRICAL INSTRUMENT CO.

MANCHESTER, NEW HAMPSHIRE

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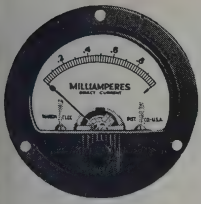
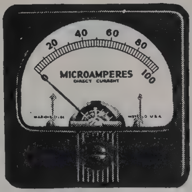
Cables: Morhanex

IN CANADA- THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

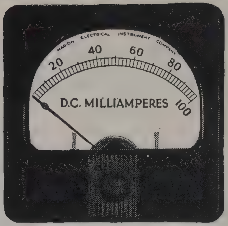


Model 52N

Models 52N and 52S are standard 2½" class instruments, the 52N meeting JAN I-6 physical dimensions for MR 25 round series and the 52S meeting commercial standards for the 2½" rectangular types. These instruments have gained popularity in portable radio equipment, pocket test equipment and general electrical service where space is at a premium.

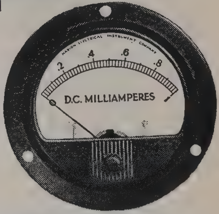


Model 52S



Model 53SN

Models 53RN and 53SN are standard 3½" class instruments, the 53RN meeting JAN I-6 physical dimensions for MR 35 round series and the 53SN meeting commercial standards for the 3½" rectangular types. Applications include radio and electrical test equipment, radio, radar, telegraph and telephone switchboards and general laboratory usage.



Model 53RN

MARION STANDARD INSTRUMENTS

The most important ingredient of Marion design, engineering and construction is simplicity. Our instruments, in special and unusual types as well as conventional models, employ a minimum of parts, each selected for quality and durability. Combined with simplicity of design and engineering, this makes for better performance, under severe conditions, over longer periods of time. Whether your requirements demand custom-built or standard instruments, you can depend upon the functional simplicity of Marion designs to provide the most in service and value.

CONSTRUCTION DETAILS

Large Alnico 2 or Alnico 5 Magnets, well aged and stabilized, are employed not only on sensitive microammeters, but on the entire line of instruments.

Sintered Pole Pieces of high permeability iron form, in combination with the Alnico magnet, an ideal magnetic structure.

Hardened Beryllium Copper Frames, including the bridge, mounting pads and tail piece, are drawn and formed of a SINGLE piece of beryllium copper and then heat treated, after which jewel centers are pierced to a very high degree of accuracy.

The Moving Systems are wound of heavily insulated wire on aluminum coil forms which have been anodized for insulation purposes. Pivot assemblies are carefully insulated, too, before being cemented to the coils, and baked dry under infra-red light.

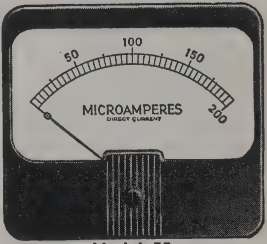
Bearings. To maintain an absolute minimum of pivot role, we use the permoalloy pivot and G.E. boro-silicate glass V jewel on sensitive microammeters and millivoltmeters. Less sensitive instruments combine a well hardened and polished steel pivot against the same glass jewel. With systems weighing appreciably more than .75 gram, a conventional polished sapphire jewel is used.

Cases of Marion Standard Instruments are of molded bakelite, designed with large cross sections to insure minimum warpage and maximum resistance to impact.

RANGES — Models 52N, 52S, 53RN, 53SN, 55, 57S

MICROAMPERES	MILLIAMPERES		AMPERES	MILLIVOLTS	VOLTS
0-20	0-1	0-250	0-1	0-15	0-1.5
0-30	0-1.5	0-500	0-1.5	0-25	0-3
0-50	0-3	0-800	0-3	0-50	0-5
0-100	0-5		0-5	0-100	0-10
0-200	0-10		0-10		0-15
0-500	0-15		0-15		0-25
0-800	0-25		0-25		0-50
	0-50		Self-contained Shunts		0-150
	0-100				0-250
	0-200				0-500

AVAILABLE IN ZERO CENTER AND OTHER RANGES ON SPECIAL ORDER



Model 55

Model 55 is a popular test equipment item, having large case—4⅝" x 4⅛"—and long 100% scale. It is well suited for use in vacuum tube voltmeters, bridges and volt-ohm-milliammeters. The internal construction is identical with that of the 53RN and 53SN. Can be supplied with mirror scales for special applications.

MILLIAMPERES
DIRECT CURRENT
.2
.4
.6
.8
MARION ELEC INST. CO
MANCHESTER, N.H., U.S.A.

Model 57S

Model 57S is an 8½" x 7" instrument with a large open face and an extra long scale. It is constructed with enlarged pole shoes, and with a higher torque movement than other Marion types in order to give maximum performance in an instrument of its size. This instrument is supplied with a very high damping factor and is not just an overgrown 3" meter. Overall accuracy of 1%, and can be supplied with mirror scales.

The 57S finds wide application in large vacuum tube voltmeters, in multitesters, and as an easily read production instrument in many of the measuring and testing operations that are performed in any electrical or electronic manufacturing plant. It is commonly used, too, as a production ohmmeter, limit bridge indicator, and in such varied applications as vibration amplitude measurements and automotive tire balancing.

Laboratory Standards

MEASUREMENTS CORPORATION

STANDARD SIGNAL GENERATORS

MEASUREMENTS

MODEL 65-B

A leader in its field, this soundly designed and expertly manufactured instrument will greatly increase the efficiency of any laboratory.

SPECIFICATIONS

FREQUENCY RANGE: 75 kilocycles to 30 megacycles in 6 push button ranges.
FREQUENCY CALIBRATION: The frequency dial is direct reading and individually hand calibrated for each range. It is accurate to ± ½%.
OUTPUT VOLTAGE: Continuously variable from 0.1 microvolt to 2.2 volts.
OUTPUT IMPEDANCE: 5 ohms to 0.2 volt, rising to 15 ohms at 2.2 volts.
MODULATION: Continuously variable from 0 to 100%. Modulation depth is indicated directly by a meter on the panel. Modulation may be obtained either from an internal source of 400 or 1000 cycles or from an external source.
ENVELOPE DISTORTION: Less than 4% at 100% modulation at 1 megacycle.

LEAKAGE AND STRAY FIELD: Less than 0.1 microvolt leakage with attenuator set for 0 output. Less than 1 microvolt per meter stray field at any frequency.
POWER SUPPLY: 117 volt AC, 60 cycle.
DIMENSIONS: 11″ high x 20″ long x 10¼″ deep, overall.
WEIGHT: Approximately 50 pounds.

MEASUREMENTS MODEL 80

SPECIFICATIONS

FREQUENCY RANGE: 2 to 400 megacycles in 6 bands, individually calibrated direct reading dial.
FREQUENCY ACCURACY: ± .5%
OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.
OUTPUT IMPEDANCE: 50 ohms.
MODULATION: Amplitude modulation is continuously variable from 0 to 30%. Modulation depth is indicated by a meter on the panel. An internal 400 or 1000 cycle audio oscillator is provided. Modulation may also be applied from an external source. Pulse modulation may be applied to the oscillator from an external source through a special connector. Pulses of 1 microsecond can be obtained at hgher carrier frequencies.
LEAKAGE IN STRAY FIELDS: Attenuator leakage less than 0.1 microvolt. Power line leakage less than .5 microvolt. Stray fields less than two microvolts.

POWER SUPPLY: 117 volts, 50 to 60 cycles.
DIMENSIONS: 10¾″ high x 19″ wide x 9½″ deep, overall.
WEIGHT: Approximately 35 pounds.
ACCESSORIES: (Order with instrument) Recommended — 80-ZH4 Cable; 80-ZH3 Pad. Available — 80-ZH1 Pad; 84-Z2-1 Cable; 84-Z2-2 Cable; 84-Z2-3 Cable; UG-201/U Adapter.

MEASUREMENTS

PULSE GENERATOR MODEL 79-B

This instrument is specially adapted for plate pulsing of the Model 80 Standard Signal Generator; this combination will provide pulses down to one microsecond at the higher carrier frequencies.

SPECIFICATIONS

FREQUENCY RANGE: 60 to 100,000 cycles.
PULSE WIDTH: Continuously variable from .5 to 40 microseconds.
OUTPUT VOLTAGE: Approximately 150 volts positive with respect to ground.
"SYNC" OUTPUT: 75 volts positive with respect to ground. Displaced by ½ period from pulse output.
"SYNC" INPUT: May be synchronized with as little as 2 volts peak from an external source.
POWER SUPPLY: 117 volts, 60 cycles AC.
DIMENSIONS: 10″ high x 13⅝″ wide x 10½″ deep, overall.
WEIGHT: Approximately 31 pounds.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

Laboratory Standards

MEASUREMENTS CORPORATION

STANDARD SIGNAL GENERATORS

MEASUREMENTS
MODEL 84

SPECIFICATIONS

FREQUENCY RANGE: 300 to 1000 megacycles, individually calibrated direct reading dial.

FREQUENCY ACCURACY: ± .5%.

OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT IMPEDANCE: 50 ohms.

AMPLITUDE MODULATION: Continuously variable from 0 to 30% indicated directly on panel meter. An internal sine-wave oscillator choice of 400, 1000, or 2500 cycles is provided. External modulation up to 30 kilocycles may be applied.

PULSE MODULATION: Repetition rate continuously variable from 50 to 100,000 cycles. Pulse width continuously variable from 1 to 50 microseconds indicated on directly calibrated dial. Pulse delay (with respect to synchronizing output) continuously variable from 0 to 50 microseconds indicated on directly calibrated dial. May be synchronized with an external sine-wave or pulse source.

POWER SUPPLY: 117 volts, 60 cycles.

DIMENSIONS: 12″ high x 26″ wide x 10″ deep, overall.

WEIGHT: Approximately 125 pounds, including external line voltage regulator.

ACCESSORIES: Included with each instrument are four connecting cables, external voltage regulator, spare oscillator tube.

MEASUREMENTS MODEL 78-FM

SPECIFICATIONS

FREQUENCY RANGE: 86 to 108 megacycles, individually calibrated dials. Accurate to ± .5%.

OUTPUT VOLTAGE: 1 to 100,000 microvolts.

OUTPUT IMPEDANCE: 17 ohms.

LEAKAGE: Less than 1 microvolt.

MODULATION: Deviation continuously variable from 0 to 300 kc. Indicated on directly calibrated dial. 400 cycle internal audio oscillator can be modulated from an external source providing 6 volts across 5000 ohms.

FIDELITY: Flat within two db from DC to 15,000 cycles. Distortion is less than 1% at 75 kilocycles deviation. Transient response is excellent.

POWER SUPPLY: 117 volts, 50 to 60 cycles.

DIMENSIONS: 10″ high x 13″ wide x 7″ deep, overall.

WEIGHT: Approximately 25 pounds.

Designed for FM measurements in the new FM range from 86 to 108 megacvcles.

MEASUREMENTS
MODEL 78

SPECIFICATIONS

FREQUENCY RANGE: Model 78B—15 to 25 megacycles and 195 to 225 megacycles. Model 78C—15 to 25 megacycles and 90 to 125 megacycles. Special instruments may be supplied on special order within the limits of 10 to 250 megacycles with a choice of two bands each having a 1.8 to 1 frequency ratio. Special one band instruments may be supplied covering the range of 100 to 275 megacycles or 250 to 420 megacycles.

OUTPUT VOLTAGE: Continuously variable from 1 microvolt to 100,000 microvolts.

OUTPUT IMPEDANCE: 35 ohms.

LEAKAGE: Less than 1 microvolt.

MODULATION: Amplitude modulation fixed at approximately 30%. Modulation frequency for the Model 78B is 8200 and 400 cycles; for the Model 78C, 625 and 400 cycles.

POWER SUPPLY: 117 volts, 25 to 60 cycles AC.

DIMENSIONS: 10″ high x 13″ wide x 7″ deep, overall.

WEIGHT: Approxmately 22 pounds.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

Laboratory Standards MEASUREMENTS CORPORATION

RADIO-FREQUENCY TEST INSTRUMENTS

MEASUREMENTS

U.H.F. RADIO NOISE *and* FIELD STRENGTH METER

MODEL 58

This versatile, portable instrument is useful in measuring signal-to-noise ratios, noise levels and for field strength surveys on television and FM transmitters.

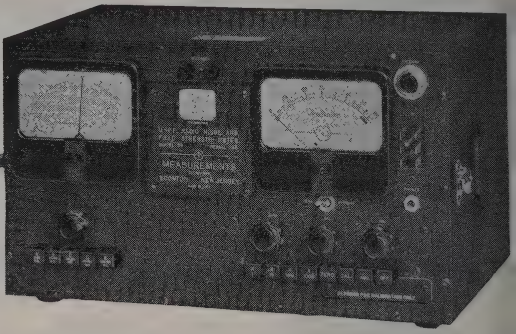
SPECIFICATIONS

FREQUENCY RANGE: 15 to 150 megacycles in five bands —dial directly calibrated in megacycles.

INPUT VOLTAGE RANGE: 1 to 100,000 microvolts across 72 ohm balance line. 1 to 100 microvolts on semi-logarithmic output meter, balanced resistance attenuator with ratios of 10, 100 and 1000 ahead of all tubes.

GAIN STANDARDIZATION: Internal "shot noise" diode provides calibration standard. Special dial eliminates need for charts.

CIRCUIT: Superheterodyne circuit with tuned RF amplifier eliminates image response.



BAND WIDTH: 150 kilocycles @ 2X down.

POWER SUPPLY: Built-in regulated dual power supply for operation from either 115 volts AC or 6 volts DC.

STANDARD EQUIPMENT: Power cables, 15 foot antenna cable, 9 inch loop antenna, carrying strap, and complete instruction book.

DIMENSIONS: 16″ wide x 9″ high x 11″ deep, overall.
NET WEIGHT: 27 pounds.

MEASUREMENTS

SQUARE WAVE GENERATOR

MODEL 71

Recommended for many different applications in the development of AM, FM and television equipment where square-wave analysis is of great importance.

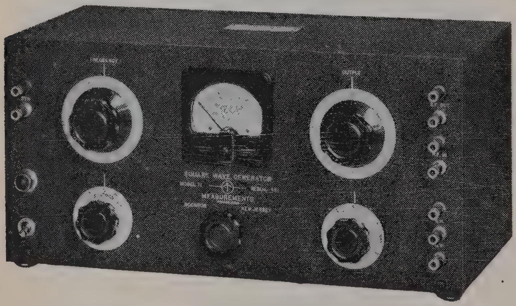
SPECIFICATIONS

FREQUENCY RANGE: 5 to 100,000 cycles.

WAVE SHAPE: Rise time less than 0.2 microseconds with negligible overshoot.

OUTPUT VOLTAGE: Step attenuator giving 75, 50, 25, 15, 10, 5 peak volts fixed and 0 to 2.5 volts continuously variable.

SYNCHRONIZING OUTPUT: 25 volts peak.



R. F. MODULATOR: 5 volts maximum carrier input. Translation gain is approximately unity—Output impedance is 600 ohms.

POWER SUPPLY: 117 volts, 60 cycles.

DIMENSIONS: 7″ high x 15″ wide x 7½″ deep, overall.

WEIGHT: Approximately 15 pounds.

MEASUREMENTS MEGACYCLE METER MODEL 59

The Model 59 is one of the most useful instruments that the high-frequency radio engineer can possess. It is a compact, wide-range oscillator with a meter for indicating grid current and may be used as a dynamic wavemeter; for aligning r.f. and i.f. circuits of receivers and transmitters without application of power; for tracing parasitic circuits and many other uses.

FREQUENCY RANGE: 2.5 to 400 megacycles. Directly calibrated to 250 megacycles, with chart to over 400 megacycles.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

Laboratory Standards
MEASUREMENTS CORPORATION

ACCURATE MEASURING INSTRUMENTS

MEASUREMENTS

VACUUM TUBE VOLTMETER
MODEL 62

A very compact, light instrument for either laboratory or field use where a zero current voltmeter is required. Its range selector push buttons and easily-read meter give it an ease of operation that has made it the most popular vacuum tube voltmeter with engineers.

SPECIFICATIONS

RANGE: Push button selection of 5 ranges—1, 3, 10, 30 and 100 volts full scale AC or DC.

ACCURACY: ± 2% of full scale on each range, both DC and sine-wave AC.

INDICATION: Linear for DC and calibrated to indicate RMS values of a sine-wave or 71% of the peak value of a complex wave on AC.

FREQUENCY ERROR: Less than 10% from 30 cycles to over 150 megacycles. Resonant frequency of the probe with input terminals shorted is 350 megacycles.

INPUT IMPEDANCE: The input capacitance is approximately 7 mmf.

POWER SUPPLY: 115 volts AC, 50 to 60 cycles.

DIMENSIONS: 4¾″ wide x 6″ high x 8½″ deep, overall.

WEIGHT: Approximately 6 pounds.

MEASUREMENTS VACUUM TUBE VOLTMETER MODEL 67

True peak values of complex wave forms encountered in radio and allied electronic work may be measured accurately with the Model 67. It indicates the true peak-to-peak value of symmetrical and asymmetrical waveforms varying from low frequency square waves to pulses of less than five microseconds duration.

Full scale values of .03 to 300 volts peak-to-peak or .01 to 100 volts r.m.s. of a sine-wave in five decade ranges are indicated on semi-logarithmic scales.

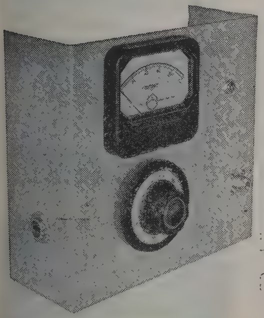
CAPACITANCE BRIDGE

The MODEL 101 has been designed to measure capacitance from 0.1 mmfd. to 1 mfd. in five ranges, with power factors from 0.1 percent to 10 percent. Small size, ease of operation and convenient grouping of all controls make this an extremely useful and necessary instrument for production-line or laboratory use.

MEGOHM METER

MODEL 183-B, for the accurate measurement of unknown resistances of values from 300 to 100,000 megohms in two overlapping ranges. The scale has the conventional ohmmeter characteristics and the measurements are accurate within ±5%. Beyond 10,000 megohms the error increases because of the compressed scale.

MODEL M-234 R.F. ATTENUATOR



The M-234 is a co-axial attenuator of the mutual inductance type, operating on the transverse magnetic field as a wave guide below cut-off. A rack and split gear drive assure long life and smooth operation. This attenuator is well suited to many specialized applications such as: AM, FM and television receiver production test equipment, stage gain test sets, filter test sets, etc.

SPECIFICATIONS

OUTPUT RANGE: 0.3 to 100,000 microvolts.

OUTPUT CALIBRATION: Calibrated at 100,000 microvolts across terminated output by 1N21 crystal.

OUTPUT IMPEDANCE: Matched 50 ohm line from type N connector; 25 ohms when used with 4′ terminated binding post cable, Pt. 80-ZH4 (upper frequency limit approximately 200 Mc.)

FREQUENCY RANGE: Approximately 2 to 1000 megacycles.

DIMENSIONS: Approximately 10⅛″ wide x 9⅝″ high x 5½″ deep, including knobs.

WEIGHT: Approximately 3½ pounds.

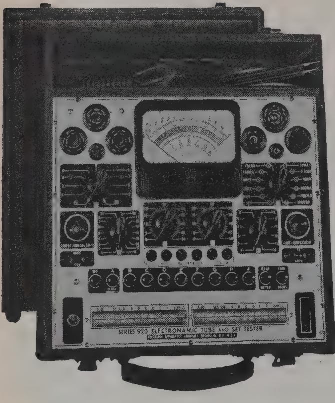
A balanced attenuator, Model M-235 is also available; complete data will be sent on request.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE



SET ANALYZING FEATURES

★ SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12-60-300-600-1200-3000 volts. ★ FIVE D.C. CURRENT RANGES: 0-1.2-12-120-600 MA., and 0-12 AMPS. ★ FOUR SELF-CONTAINED RESISTANCE RANGES: 0 to 400 ohms, 0-100,000 ohms, 0-1-10 megs. ★ SIX DECIBEL RANGES from —12 to +64 D.B. ★ SIX OUTPUT RANGES: Same as A.C. volts. ★ SIMPLIFIED MASTER ROTARY RANGE SELECTOR SYSTEM. ★ LARGE 4⅝" EASY READING "PRECISION" 400 microampere METER. ★ CONDENSER LEAKAGE TESTS. ★ 1% WIRE-WOUND SHUNTS and MATCHED MULTIPLIERS employed throughout. ★ ALL RANGES INDIVIDUALLY CALIBRATED within 2% D.C. and 3% A.C. overall accuracy.

SERIES 920 Combination Dynamic Mutual Conductance Type Tube Tester, Battery Tester and 33 Range A.C.-D.C. Multi-Range Set Tester

AVAILABLE IN FOLLOWING MODELS

★ **920-P**—(illustrated) In hardwood, walnut finished portable case with tool compartment and hinged removable cover. Size 12 x 13 x 6". Complete with battery, test leads and operating instructions. **Code: Drive. NET PRICE** $84.22

★ **920-MCP**—Open type Metal Case Portable, black ripple finish as illustrated for Series 912-MCP. Size 10½ x 12 x 6". Complete as above. **Code: Dicer.** **NET PRICE** $84.22

★ **920-PM**—Consists of Series 920-MCP inserted into matching steel panel and dust cover. Panel size 12¼ x 19" for standard rack mount. Appearance same as illustrated for Series 912-PM. Unit removable from front for portable use. **Code: Dream.** **NET PRICE** $86.22

★ **920-C**—In modern, chrome trimmed, round cornered, counter type cabinet; black ripple finish on heavy gauge steel as illustrated for Series 912-C. Size 16 x 13½ x 7". Slopes to 3 inches at front. Complete, ready to operate. **Code: Drake** .... **NET PRICE** $86.22

TUBE AND BATTERY ANALYZING FEATURES

★ A DYNAMIC MUTUAL CONDUCTANCE TYPE TUBE TESTER employing an exclusive "PRECISION" engineered circuit, which in one operation, effectively tests all radio receiving tubes for both MUTUAL CONDUCTANCE and CATHODE STRUCTURE. ★ TESTS ALL TUBE TYPES: FILAMENT VOLTAGES from 1.4 to 120 volts. LOKTALS, BANTAM JUNIOR AND BUTTON-7-PIN PORTABLE RADIO AND HEARING-AID BATTERY TYPES, SINGLE-ENDED, TELEVISION AND F. M. AMPLIFIERS, REGULAR OCTALS (MG, G, GT and METALS), SPRAY-SHIELD AND GLASS TYPES. ★ AUTOMATIC PUSH-BUTTON SYSTEM: Flexibility for non-obsolescent free point tube analysis. ★ DUAL FREE-POINT FILAMENT TERMINAL SELECTION. ★ VISIBLE FILAMENT CONTINUITY TESTS. ★ SPECIFIC INDIVIDUAL LOADS AND VOLTAGES: APPLIED TO ELEMENTS OF TUBE UNDER TEST. ★ VARYING A. C. SIGNAL applied to control grids. ★ METER READS IN PLATE CIRCUIT: Indications entirely dependent upon control action (transconductance) of the intervening elements. Shows up tubes having open elements. ★ Individual tests for each section of multi-section tubes. Visible tests of fluorescent screen and winking of cathode ray indicator tubes. ★ HOT CATHODE LEAKAGE and INTER-ELEMENT SHORT TESTS. ★ NOISE TEST pin jacks for earphone or amplifier connection. ★ BALLAST TESTS: The regular tube test sockets accommodate all ballast units. ★ PILOT LIGHT TESTS. ★ DOUBLE WINDOW ROLLER TUBE CHART. ★ MICRO-LINE ADJUSTMENT read directly on meter. No arbitrarily tapped transformer employed. ★ TESTS ALL **POPULAR RADIO A, B, AND C BATTERIES** 1.5 to 135 volts, UNDER ACTUAL LOAD. Condition read on simple 3 colored REPLACE—WEAK—GOOD scale. A single selector switch automatically applies appropriate load for the particular battery under test. ★ TELEPHONE CABLED WIRING EMPLOYED THROUGHOUT. ★ ACCURACY of tube test circuit closely maintained by use of individual calibrating controls.

SERIES 910 and 912 Dynamic Mutual Conductance Type Tube Testers

The PRECISION Series 910 and 912 are Dynamic Mutual Conductance Type Tube Analyzers incorporating the same time-proven tube test circuit features described for Series 920, above. Series 910 makes use of an attractive 3" bakelite cased meter. Series 912 utilizes an extra large 4⅝" meter, and in addition also provides the full battery testing facilities described for Series 920. The physical appearance and overall dimensions of Series 910, 912 and 920 are the same. (See illustrations.)

★ **910-P**—(as illustrated for Series 920-P) In hardwood, walnut finished portable case. Size 12 x 13 x 6". Complete with operating instructions. **Code: Front.**

NET PRICE

★ **910-MCP**—Open type Metal Case Portable, as illustrated for 912-MCP, at right. Size 10½ x 12 x 6". Complete, ready to operate. **Code: Frail** .... **NET PRICE**

★ **910-C**—In modern, chrome trimmed, round cornered counter type cabinet. Size 16 x 13½ x 7". Slopes to 3" at front, as illustrated at right, for Series 912-C. **Code: Frisk.**

NET PRICE

★ **910-PM**—Consists of Series 910-MCP, removably inserted into matching steel panel and dust cover. Panel size 12¼ x 19" for standard rack mount, as illustrated for 912-PM at right. **Code: Fried.**

NET PRICE

★ **912-P**—(as illustrated for Series 920-P) In hardwood, walnut finished portable case with tool compartment and hinged removable cover. Size 12 x 13 x 6". Complete with operating instructions. **Code: Fence.** **NET PRICE** $61.20

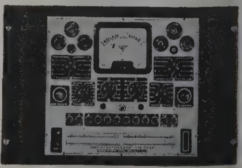
★ **912-MCP**—Open type Metal Case Portable, black ripple finish, as illustrated at right. Size 10½ x 12 x 6". Complete, ready to operate. **Code: Felon** .... **NET PRICE** $59.20

★ **912-C**—In modern, chrome trimmed, round cornered counter type cabinet. Black ripple finish on heavy gauge steel. Size 16 x 13½ x 7". Slopes to 3" at front. Complete, as illustrated at right. **Code: Frame.** **NET PRICE** $63.20

★ **912-PM**—Consists of Series 912-MCP, removably inserted into matching steel panel and dust cover. Panel size 12¼ x 19", for standard rack mount. See illustration at right. **Code: Fetid** .... **NET PRICE** $63.20

★ 912-MCP

★ 912-C



★ 912-PM

PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

SERIES 915

Modern Counter Display Type Tube & Battery Merchandiser employing a large 9 INCH RECTANGULAR METER

Increase tube sales with this modern, impressively designed instrument, occupying a minimum of counter space. The 9'' rectangular meter provides both customer and operator with a **FULL VIEW** of test results. Instrument panel illuminated by large chromium Reflector.

- ★ A modern tube merchandiser to inspire customer confidence.
- ★ Large, easy reading, 9'' rectangular bakelite cased meter.
- ★ 3 colored—REPLACE—WEAK—GOOD SCALE with 0-100 division tube matching reference arc.
- ★ Full vision double-window roller tube chart.
- ★ Mutual Conductance Type Tube testing and Battery test features, same as described for Series 920.

★ **915 TUBE MERCHANDISER**—Attractive, modern design with chrome trimming on fine dull black wrinkle-finished, heavy gauge cabinet. Complete with chromium lamp reflector. Cabinet size 23'' high, 16'' wide. Bottom depth 10'' and tapers to 4'' at top. **Code: Grace** ....**NET PRICE** $84.41

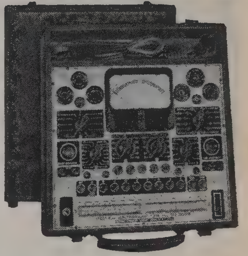
★ **915-PM**—Panel Mount Tube & Battery Merchandiser: The 9'' meter is mounted on one panel and instrument chassis on another. Both panels are 19 x $12\frac{1}{4}$'' for standard rack-panel use. **Code: Grail.** ....**NET PRICE** $84.41

SERIES 954

Combination Dynamic Mutual Conductance Type Tube Tester, Battery Tester and 37 Range Super-Sensitive A.C.-D.C. Multi-Range Set Tester

20,000 OHMS PER VOLT DC

A complete service laboratory; one compact unit, provides every facility for accurate, reliable solutions of all tube test and measurement problems of Radio (A.M. and F.M.), and Television.



TUBE AND BATTERY ANALYZING FEATURES

★ Same as Dynamic Mutual Conductance tube test circuit described for the Series 920.

SET ANALYZING FEATURES

★ SEVEN AC and SEVEN DC VOLTAGE RANGES; 0-3 to 0-6000 volts. **20,000 ohms/volt DC**—1000 ohms/volt AC. ★ SEVEN DC CURRENT RANGES. 0-60 microamps to 0-12 AMPS. ★ SELF-POWERED RESISTANCE RANGES to 60 MEGOHMS. ★ SIX DECIBEL RANGES: —12 to +70 DB. ★ SEVEN OUTPUT RANGES to 6000 volts. ★ $4\frac{5}{8}$''—50 microampere bakelite cased meter.

★ **954P**—(illustrated) In hardwood portable walnut finish case; removable cover and tool compartment. Size 12'' x 13'' x 6''. Complete with batteries and extra-high voltage test leads. **Code: Happy.** ....**NET PRICE** $99.20

The Series 954 is also available in the same additional types of housings described for the Series 920.

★ **954MCP**—Open type portable—complete with batteries and high voltage test leads. **Code: Horse**.....**NET PRICE** $97.20

★ **954C**—Counter type—complete with batteries and high voltage test leads. **Code: Human.** ....**NET PRICE** $101.20

★ **954PM**—Standard Panel Mount—complete with batteries and high voltage test leads. **Code: Hermit**.....**NET PRICE** $101.20

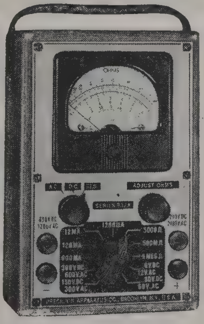
SERIES 832-A

31 Range A.C.-D.C. Multi-Range Tester

Though small in size, Series 832-A incorporates the same full-bodied electrical components provided in all larger "Precision" multi-range instruments. Meter scale-plate design is in Black, Red and White with large sized numerals, for maximum ease of reading.

SPECIFICATIONS

- ★ **6 D.C. voltage ranges**—1000 ohms / volt 0-6-30-150-300-600-1200 volts.
- ★ **6 A.C. voltage ranges**—500 ohms/volt 0-12-60-300-600-1200 2400 volts.
- ★ **4 D.C. current ranges**—0-1.2 to 0-600 Milliamps.
- ★ **3 Resistance ranges to 5 MEGS.** Up to 500,000 ohms on internal battery.
- ★ **6 Decibel ranges** (—10 to +62DB).
- ★ **6 Output ranges** to 2400 volts.
- ★ Wire-wound shunts, metallized multipliers — 1% tolerance.
- ★ A PRECISION instrument designed to withstand the abuse and punishment of rough service.



★ **832-A**—In hardwood walnut finished case (7'' x $4\frac{1}{2}$'' x 3'') with leather handle, complete with batteries (less test leads) **Code: Anvil**

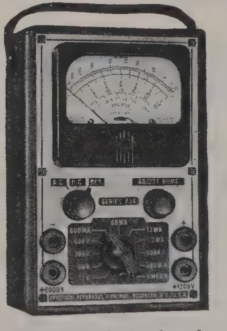
NET PRICE $23.04

SERIES 834

31 Range A.C.-D.C. Circuit Tester

1000 OHMS PER VOLT A.C. AND D.C.

The Series 834 is an advanced and highly practical improvement in compact, A.C.-D.C. multi-range circuit testers. Simplified rotary selection allows all measurements from ONLY TWO tip jacks (except 1200 and 6000 volts). An extra large $3\frac{1}{4}$'' 400 Microampere meter provides Scale Length and Ease of Reading not usually associated with compact instruments.



★ **Series 834**—In hardwood, walnut finished case with leather handle. Size 7 x $4\frac{1}{2}$ x 3''. Complete with 3 volt battery (less test leads). **Code: Labor.**

NET PRICE

SPECIFICATIONS

- ★ **6 D.C. and 6 A.C. voltage ranges**—1000 ohms/volt: 0-12-60-300-600-1200-6000 volts.
- ★ **4 D.C. Current Ranges:** 0-1.2-12-60-600 milliamps.
- ★ **3 Resistance Ranges:** Batteries fit inside of case. 0-5000-500,000-5,000,000 ohms.
- ★ **6 Decibel Ranges:** from —10 to +70 DB.
- ★ **6 Output Ranges:** at 1000 ohms per volt 0-12-60-300-600-1200-6000 volts.
- ★ 1% wire wound shunts and matched metallized multipliers.
- ★ Each instrument individually calibrated: 2% D C and 3% A.C. overall accuracy.

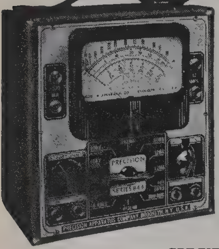
PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

SERIES 844

34 Range A.C.-D.C. Volt-Ohm-Decibel-Milliammeter
6000 volts A.C. and D.C., 10 megohms, and 12 amps.
1000 OHMS PER VOLT A.C. & D.C.



The Series 844 is an excellent general purpose A.C.-D.C. multi-range tester, invaluable to laboratory, industrial, serviceman and engineer. Ruggedly constructed, it will maintain its initially high degree of accuracy under constant usage and handling.

★ **844L**—(illustrated) Housed in walnut finished hardwood open type case with carrying handle. Compact in size 7" x 8" x 4".

Code: Manse. NET PRICE (Less batteries and test leads)

SPECIFICATIONS

- ★ SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- ★ SIX D.C. CURRENT RANGES: 0-1.2 MA to 0-12 AMPERES.
- ★ FOUR RESISTANCE RANGES: Batteries mount inside of case. 0-400; 0-100,000 ohms; 0-1 meg.; and 0-10 megs.
- ★ SIX DECIBEL RANGES from —12 to +70DB.
- ★ SIX OUTPUT RANGES: 0-12 to 0-6000 volts.
- ★ Large 4⅝" 400 microampere bakelite cased meter.
- ★ All instruments individually calibrated and sealed against laboratory standards assuring 2% D.C. and 3% A.C. overall accuracy. Complete telephone cabling employed.

★ **844P**—In closed type portable case. **Code: Malad. NET PRICE** (Less batteries and test leads) $33.20

★ **844PM**—In standard panel mount. 19" x 12¼". **Code: Maize. NET PRICE** (Less batteries and test leads) ....

SERIES 845

41 RANGE HIGH SENSITIVITY A.C.-D.C. TESTER
RANGES TO 6000 VOLTS, 20 MEGS., AND 12 AMPS.
5000 OHMS PER VOLT D.C.
1000 OHMS/VOLT D.C. 1000 OHMS/VOLT A.C.

Series 845 is a reliable, highly accurate, multi-range tester of moderate sensitivity for more accurate measurements in sensitive communications and electronic apparatus. Its dual-sensitivity feature, suits Series 845 to the requirements of laboratory, maintenance and production testing.

★ **845L**—(illustrated) Housed in walnut finished hardwood open type case with carrying handle. Compact in size 7" x 8" x 4". **Code: Isben. NET PRICE** (Less batteries and test leads)

SPECIFICATIONS

- ★ 6 D.C. voltage ranges at 5000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- ★ 6 A.C. and 6 D.C. voltage ranges at 1000 ohms per volt: 0-12-60-300-600-1200-6000 volts.
- ★ 7 D.C. current ranges: 0-300 Microamps. 0-1.2-12-60-300-1200 MA and 0-12 Amps.
- ★ 4 Resistance Ranges: Batteries mount inside of case. 0-2000-200,000 ohms. 0-2-20 megohms.
- ★ 6 Decibel Ranges from —12 to +70 DB.
- ★ 6 Output Ranges: same as A.C. voltage ranges.
- ★ Large 4⅝" 200 microampere, easy reading bakelite cased meter.
- ★ 1% wire-wound shunts and matched multipliers, plus individual instrument calibration assures 2% D.C. and 3% A.C. overall accuracy.

★ **845P**—In closed type portable case. **Code: Icing. NET PRICE** (Less batteries and test leads) ....

★ **845PM**—In standard panel mount. 19" x 12¼". **Code: Ideal. NET PRICE** (Less batteries and test leads) ....

SERIES 856

44 RANGE SUPER-SENSITIVE A.C.-D.C. TESTER
6000 VOLTS, 60 μAMPS., 12 AMPS., 60 MEGS.
20,000 OHMS PER VOLT D.C.
1000 OHMS/VOLT D.C. 1000 OHMS/VOLT A.C.

The Series 856 is specifically designed for obtaining reliable measurements in modern communication and electronic circuits where only minute current drain of the measuring instrument can be tolerated.

The DUAL SENSITIVITY FEATURE doubles its utility, providing the equivalent of ANOTHER COMPLETE INSTRUMENT for measurements at standard 1000 OHMS PER VOLT sensitivity.

SPECIFICATIONS

- ★ SEVEN D.C. VOLTAGE RANGES: 20,000 ohms/volt: 0-3; 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
- ★ SEVEN A.C. and SEVEN D.C. VOLTAGE RANGES: 1,000 ohms/volt: 0-3-12-60-300-600-1200-6000 volts.
- ★ SEVEN D.C. CURRENT RANGES: 0-60, 0-300 microamps: 0-3, 30, 120, 600 MA; 0-12 AMPS.
- ★ SEVEN D.C. CURRENT RANGES: 2% accuracy: 0-60, 0-300 microamps: 0-3, 30, 120, 600 MA; 0-12 AMPS.
- ★ THREE RESISTANCE RANGES: Self-contained batteries: 0-6000, 0-600,000 ohms, 0-60 megohms.
- ★ SIX DECIBEL RANGES FROM —12 to +70DB.
- ★ SEVEN OUTPUT RANGES: 0-3-12-60-300-600-1200-6000 volts.
- ★ Large 50 microampere 4⅝" bakelite-cased meter.
- ★ WIRE-WOUND SHUNTS, METALLIZED MULTIPLIERS—1% ACCURACY.
- ★ All ranges individually calibrated to within 2% D.C. and
- ★ 3% A.C. overall accuracy.
- ★ Wax-impregnated telephone cabling and XXX bakelite mounting strips employed throughout.

★ **856P**—(illustrated) In attractive walnut finished hardwood portable case with removable cover and tool compartment. Size 9" x 10" x 6". **Code: Jalop NET PRICE** (Complete with batteries and high voltage test leads) $49.94

The Series 856 is also available in the same type of mountings and combinations described for Series 844.

★ **856L**—Open portable: complete with batteries and high voltage test leads. **Code: Jabot.** ....**NET PRICE**

★ **856PM**—Panel mounted: complete with batteries and high voltage test leads. **Code: Janet.** ....**NET PRICE**

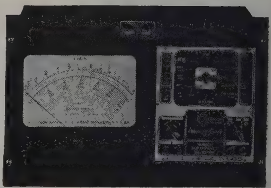
SERIES 864

A.C.-D.C. VOLT - OHM - DECIBEL - MILLIAMMETER
A Laboratory Multi-Range Tester Incorporating a Large 9" Meter and Remote Control Selector Unit

★ **864** — In standard panel mount finished in black ripple. Size 19" x 12¼" with dust cover 6 inches deep.

Code: Kapok. (Complete with batteries and high voltage test leads.)

NET PRICE $59.60



ELECTRICAL SPECIFICATIONS SAME AS SERIES 845

Conforming electrically to all specifications of Series 845 (adjacent), Series 864 Deluxe Multi-Range Tester is housed in standard 12¼ x 19" panel with completely enclosed rear dust cover, and is designed to mount into any standard relay rack. The separately encased Selector Unit is easily slid out from its panel compartment for remote bench operation. A seven foot flexible cord, permanently connecting meter to Remote Selector Unit, allows complete freedom of manipulation.

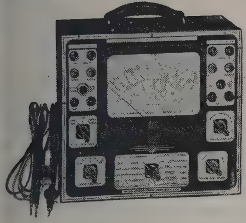
The 9" Precision Rectangular 200 Microampere Meter with large easy reading scales and numerals, allows highly accurate readings with greatest ease and minimum eye strain.

This instrument is an indispensable adjunct to the modern laboratory for radio service, industrial and television application and wherever operator efficiency is at a premium.

PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

SERIES EV-10
A NEW TYPE OF VACUUM TUBE MULTI-RANGE METER with Ranges to 6000 Volts A.C. and D.C. 2000 Megs. — 12 Amps. — 70 DB.



PERFORMANCE, ACCURACY, EASE OF MANIPULATION—Series EV-10 provides eight distinct instruments for most all measurements in the present and future electronics and communications fields. **Combining both VTVM as well as standard 1000 ohms per volt test circuits,** Series EV-10 permits rapid check of all voltage, current, and resistances encountered in television, photo-electric, F.M. networks, etc., without disturbing operation of circuit under analysis.

IMPORTANT FEATURES

★ VOLTAGE REGULATED—BRIDGE TYPE CIRCUIT: provides unusually high VTVM accuracy. Uses one type 6C5, 6X5 and VR-150

★ ZERO-CENTER VTVM—READS voltage at any test point WITHOUT reversal of test prods.

★ SINGLE MASTER RANGE SELECTOR—Provides rapid, positive selection of all ranges

★ SHIELDED COAXIAL TEST PROBES—permit direct voltage measurements without disrupting apparatus under test.

★ DUO-BALANCED ELECTRONIC-BRIDGE OHMMETER—BOTH ends of ohmmeter scales are independently zero adjusted, providing high accuracy throughout scale length. A single OHMS scale serves for ALL ranges.

★ 1% wire-wound shunts and matched multipliers plus telephone-cabled, wax-impregnated, wiring employed throughout.

★ EACH INSTRUMENT INDIVIDUALLY CALIBRATED.

★ **FULL VISION 7" RECTANGULAR 400 microampere METER.**

RANGES

★ Eight Zero-Center Vacuum Tube Voltmeter Ranges—from ±3 to ±6000 volts D.C.—Input Resistance—$13\frac{1}{3}$—$26\frac{2}{3}$ and $133\frac{1}{3}$ Megohms.

★ Six Circuit Probing, Zero-Center, VTVM Ranges—from ±3 to ±600 volts D.C.

★ Six Wide-Range Ohmmeter-Megohmmeter Ranges: 0-2000-200M ohms. 0-2-20-200-2000 Megohms.

★ Eight A.C. and Eight D.C. Voltage Ranges at 1000 ohms per volt. 0-3-6-12-60-300-600-1200-6000 volts.

★ Seven D.C. Current Ranges—0-600 Microamps: 0-3-12-60-300-1200 MA; 0-12 AMPS.

★ Eight Output Ranges—0-3-6-12-60-300-600-1200-6000 volts.

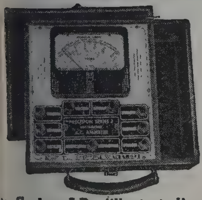
★ Eight Decibel Ranges—from —26 to +70 DB.

★ **EV-10-MCP**—(illustrated) In black ripple finished, heavy gauge steel case. Size $10\frac{1}{2}$ x 12 x 6". Complete with tubes, battery and testing probes. **Code: Place. NET PRICE** $69.81

★ **EV-10-P**—Complete as described above but in hardwood walnut finished portable case. **Code: Phone. NET PRICE** $71.81

★ **EV-10-PM**—In standard panel mount. **Code: Panel. NET PRICE** $73.81

SERIES "J" Multi-Range A.C. Ammeter



THE PRECISION SERIES "J" is a rugged, portable, MULTI-RANGE A.C. AMMETER; with wide selection of ranges to meet the requirements of many fields of application from 25 cycles up.

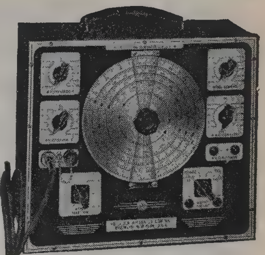
SPECIFICATIONS

Eight alternating current ranges: 0-300-600-1200 Milliamps. 0-3-6-12-30-60 AMPS. Internal heavy duty current transformer designed for 25 cycle operation and up. Heavy duty, brass, bakelite insulated, binding posts. Full vision, easy reading $4\frac{5}{8}$" bakelite cased meter, Accuracy 2%.

★ **Series J-P**—(illustrated) In hardwood walnut finished carrying case, size 9 x 10 x 6". **Code: Apple. NET PRICE** $29.73

★ **Series J-L**—In open face hardwood carrying case, size $7\frac{1}{2}$ x $8\frac{1}{2}$ x 4". **Code: Atone** ....**NET PRICE**

SERIES E-200 SIGNAL GENERATOR
For All A.M., F.M. and Television Receivers, featuring "Servicing by Signal Substitution"



● **Six Bands:** 90 KC to 88 MC. ● **Accuracy—Constancy of calibration:** MAXIMUM of 1% DEVIATION on all bands, insured by use of the "PRECISION" developed "UNIT OSCILLATOR" construction. ENTIRE "UNIT OSCILLATOR" is SINGLE-POINT-MOUNTED, providing positive freedom from effects of mechanical shock, eliminating the need of costly, useless, **single frequency** reference crystals. ● **LARGE FULL VISION $6\frac{1}{2}$ INCH NO-GLARE DIAL:** approx. 6 feet of direct reading deeply etched scales. Ball bearing planetary drive. ● **0-100 Point Vernier** Scale and Twin Hair-Line Indicators: provide direct reading to one part in 1000 for critical laboratory usage. ● **The Circuit**—uses the new 6SJ7 in a highly stable E.C.O. circuit—**Modulated in the buffer amplifier** by a 6C5 400 cycle sine-wave audio oscillator. An 80 full-wave rectifier forms the basis of a hum-free D.C. supply. ● **400 Cycle Sine-Wave Audio Oscillator**—Independently Controlled—provides both modulation and external audio signal of over 60 volts. ● **DUAL CALIBRATED R.F. Attenuators** — Separately shielded — provides direct R.F. gain measurement facilities and smooth stepless control. ● **LOW LEAKAGE:** complete shielding of all vital components, in addition to a heavy gauge etched panel and steel cabinet—Power transformer electro-statically shielded—A.C. line, choke-condenser filtered. ● **SELF-SHIELDING COAXIAL OUTPUT CABLE** and dual (LOW-HIGH) coaxial connectors with separate screw cap for elimination of leakage from unused terminal. ● **Four Types of Signals**—"Unmodulated R.F." "400 cycle Modulated R.F." "EXTERNALLY Modulated R.F." (frequency or amplitude) "400 cycle Audio Output." ● **VARIABLE MODULATION CONTROL**—0-100% modulation AT WILL—more than triples signal utility as against obsolete fixed modulation of only 30 or 40% ● **A.V.C. SUBSTITUTION SYSTEM**—The Series E-200 fully overcomes serious alignment troubles arising from receiver A.V.C., by supplying ITS OWN A.V.C. VOLTAGE, controllable at the front of the panel from 0-50 volts. ● **HAND CALIBRATION**—Each instrument INDIVIDUALLY hand calibrated on all six bands. ● Fully licensed under patents of American Telephone & Telegraph Co. ● Not only an unsurpassed, efficient Signal Generator for purposes of alignment but SPECIFICALLY DESIGNED for "Servicing by Signal Substitution", the new modern Dynamic speed approach to receiver alignment and adjustment problems, described in a new 120 page illustrated text book.

★ **E-200**—In black ripple heavy gauge steel case. Size 12" x $10\frac{1}{2}$" x 6". Complete with FREE copy of "SERVICING BY SIGNAL SUBSTITUTION." **Code: Trade. NET PRICE** $64.15

★ **E-200PM**—In standard panel mount. **Code: Trace. NET PRICE** $66.15

A.C.-D.C. INDUSTRIAL CIRCUIT TESTERS

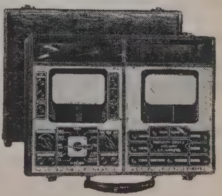
Series 844-J—1000 OHMS per VOLT—42 RANGES Code: Miser ....**NET PRICE** $66.60

Series 845-J—5000 OHMS per VOLT—49 RANGES Code: Ignite...............**NET PRICE**

Series 856-J—20000 OHMS per VOLT—52 RANGES Code: Jason ....**NET PRICE** $79.67

(Series 856-J illustrated below in hardwood finished portable case with tool compartment and removable cover.) Size 11 x 15 x 6".

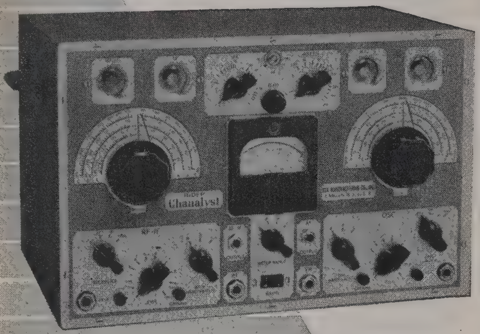
Ranges to 6000 Volts A.C.-D.C. • 60 Amps A.C. • 12 Amps D.C. • 10-20-60 Megohms, Etc.



Precision INDUSTRIAL CIRCUIT TESTERS provide a practical solution to A.C.-D.C. circuit test and maintenance problems. Through matching design of Series "J" A.C. Ammeter, these wide-range Circuit Testers will meet your individual sensitivity requirements. Merely combine Series "J" with either Series 844, 845 or 856 and a universal A.C.-D.C. circuit tester is produced to YOUR SPECIFICATIONS, providing every desirable range of Series 844, 845 or 856, PLUS the full facilities of Series "J".

TEST AND MEASURING EQUIPMENT

FOR SIMPLER, SPEEDIER, TROUBLE-SHOOTING



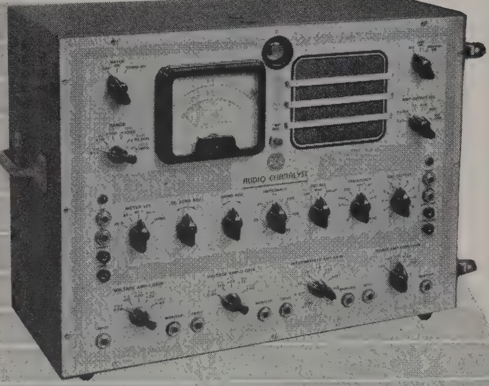
THE RIDER CHANALYST (TYPE 162-C)

Most complete signal-tracing instrument of its type. Contains five channels: r-f—i-f, oscillator, audio frequency, electronic voltmeter, wattage indicating. Checks practically every circuit in a radio receiver without interfering with its operation.

Locates quickly and without guesswork the precise stage where distortion, hum, noise, low sensitivity, and other defects first appear. Helps solve the problem of intermittent troubles by indicating how far the signal has passed through the receiver when the intermittent develops. Same type of analysis can be used with *all* types of receivers.

Quickly pays for itself in time and labor saved.

Net Price......$162.50



THE AUDIO CHANALYST (TYPE 170-A)

A complete test bench for sound-system servicing—self-contained, easily carried where needed. Tests everything in any sound system from microphone to multiple speakers for failure to operate, weak output, interrupted operation, and distorted or noisy output.

Includes a high-gain amplifier for signal tracing, tube checking, and gain measurement; a beat frequency oscillator with automatic sweep; a built-in VoltOhmyst modified for linear measurements; an impedance tester; a high-speed electronic indicator to check the presence or absence of d-c, a-c, or a-f voltages; a loud-speaker, and other features—everything you need to do a complete, audio-system, trouble-shooting job *fast.*

Net Price......$345.00

A-C OPERATED TEST OSCILLATOR (TYPE 167-B)

Includes a signal-injection probe for quick, easy application of r-f, i-f, or audio test signals to any part of receiver. Wide frequency range—generates fundamental signal voltages over six bands from 100 kc to 30 mc; harmonics of last band can be used for V-H-F testing.

High r-f output of 1.0 volt is useful in locating trouble on an inoperative or completely misaligned set and for single-stage alignment work. To facilitate such work, an internal, 400-cycle modulation source is provided. External modulation may be applied for measurements such as over-all fidelity.

Tubes used: one 5Y3GT and two 6SJ7's. Calibration accuracy: ±2%. Weighs only 12½ pounds.

Net Price.......$63.75

A M SELECTOR
RANGE
RCA
TUNING
MODULATION
TEST OSCILLATOR
OUTPUT
POWER

Prices will be those in effect on date of shipment.

TEST AND MEASURING EQUIPMENT

FOR SIMPLER, SPEEDIER, TROUBLE-SHOOTING

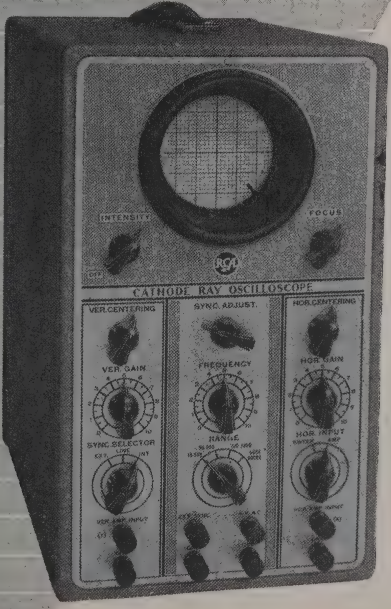
ELECTRONIC VOLTMETER
ZERO ADJ.
VoltOhmyst
OHMS ADJ
RANGE
SELECTOR
VOLTS
OFF
OHMS
AC OHMS
GND
DC

VOLTOHMYST (TYPE 195-A)

The handiest multi-purpose meter in the service field today. In one instrument, for one price, you get: 1) a six-range d-c voltmeter that measures up to 1000 volts, 2) an ohmmeter reading from .1 ohm to 1000 megohms, 3) a six-range a-c voltmeter for readings up to 1000 volts rms, 4) a linear audio-frequency voltmeter, 5) an FM discriminator balance indicator.

Frequency response is flat from 20 to 100,000 cycles. The entire meter case is molded of a clear plastic designed for easy reading of all scales. There is no glass to loosen or break. Comes complete with cables and probes.

Net Price.......$69.50


INTENSITY
FOCUS
OFF
CATHODE RAY OSCILLOSCOPE
VER. CENTERING
SYNC. ADJUST.
HOR. CENTERING
VER. GAIN
FREQUENCY
HOR. GAIN
RANGE
SYNC. SELECTOR
HOR. INPUT
VER. AMP. INPUT
HOR. AMP. INPUT

3-INCH CATHODE-RAY OSCILLOSCOPE (TYPE 155-C)

Thoroughly reliable for study of wave shapes and transients, modulation measurements, radio receiver and transmitter adjustments, and peak-voltage determinations.

A timing axis oscillator provides a 10 c.p.s. to 60-kc range. Other unusual features: a deep light-shield to aid accurate observation at low intensity, a removable graph screen to permit special observations, direct-deflector connections for r-f observations, and a "binding jack"—instantly adaptable to either binding post or pin plug—for handy, quick connections.

Portable, sturdy, versatile; fast becoming standard equipment in laboratories and service shops.

Net Price......$115.00

Prices will be those in effect on date of shipment.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

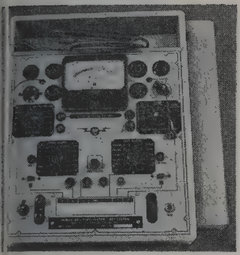
RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT

COMBINATION TUBE AND SET TESTER

MODEL 805B



A deluxe instrument comprising a comprehensive battery tester, set tester, tube tester and condenser leakage tester.

Complete Leakage test under rated voltages for all electrolytic condensers. Regular Resistance test for electrostatic condensers at high voltage. Battery Tester for all popular sizes and types of radio batteries, giving true test under rated load. Readings on good-bad scale.

Low-range ohmmeter is back-up, low-drain type. Medium-range ohmmeter is powered by self-contained battery. High-range ohmmeter is operated from plug-in line supply.

RANGES

DC voltmeter: 0-2.5-10-50-250-1,000-5,000 volts
AC voltmeter: 0-10-50-250-1,000-5,000 volts.
Output voltmeter: 0-10-50-250-1,000 volts.
DC milliammeter: 0-1-10-100-1,000 milliamperes.
DC ammeter: 0-10 amperes.
Ohmmeter: 0-250-2500-25,000 ohms; 0-2.5-25 megohms.
Decibel meter: —8 to 15, 15 to 29, 29 to 49, 32 to 55.

FEATURES

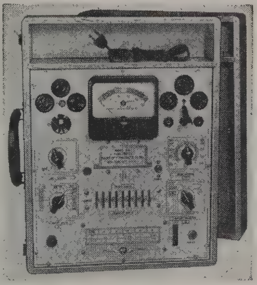
Famous Dynoptimum test circuit. ● Line fuse may be re-
ced at front of panel. ● All filament voltages. ● Tests all
last tubes. ● Tests condenser leakage. ● Tests separate
tions of multi-purpose tubes. ● Hot inter-element short and
k tests of individual elements. ● Separate test for noise, hum
intermittents. ● Latest type built-in "Rolindex" mechani-
roller tube chart.

del 805B—supplied with high voltage test leads in a sturdy
od case with removable cover, 14¼" x 13" x 6". Weight 12¼
. Complete, ready for operation on 105-135 volts, 50-60 cycles.

aler Net Price **$89.50**

TUBE TESTER

MODEL 316



is instrument is out-
nding because of its ex-
ptional flexible switching
angement which provides
ximum protection against
solescence. Simplicity
d speed of operation are
vantages inherent in
s Model 316 because of
od engineering in elec-
cal as well as mechani-
l design.

PERFORMANCE SPECIFICATIONS

1. Checks Octal, Loctal, Bantam Jrs., Miniatures and Midgets, as well as Acorn tubes.
2. Individual connections for each tube element.
3. Lever type switching gives individual control for each tube prong. This also takes care of roaming filaments, dual cathode structures and multi-purpose tubes.
4. Filament voltage switch takes care of all present and future tubes with filament voltages from 1.1 to 117 volts.
5. Separate plate tests on diodes and rectifiers as well as each section of a multi-purpose tube.
6. Neon short test detects the slightest leakage between any two elements of the tube while the tube is hot.
7. Roll-chart lists all current tubes and types, and speeds up testing.
8. Has 4½" rectangular meter with "Poor-Good" scale.
9. Pilot Lite Indicator for "on-off."
0. Line fuse protects transformer; may be removed from front of panel.

odel 315—Supplied in combination portable-counter case of natural
k. Highly attractive in appearance. Size: 14¼" x 13" x 6".
eight: 12¼ lbs. **Dealer Net Price** **$63.50**

COMBINATION DYNOPTIMUM TUBE AND SET TESTER MODEL 802N

— EASY OPERATION —

— Only 5 simple switches to operate both Tube and Set Tester —

The Tube Tester gives speedy leakage short tests between all elements. Separate noise tester for tubes that otherwise test good. Large scale 4½" rectangular meter. Meter is protected against burn-out by a special meter fuse for both multitester and tube tester. The complete instrument is also protected against burn-out by line fuse, which is immediately replaceable at extractor post on panel. The set tester provides AC measurements that are free from temperature and frequency errors prevalent in all copper oxide rectifiers. Unique AC voltage measurements coincide with DC. Tube Tester tests new and old types of tubes as well as all ballast tubes, and allows individual section tests of multi-purpose tubes, etc.

RANGES

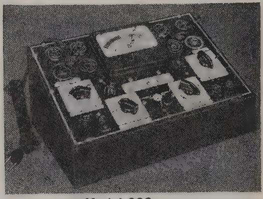
DC Voltmeter: 0-10-50-500-1000 at 1000 ohms per volt.
AC Voltmeter: 0-10-50-500-1000.
DC Milliammeter: 0-1-10-100-1000 DC Ammeter 0-10.
Ohmmeter: 0-500-5000-1,000,000- 10,000,000. Low center scale resistance.
D.B. Meter: 8-15-15 to 29-29 to 49-32 to 55 decibels
Four range output meter: Same as AC volts.

Model 802N—supplied in handsome hardwood case, with special compartment for small tools, test leads (Included), etc.
Size: 12¾" x 12" x 5¼". Weight: 11½ lbs.
Complete with self-contained batteries, ready to operate.

Dealer Net Price **$59.50**

DYNOPTIMUM TUBE TESTER MODELS 322 AND 322P

Simple operation—only 4 switches used.



Model 322

R.C.P. again demonstrates its leadership in the design of this Tube Tester. It has a special noise test for tubes that otherwise test "good," gives a speedy leakage short test between all elements, tests new and old types of tubes, individual sections of multi-purpose tubes, and has provisions to check all miniature and sub-miniature tubes.

The complete instrument is protected against burnout by a line fuse which is immediately replaceable at the front of the panel.

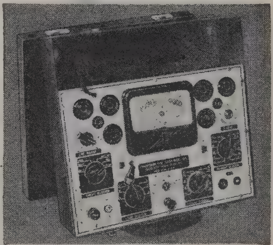
This Model Features simplicity, speed of operation and compactness, in addition to its economical price.

Counter Model 322 (sloping steel case).
Size: 5¼" x 12$\frac{3}{16}$" x 8".
Weight: 8¼ lbs.

Dealer Net Price $41.50

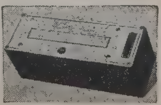
Portable Model 322P. Size 4⅞" x 12⅛" x 11⅜".
Weight: 14¼ lbs.

Dealer Net Price $45.50



Model 322P

ROLL CHART



Model 103 Roll chart unit to be used in conjunction with Tube Tester Models 322, 322P and 802N. The unit is in a black wrinkle finish metal case with plastic window, designed to fit the test lead compartment.

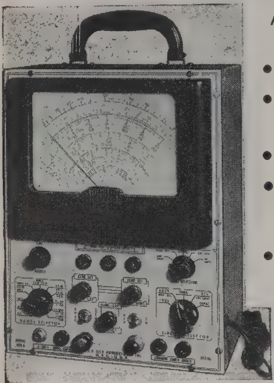
Model 103—Dealer Net Price......$7.50

RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT

THE "BILLIONAIRE" MODEL 665A



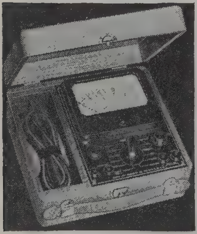
AN INSULATION TESTER
plus
AC-DC VACUUM TUBE
VOLT-OHM-
CAPACITYMETER

- 10 billion ohm insulation resistance test.
- 29 measurement ranges handle practically any service, or laboratory testing job.
- 8″ giant meter accurate to 2% at full scale.
- Automatic line voltage check provides excellent AC and DC regulation to assure accuracy and stability.
- Automatic ohmmeter battery check which tells operator when to replace ohmmeter battery. Assures accuracy of low resistance measurements.
- This instrument brings you the same quality that gave such fine service during tremendous war production throughout World War II.
- 5 separate instruments are combined in **THE BILLIONAIRE.** An insulation tester with the same resistance range alone would cost you as much as this Model 665A.

RANGES

Insulation Testing: 1 megohm to 10,000 megohms at 500 volts.
Vacuum Tube Ohmmeter: Direct reading. From 0.1 ohm to 1,000 megohms. 0-1,000-10,000-100,000 ohms; 1-10-100-1000 megohms.
Capacity Meter: Accurate measurements from 0.0000025 to 2,000 mfd. 0-0.0001-0-002-0.02-0.2-2-20-200-2,000 mfd.
AC Vacuum Tube Voltmeter: Direct reading Input capacity: 0.00005 mfd at terminals of instrument Input resistance: 160 and 16 megohms. 0-3-6-30-150-600-1500-6000 volts. Measures signal and output voltages from 10 cps. to 10,000 cps.
DC Vacuum Tube Voltmeter: Direct reading. Sensitivity 160 megohms on high ranges and 16 megohms on low ranges. 0-6-30-150-600-1500-6000 volts.
Model 665A—Supplied ready to operate, in sturdy steel case, complete with 4 leads and batteries. Size: 9¾″ x 12½″ x 6″. Weight: 13 lbs. **Dealer Net Price** **$94.50**

THE SENSITIVE MULTITESTER
MODELS 461A AND 461AP



Model 461AP

A highly sensitive multitester providing a wide range of measurements and features required for general laboratory purposes. Also ideally suited for field and shop measurements.

Sensitivity **20,000 ohm per volt** on all DC measurements results in negligible loading of delicate circuits. Wide scale, 4½″ rectangular meter with a movement of 50 microamperes. Readings as low as 1 microampere can be made on the 100 microampere scale. Meter movement 1% accurate. Matched pair metallized voltage multipliers 1% accurate. A suppressor type copper oxide rectifier is used.

RANGES

DC VOLTS: 0-2.5-10-50-250-1000-5000.
AC VOLTS: 0-2.5-10-50-250-1000-5000
DC MA: 0-10-100-500 MA.
DC MICROAMPS: 0-100 microamps.
OHMS: 0-1000-100,000 ohms 10 megohms.
DECIBEL METER: —10 to +55 DB.

Batteries are readily accessible . . . can be replaced merely by releasing spring clamp . . . No soldered terminal connection.
Model 461A—Open face, supplied in oak case with self-contained batteries and carrying handle. Size 7″ x 5½″ x 3″.
Weight 3½ lbs. **Dealer Net Price** **$39.50**

Model 461AP—Portable type; same as above but including hinged cover and test leads. Size: 8″ x 7⅝″ x 3$\frac{5}{16}$″. Weight 4 lbs.
Dealer Net Price **$43.50**

ELECTRONIC MULTITESTER MODEL 668

AN AC AND DC VACUUM TUBE
VOLT-OHM CAPACITYMETER

- Line voltage calibration adjustment gives accuracy on capacity measurements.
- Matched-pair multiple resistors are ±1% accurate.
- Circuit eliminates all errors due to line voltage fluctuations.
- Constant accuracy of low resistance ohmmeter ranges assured by test of ohmmeter battery under load to determine need for battery replacement.
- Accurate capacitymeter reads direct in microfarads—40,000,000 to 1 measurement ratio.
- Meter cannot be damaged by using low range on high voltage reading.
- No danger of shock on high resistance or low capacity measurements.
- Entire instrument is thoroughly shielded.
- Easy replacement of line fuse at front panel.

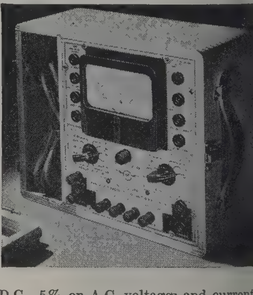
RANGES

DC VACUUM TUBE VOLTMETER—Direct reading sensitivity: 16 to 16 megohms. 0-6-30-150-600-1500-6000 volts. Voltmete readings can be taken without affecting circuit constants.
AC VACUUM TUBE VOLTMETER—Direct reading. Input capacit 0.00005 mfd. at terminals of instrument. Input res. 160 to 1 megohms. 0-3-6-30-150-600-1500-6000 volts. Measures signal an output voltages from 10 cps. to 10,000 cps.
VACUUM TUBE OHMMETER—Direct reading. From 0.1 ohm t 1,000 megohms. 0-1,000-10,000-100,000 ohms; 1-10-100-1,00 megohms.
CAPACITY METER—Accurate measurements from 0.00005 t 2,000 mfd. 0-0.002-0.02-0.2-2-20-200-2,000 mfd.
Model 668—Supplied ready to operate, complete with leads, tube pilot light and batteries in steel case. Size: 9¾″ x 9¼″ x 7⅜ Weight: 7¾ lbs. **Dealer Net Price** **$74.5**

ULTRA SENSITIVE MULTITESTER
MODEL 488A

DUAL D.C. SENSITIVITY: 20,000 and 1,000 OHMS PER VOLT . . WITH HIGH AND LOW SENSITIVITY AC CURRENT RANGE
Accurate, sturdily constructed and supplied with a natural oa carrying case. It is the ideal instrument for field and shop testin of military and naval electronic equipment.

CHECK THESE FEATURES



- Dual D.C. sensitivity of 20,000 ohms per volt and 1,000 ohms per volt. AC sensitivity of 1,000 ohms per volt.
- Wide-scale 4½″ meter with movement of 50 microamperes 2% accurate.
- Readings as low as 1 microampere.
- All multipliers matched and 1% accurate.
- Center of ohmmeter scale 37 ohms with readings as low as 0.25 ohms.
- Batteries are readily accessible. Can be replaced merely by releasing spring clamp. No soldered terminal connection to batteries.
- Overall accuracy 3% on D.C., 5% on A.C. voltages and current
- High Voltage test leads.
- Batteries are mounted in special spring clips readily accessib for replacement—No wires to unsolder.

RANGES

DC Voltmeter: 0-3-12-60-300-600-1200-6000 volts.
AC Voltmeter: 0-3-12-60-300-600-1200-6000 volts.
Output Voltmeter: 0-3-12-60-300-600-1200-6000 volts.
DC Microammeter: 0-60-300 microamperes.
DC Milliammeter: 0-3-20-120-600 milliamperes.
DC Ammeter: 0-12 amperes.
AC Ammeter: 0-3-6-12 amperes.
Ohmmeter: 0-3000-300,000-30,000,000 ohms.

Model 488A—Supplied ready to operate, complete with self-co tained battery, test probes and a convenient carrying case with r movable cover. Overall dimensions of case: 13″ x 12½″ x 5½ Weight: 10½ lbs. **Dealer Net Price:** **$71.5**

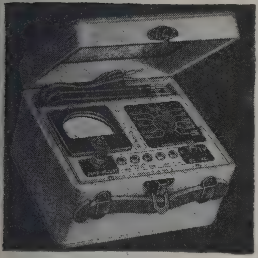
RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT

VOLT - OHM - MILLIAMMETER

MODELS 424A AND 424AP



Model 424AP

The mechanical construction as well as electrical design of this multitester puts it ahead of multimeters in its class. Tier construction and resistor board mounting of all shunts and multipliers gives accessibility to components.

An outstanding feature is the self-contained battery - operated ohmmeter with a high range of 10 megohms and with a center to full scale ratio of 125. The low ohm scale reads 5 ohms at center with 0.1 ohm for each of the first ten divisions. Each shunt and multiplier is individually calibrated to a tolerance within 1%. Basic meter movement is 400 microamperes full scale and provides a sensitivity of 2500 ohms per volt. A compensated suppressor-type copper oxide rectifier is used for AC measurements.

RANGES

DC Volts: 0-2.5-10-50-250-1000 volts.

AC Volts: 0-10-50-250-1000 volts.

DC MA: 0-10-50-250-1000 MA.

Ohms: 0-500-100,000 ohms 1-10 megohms.

Decibel: —10 to +15, —4 to +29, —18 to +43, —30 to +55 db. DB range calibrated for a line of 500 ohm impedance. (For lines of other impedance, correction charts are supplied.)

Model 424A—Open face type in hardwood case with batteries. Size 7½" x 5¾" x 3¾". Weight 2 lbs.

Dealer Net Price ready to operate.............................. **$29.50**

Model 424AP—Portable type in hardwood case with handle, removable cover, test leads and batteries. Size 8" x 6¾" x 4⅝". Weight 3½ lbs. **Dealer Net Price** ready to operate **$33.50**

AC-DC MULTITESTER

MODELS 447 AND 447P

Model 447

The exceptional value in the 447 Model is made possible by the tremendous quantities produced. The resulting very low price is responsible for its great popularity. These units are in a class with other makes of testers that sell for considerably more.

A 3" square D'Arsonval meter is used, having an accuracy of 2%. Ring type shunt circuits are employed. Multipliers are held well within 5% and an overall tolerance is kept within 7% on AC measurements with a better accuracy on DC. A suppressor type copper oxide rectifier is used.

RANGES

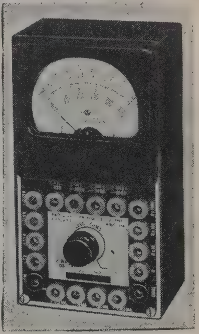
DC Voltmeter: 0-5-50-500-2500 volts at 1000 ohm per volt.
AC Voltmeter: 0-10-100-500-1000 volts.
Output Voltmeter: 0-10-100-500-1000 volts.
DC Milliammeter: 0-1-10-100-1000 MA.
Ohmmeter: 0-500-100,000 ohms 1 megohm.
Decibel Meter minus 8 to plus 55 decibels.
DB range is calibrated for line of 500 ohm impedance.
For lines of other impedances, correction charts are supplied.

Model 447—Open face instrument supplied in hardwood case. Size 5" x 8½" x 3". Weight 21 oz. Complete with batteries ready to operate. **Dealer Net Price** **$17.95**

Model 447P—Portable type supplied in hardwood case with carrying handle, cover and test leads. Size 6½" x 8½" x 4½". Weight 24 oz. Complete with batteries, ready to operate.
Dealer Net Price **$21.95**

POCKET MULTITESTER

MODEL 449



This versatile multitester is remarkably accurate and combines low and high ranges. It's tops for general circuit testing and for speeding trouble-shooting. Despite its compact size, it uses a 3" square meter for easy reading with a movement of 200 microamperes and a 5000 ohm per volt sensitivity. Batteries are mounted in special spring clips readily accessible for replacement—no wires to unsolder. Combines 6 instruments in one small unit.

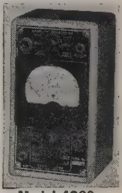
Model 449—Pocket Multitester supplied in black metal case complete with self-contained batteries, ready to operate. Size 5⅞" x 3$\frac{1}{16}$" x 2⅛". Weight 1¾ lbs.

Dealer Net Price **$24.50**

RANGES

DC Volts: 0-5-50-250-1000 First scale division 0.1 volt.
AC Volts: 0-5-50-250-1000. First scale division 0.1 volt.
Output Volts: 0-5-50-250-1000. First scale division 0.1 volt.
DC MA: .5-10-100-1000 MA. First scale division 0.01 MA.
Ohms: 0-1000 0-10,000 0-.1 meg 0-1 meg.
Decibel: —6 to +10 —14 to +26 —28 to +40 —40 to +52DB.
DB range is calibrated for a line of 500 ohm impedance.
For lines of other impedance, correction charts are supplied.

MULTITESTER MODELS 420S AND 420SP



Model 420S

This group of multitesters have the features of good commercial accuracy combined with compactness and ruggedness. The open face models are in the pocket size class. Meter movements are guaranteed to be accurate within 2%. Voltage multipliers are metallized matched pair resistors having tolerance of 1%. Basic meter is 0-400 microamperes or 2500 ohms per volt sensitivity.

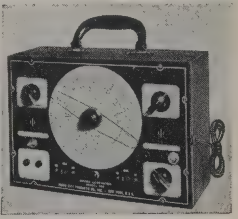
RANGES

DC Voltmeter: 0-2.5-10-50-250-1,000-5,000 volts.
A.C. Voltmeter: 0-10-50-250-1,000-5,000 volts.
Output Voltmeter: 0-10-50-250-1,000 volts.
DC Milliammeter: 0-1-10-100-1,000 milliamperes.
Ohmmeter: 0-500-100,000-1,000,000 ohms.
Decibel Meter: Minus 10 to plus 69 decibels.
Open Face Model 420S—Size: 6⅜" x 3½" x 3". Weight 25 oz.
Dealer Net Price **$23.50**

Portable Model 420SP—Includes test leads and has compartment for same. Case is fine hardwood, hand rubbed with latched cover. Size: 6⅜" x 4½" x 4¼". **Dealer Net Price** **$27.50**

SIGNAL GENERATOR MODEL 705A

BOTH 30% AND 80% MODULATION



R. C. P. Model 705A Test Oscillator brings you a feature ordinarily found only in high priced instruments—both high and low modulation. Low per cent harmonics on four low frequency bands. High percentage harmonics on high frequency band only—Usable signals for FM receiver. R.F. alignment may be obtained using second harmonic of 8 to 25 Mc. band. IDEAL FOR ALIGNMENT OF FM RECEIVER IF's BY THE ZERO DISCRIMINATOR CURRENT METHOD.

Range from 95 Kc to 100 Mc with fundamental frequencies in five bands, continuously variable from 95 Kc to 25 Mc. Calibration is accurate within 2% per band for broadcast bands and within 3% for high frequency bands. Ideal for direct-reading calibration of receivers.

- Automatic shorting of coils not in use.
- Individual shielding of RF circuits, coil assembly and attenuator.
- Overall steel case, chassis and panel.
- Fused line supply.

Planetary driver condenser, double end indicator—Output can be modulated or unmodulated. Modulation frequency of 400 cycles also available for external application. Five step-ladder attenuator.

Model 705A—Complete, ready to operate. Size 8" x 11¾" x 5". Weight 11 lbs.
Dealer Net Price **$49.50**

REINER ELECTRONICS CO., INC.

NEW YORK 1, N. Y.

LABORATORY TEST EQUIPMENT

REINER COMPREHENSIVE MASTER TESTER MODEL 456

"ONE TESTER DOES IT ALL"

A 200,000,000,000 (two hundred billion) to 1 ratio in resistance measurements is available in this new REINER COMPREHENSIVE MASTER TESTER—an outstanding example of high quality in materials, construction and workmanship which is immediately apparent at the first glimpse of the instrument. The engineering design gives more useful ranges, more accurate measurements and more comprehensive application for testing than has ever before been accomplished in a single unit.

The 8½″ rectangular meter and its convenient position for reading affords a scale length and readability that is highly desirable. Model 456 is a great asset to every industrial organization for both laboratory and production testing. It is ideal for research, development and experimental departments. It is equivalent to 61 individual single range meters, with eight types of testers in one instrument:—

1. Insulation Tester
2. Capacity Meter
3. Ohm Meter
4. AC Volt Meter
5. DC Voltmeter
6. AC Meter
7. DC Meter
8. Impedance-Inductance Meter

A high degree of accuracy is combined with simplicity of operation.

RANGES

AC Current: 0-1.5-3-6-15-30-60-150-300-600-1500-3000-6000-15000-30,000 ma.

DC Current: 0-1.5-3-6-15-30-60-150-300-600-1500-3000-6000-15000-30,000 ma.

AC Volts: 3-6-15-30-60-150-300-600-1500-6000.

DC Volts: 6-15-30-60-150-300-600-1500-6000.

Ohms: 0-1000-10,000-100,000-1 meg-10 meg-100 meg-1000 meg.

Insulation Tests: 500 volt/0-10,000 megohm; 1000 volt/0-20,000 megohms.

Capacity High: 50-2,000 5-200 .5-20 .05-2 .005-.2 .0005-.02 .00005-.002 microfarads.

Capacity Low: 1-100 micro-microfarads.

Frequency range without probe AC volts cps—15,000 cps. 25 micro-microfarads input capacity. With probe provided 10 K.C.—500 M.C., 2 micro-microfarads input capacity.

Resistance Measurements: 0.1 to 1000 megohms.

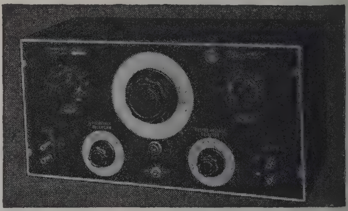
Insulation Testing: at 500 volts to 10,000 megohms; at 1000 volts to 20,000 megohms.

The **REINER MASTER TESTER** is supplied with a set of high voltage leads, a set of shielded test leads and a high frequency probe.

Size: 16″ x 12½″ x 15″. Weight: 33½ lbs. **Dealer Net Price** **$210.00**

SQUARE WAVE GENERATOR MODEL 530

10 CYCLES TO 100 KILOCYCLES



1—HAND CALIPRATED FREQUENCY SCALE
2—DECADE MULTIPLIER (4 STEPS)
3—POSITIVE SYNCHRONIZATION WITH ANY STANDARD GENERATOR
4—OUTPUT VOLTAGE, IN STEPS OR CONTINUOUSLY VARIABLE

Model 530 was designed to meet the demand for a Square Wave Generator to be used in production and general testing. It incorporates a feature not found in other square wave generators, the facility of synchronization with any external frequency source.

HAND CALIBRATED SCALE—The instrument has a hand calibrated frequency scale that reads from below 10 cycles to more than 100 cycles.

DECADE FREQUENCY MULTIPLIER—The instrument is provided with a decade frequency multiplier to increase the range by 10—100 and 1000 times. The actual frequency of the output is the dial reading multiplied by the setting of the frequency multiplier. The accuracy of the frequency calibration is ± 5% over extended periods.

SYNCHRONIZATION CONTROL—In cases where great accuracy of frequency is desired, the instrument can be made to synchronize with any standard frequency generator provided that a synchronizing voltage of at least 0.1 Volt is available. Synchronization can also be maintained with sources varying in frequency.

OUTPUT VOLTAGE—The output voltage may either be varied in fixed steps or may be continuously varied by means of the variable voltage potentiometer. When the variable voltage potentiometer is used, the output impedance is from 0 to 2,000 ohms. If the output voltage is varied in steps, the output impedance is indicated by the output voltage selector setting. The maximum voltage output is approximately 20 Volts.

OUTPUT IMPEDANCE—The output impedances available are 100 - 200 - 500 - 600 - 1,000 - 2,000 ohms. The power supply is designed to operate on 110-120 Volts, 60 cycle A.C. Available for other voltages or line frequency at slight additional cost.

POWER CONSUMPTION: 30 Watts.

FUSE PROTECTION: 1 Ampere.

PHYSICAL SPECIFICATIONS: Height 8″, Depth 9″, Width 15″. Weight 18 lbs. (Net).

Dealer Net Price **$95.00**

REINER ELECTRONICS CO., INC.

NEW YORK 1, N. Y.

LABORATORY TEST EQUIPMENT

REINER MODEL 451 VACUUM TUBE VOLTMETER

U.H.F. AND OTHER MEASUREMENTS, EASILY, QUICKLY—AT YOUR FINGERTIPS

- **25 Millivolts AC Full Scale**
- **700 Megacycles Frequency Range**
- **Micro-Microfarads Input Capacity**

Model 451, when used alone (without amplifier 101) has flat frequency characteristics up to 700 megacycles. This is accomplished by a practical, unique probe having input capacity of less than 7 micro-microfarads. Both AC and DC voltage ranges can be easily read on a single long, linear scale. Ranges: 0-2.5-10-25-100-250-1000 volts AC and DC.

Meter movement 0-180 microamperes—accurate within 1%. A unique feature in an instrument of this type is a multi-range milliammeter. Ranges: 0-2.5-10-25-100-250-1000 milliamperes DC.

There is also a 6 range ohmmeter 0-1000-10,000-100,0000-1 megohm-10 megohms-1000 megohms. A reading of 0.1 ohm can readily be made on the low range with center of scale 10 ohms.

Equipped with tubes, fuse extractor post and pilot light, special test leads, service cord and probe are contained in a latched compartment built inside the case. Size 10¾" x 9" x 8". Weight 20 lbs.—110-125 volt, 50-60 cycles.

Model 451

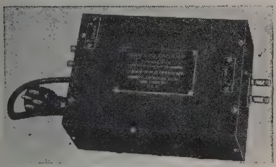
RANGES

AC Volts: 0-.025-.1-.25 (with amplifier) -2.5-10-25-100-250-1000.
DC Volts: 0-2.5-10-25-100-250-1000.
DC Current: 0-2.5-10-25-100-250-1000 MA.
Ohms: .1 ohm to 1000 megohms.
AC Frequency Range: 10-5000 cps. (with amplifier)—50 cps. to 700 megacycles.
Accuracy: 2% of full scale—DC volt, ohm and current; 2%, 50 cps. to 50 megacycles, AC volt; 5% accuracy entire AC frequency range.

Note the wide variety of ranges—that is why the Navy, leading laboratories and industrial institutions have purchased hundreds of Reiner Electronic Instrumments, and continue to re-order.

DEALER NET PRICE **$150.00**

MODEL 101 AMPLIFIER



Model 101 AMPLIFIER

Can be used with either previous Model 450 or current Model 451 V.T. Voltmeter to increase sensitivity 100 times. Designed to plug directly into the measuring instrument and provide full scale AC voltage ranges of 25 millivolts and 100 millivolts.

Output Hum Level—less than 0.0005 volt
Maximum Ac Input—0.2 volts R.M.S.
Maximum Allowable DC at Input—600 volts
Frequency Range—Flat—10 cps. to 5000 cps.

Size: 9½ x 5¼ x 3 inches. Weight 4¼ lbs. Complete with tubes and cable with connector plug. **Dealer Net Price** **$50.00**

When used with older Model 450 Instruments, which are not equipped with a 4 prong recessed receptacle, a conversion kit (Cat. K 100) including installation instructions may be had for $1.50

REINER LABORATORY UNITS — MODELS 333 AND 334

Visible, accessible and removable multipliers and shunts make this an ideal unit for schools—as well as laboratories and service benches. The calibrated value is always visible—you do not get confused as to your reading.

Ten year guaranteed meter is at the optimum angle for easy reading and visual accuracy. Meter is hermetically sealed—positively no dust or moisture can get into the movement to cause the gradual deterioration and inaccuracies that their elements produce in the non-hermetically sealed meter.

Meter has extra long scale and is used against burn-out. Spare fuses are included in addition to the fuse provided in the easily accessible extractor . . . Attractive silvered bezel, heavy, durable crackle finish steel cabinet. . . . Heavy duty insulated binding posts with non-back-off heads. . . . Heavy duty clips and ferrules insure extremely low loss contact resistance.

Handy slide drawer contains spare fuses, complete assortment of 12 shunts and multipliers and shorting connector all individually mounted in spring snap holders. Each shunt and multiplier is individually calibrated to an accuracy within 1%.

Model 334

Includes—2 meter fuses

6 DC Voltage Mulitpliers 1% accuracy: 0-5-10-25-100-250-500 volts.
6 DC Current Shunts: 0-5-10-25-100-250-500 milliamps.
In addition instrumment has basic ranges of 0-120 millivolts and 0-1 milliampere.

MODEL 333—Size: 6" x 7½" x 6½". Weight: 4¾ lbs.
Dealer Net Price, complete **$27.50**

OTHER SHUNTS AND MULTIPLIERS ARE AVAILABLE.

MODEL 334 is identical to 333 but has in addition 6AC voltage ranges.

Each AC and DC range is at a sensitivity of 1000 ohms per volt. AC measurements are free from temperature and frequency errors throughout a range of 25 cycles to 1 megacycle. The new Germanium rectifier is used.

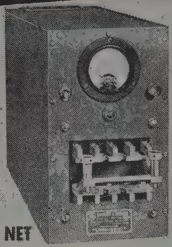
Basic meter sensitivity is 400 microamperes full Scale. **Dealer Net Price** **$32.50**

THREE NEW (RFL) PRODUCTS TELL HOW...

...TO CHARGE MAGNETS... Quickly...Economically...Safely

This capacitor discharge type magnetizer produces 15,000 amperes peak current surge released by simple push button switch. Universal charging bar arranged for convenient association with magnets is adaptable to nearly all permanent magnets. Charger weighs 75 pounds; measures 7" x 12" x 17"; operates from 110/120 volt 50/60 cycle AC; consumes 25 watts.

Charges magnets for electrical indicating instruments, small motors, generators, loudspeakers, relays and controls, exposure meters, tools, compasses, toys, novelties. *Write for Bulletin M5.*



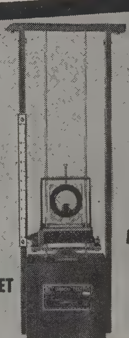
$490 NET

MODEL 107 MAGNET CHARGER

Designed As An American War Standard • Used By America's Leading Companies

...TO SHOCK-TEST COMPONENTS

Simulating the roughest operating conditions — right in your laboratory — the RFL Shock Tester makes it possible to PRE-TEST your instruments to find out how much impact or shock they can stand and still function satisfactorily. Adaptable to instruments or components not exceeding four pounds — electrical indicating instruments, radio components, small power relays, electric razors, watches, fountain pens, etc. Unerringly "putting the finger" on the weakest links of structure and design, this device points the way to improved performance through necessary changes BEFORE the item goes into production. *Send for details — Bulletin T5.*

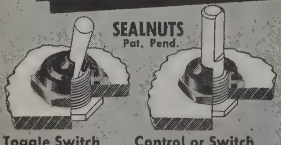


$450 NET

MODEL 22 SHOCK TESTER

...TO SEAL CONTROL SHAFTS AND SWITCHES

The SEALNUT is a new combination mounting-and-sealing unit that keeps dirt, water or gas from entering through panels of equipment operating submerged, at sea-level or high altitudes, *while using standard switches and controls.* An elastic cap tightly grips the protruding handle or shaft. Base of nut is sealed to panel by internal rubber washer which permits metal-to-metal contact between nut and panel. Can be readily substituted for the standard mounting nut on components of moisture-proof equipment now in service without further alterations. Impervious to abrasive dusts, acid fumes, humidity changes, etc., the SEALNUT is adaptable to portable, mobile and pressurized equipment exposed to the elements or to indoor equipment used in chemical processing plants, abrasive manufacture, etc. *Write for Bulletin 5N5.*



SEALNUTS
Pat. Pend.

Toggle Switch H-1267

Control or Switch (Rotary or Reciprocating Shaft) H-1268

"Designers of Quality Products Since 1922"

RADIO FREQUENCY LABORATORIES, INC.

BOONTON, NEW JERSEY, U. S. A.

R-F PROBE — MODEL 200*

This new R-F field indicator is the ideal hand instrument for anyone working with R-F. Many uses include the quick detection of standing waves, shielding and R-F choke leaks, and circuit tracing for R-F in all radio frequency equipment and associated components, without inducing interference. AM, FM and television transmitters up to 1500 megacycles, electronic heating and soldering equipment, antennas and transmission lines, diathermy apparatus and other R-F units can be checked throughout. An extremely valuable trouble-shooting aid in seeking out causes of lowered operating efficiency, damage or interference to neighboring equipment and components, radio interference and escape of R-F into power lines. Shape and size of probe permit convenient access to internal circuits, small openings. Probe element measures ¾" in diameter, 5" in length; overall length is 11". Aperture in handle permits hanging probe near transmitter antenna leads for measuring R-F output to aid in tuning adjustments. Molded bakelite case with Weston Model 506 meter. Weight, 13 ozs.

*Patent Pending

MODEL 200
Range to 1500 Megacycles

APPLIANCE ANALYZER — MODEL 185A

As this Analyzer quickly and accurately measures the actual load value of watts, volts and amperes used by all home appliances, a special cost-computing scale aids the user in determining the hourly cost of the appliance under test. Special connectors permit plugging Analyzer into a fuse box to measure power consumed by oil burners and similar equipment. Buffer action of electronic tube used for measuring watts prevents overloads from damaging instrument. Pressed aluminum case with gray wrinkle finish is dust and water tight, sealed by rubber gasket. Handle is of rubber. Weston Model 801 meter.

METER RANGES:

Watts: 0-30/100/300/1,000/2,000 on 110/230 volt, 50/60 cycle lines.
AC Amperes: 0-.3/1/3/10/20. AC Volts: 0-150/300.
Dimensions: 9½" x 9½" x 4½". Weight: 8¼ pounds.

MODEL 185B

Model 185B is a smaller Analyzer for use on 110/120 volt, 50/60 cycle lines. Measures watts in ranges of 0-100 and 0-1000; volts, 0-150; amperes 0-2 and 0-10. Weston 301 meter. Other features same as Model 185A.
Dimensions: 7" x 10" x 3½". Weight: 6 pounds.

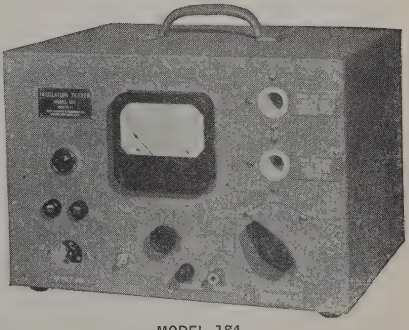
MODEL 185A

INSULATION TESTER — MODEL 184

This direct reading, 10,000 volt megohmmeter provides a quick, positive and safe means for measuring insulation resistance of materials and equipment. The readable resistance is from 1 to 200 megohms on the 500 and 1000 volt ranges; from 10 to 2000 megohms on the 5,000 and 10,000 volt ranges. Low range is read directly; high range by multiplying the scale values by 10. Unit operates from 110/120 volt, 50/60 cycle line, with maximum power consumption of 75 watts. A SAFETY switch interlocked with the range switch provides protection for the operator, as the voltage range cannot be changed without first breaking the high voltage output. Instrument is mounted in steel case with gray wrinkle finish. Weston Model 801 meter. As the high multiplier resistance is equal to the megohm reading at center scale, the following values apply:

Open Circuit Volt Range	Maximum Meter and Insulation Leakage Current	Megohms at Center Scale	Multiplier Resistance
500	50 microamperes	10	10 megohms
1000	100 microamperes	10	10 megohms
5000	50 microamperes	100	100 megohms
10000	100 microamperes	100	100 megohms

Dimensions: 14" x 10" x 9". Weight: 50 pounds.



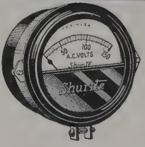
MODEL 184
Range to 10,000 Volts

RADIO FREQUENCY LABORATORIES INC.
BOONTON, NEW JERSEY

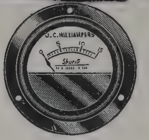
Shurite

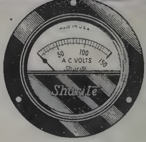
Model 550-DC

with Zero Adjuster

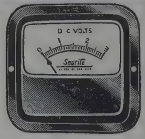


Model 550-AC


Model 650-DC



Model 650-AC


Model 950-DC(or AC)

Shurite panel meters are attractive, rugged, dependable instruments with accuracy well within 5%. All models are black enameled brass, all require 2 7/64″ hole. DC meters are polarized-vane solenoid type, AC meters are double vane repulsion type.

Advantages of this new and complete line:

All-metal dials, age and moisture resistant, lithographed in black on white for high visibility.

Improved design, with new coil frames and attached insulators for greater rigidity, yet interchangeable in other respects with similar type of instrument formerly available.

Improved appearance, with concealed coils, full view scales, and attractive styling and finish.

Guarantee: All Shurite meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 25¢ handling charge within one year after date of purchase.

Model 550-DC, flush case, narrow ring, round, has long U-bracket.

Model 550-AC, flush case, narrow ring, round, has ring clamp.

Models 650-DC and 650-AC, flush case, wide round flange, hav screw holes for mounting, hardware included.

Models 950-DC and 950-AC, flush case, square flange, have scre holes for mounting, hardware included.

IMPORTANT—How To Order:

For all standard models, give: (1) Model Number, (2) Range, (3) Stoc Number. If Model number and stock number are not stated, Mode 550 will be supplied.

ZERO ADJUSTERS(Z)

Zero Adjusters are available only on Models 550-DC and 650-DC When ordering, add Z to stock number. Example: Stock number fo Model 550-DC voltmeter, 0-1 volt range—**without** zero adjuster i 5101. **With** zero adjuster, it is 5101-Z.

PANEL CALIBRATION(S)

Meters are calibrated for non-magnetic panels. If for magnetic (steel panel mounting, specify thickness and overall size of panel, and add to stock number when ordering, as 5101-S. If thickness of panel is no specified, meter will be supplied for .040 panel.

(Prices shown are net for individually boxed meters)

DC AMMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Amps.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5201	**$1.30**	6201	**$1.40**	9201	**$1.45**
0–3	5202	**1.30**	6202	**1.40**	9202	**1.45**
0–5	5203	**1.30**	6203	**1.40**	9203	**1.45**
0–8	5204	**1.30**	6204	**1.40**	9204	**1.45**
0–10	5205	**1.30**	6205	**1.40**	9205	**1.45**
0–15	5206	**1.30**	6206	**1.40**	9206	**1.45**
0–25	5207	**1.60**	6207	**1.70**	9207	**1.75**
0–50	5208	**2.00**	6208	**2.10**	9208	**2.15**
1–0–1	5209	**1.30**	6209	**1.40**	9209	**1.45**
3–0–3	5210	**1.30**	6210	**1.40**	9210	**1.45**
5–0–5	5211	**1.30**	6211	**1.40**	9211	**1.45**
6–0–6	5212	**1.30**	6212	**1.40**	9212	**1.45**
10–0–10	5213	**1.30**	6213	**1.40**	9213	**1.45**
20–0–20	5214	**1.40**	6214	**1.50**	9214	**1.55**
30–0–30	5215	**1.80**	6215	**1.90**	9215	**1.95**
50-0–50	5216	**2.00**	6216	**2.10**	9216	**2.15**

*For zero adjuster, add 30¢ to price and Z to stock number.

AC AMMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Amps.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5501	**$2.35**	6501	**$2.45**	9501	**$2.50**
0–3	5502	**2.35**	6502	**2.45**	9502	**2.50**
0–5	5503	**2.35**	6503	**2.45**	9503	**2.50**
0–10	5504	**2.35**	6504	**2.45**	9504	**2.50**
0–30	5505	**2.50**	6505	**2.60**	9505	**2.65**
0–50	5506	**3.00**	6506	**3.10**	9506	**3.15**

DC MILLIAMMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Ma.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–3	5301	**$2.00**	6301	**$2.10**	9301	**$2.15**
0–5	5302	**1.85**	6302	**1.95**	9302	**2.00**
0–10	5303	**1.75**	6303	**1.85**	9303	**1.90**
0–15	5304	**1.35**	6304	**1.45**	9304	**1.50**
0–25	5305	**1.30**	6305	**1.40**	9305	**1.45**
0–50	5306	**1.30**	6306	**1.40**	9306	**1.45**
0–100	5307	**1.30**	6307	**1.40**	9307	**1.45**
0–150	5308	**1.30**	6308	**1.40**	9308	**1.45**
0–200	5309	**1.30**	6309	**1.40**	9309	**1.45**
0–300	5310	**1.30**	6310	**1.40**	9310	**1.45**
0–400	5311	**1.25**	6311	**1.35**	9311	**1.40**
0–500	5312	**1.25**	6312	**1.35**	9312	**1.40**

* For zero adjusters add 30¢ to price and Z to stock number.

AC MILLIAMMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Ma.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–25	5601	**$2.35**	6601	**$2.45**	9601	**$2.50**
0–50	5602	**2.35**	6602	**2.45**	9602	**2.50**
0–100	5603	**2.35**	6603	**2.45**	9603	**2.50**
0–250	5604	**2.35**	6604	**2.45**	9604	**2.50**
0–500	5605	**2.35**	6605	**2.45**	9605	**2.50**

DC VOLTMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5101	**$1.25**	6101	**$1.35**	9101	**$1.40**
0–3	5102	**1.30**	6102	**1.40**	9102	**1.45**
3–0–3	5103	**1.30**	6103	**1.40**	9103	**1.45**
0–5	5104	**1.30**	6104	**1.40**	9104	**1.45**
0–6	5105	**1.30**	6105	**1.40**	9105	**1.45**
0–8	5106	**1.30**	6106	**1.40**	9106	**1.45**
0–10	5107	**1.35**	6107	**1.45**	9107	**1.50**
0–15	5108	**1.40**	6108	**1.50**	9108	**1.55**
0–25	5109	**1.30**	6109	**1.40**	9109	**1.45**
0–25H**	5110	**2.40**	6110	**2.50**	9110	**2.55**
0–50H**	5111	**2.80**	6111	**2.90**	9111	**2.95**
0–75	5112	**1.40**	6112	**1.50**	9112	**1.55**
0–100	5113	**1.50**	6113	**1.60**	9113	**1.65**
0–100H**	5114	**3.00**	6114	**3.10**	9114	**3.15**
0–150	5115	**1.70**	6115	**1.80**	9115	**1.85**
0–150H**	5116	**3.00**	6116	**3.10**	9116	**3.15**
0–300	5117	**3.25**	6117	**3.35**	9117	**3.40**
0–500	5118	**3.75**	6118	**3.85**	9118	**3.90**
0–750	5119	**4.50**	6119	**4.60**	9119	**4.65**
0–8–160	5120	**2.25**	6120	**2.35**	9120	**2.40**

*For zero adjuster, add 30¢ to price and Z to stock number.
**H denotes high resistance.

AC VOLTMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–4	5401	**$2.35**	6401	**$2.45**	9401	**$2.50**
0–6	5402	**2.35**	6402	**2.45**	9402	**2.50**
0–10	5403	**2.35**	6403	**2.45**	9403	**2.50**
0–15	5404	**2.35**	6404	**2.45**	9404	**2.50**
0–50	5405	**3.00**	6405	**3.10**	9405	**3.15**
0–150	5406	**3.50**	6406	**3.60**	9406	**3.65**
0–300	5407	**4.15**	6407	**4.25**	9407	**4.30**
0–600	5408	**4.65**	6408	**4.75**	9408	**4.80**
0–750	5409	**5.15**	6409	**5.25**	9409	**5.30**

RESISTANCE METERS

RANGE		MODEL 550		MODEL 650		MODEL 950	
Ohms.	Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
10,000	4.5*	5701	**$1.80**	6701	**$1.90**	9701	**$1.95**

* Requires 3 flashlight cells for resistance readings but does not requir resistor for voltage readings.

FLANGE ADAPTER RING

A sturdy flange ring for use with any Model 550 (round) Shurite mete where a flange mount is preferred. Makes appearance similar to Model 650 Wide flange, 2¾″ dia. Telephone black finish. Screws, lockwashers an nuts included.

Model 5-A, NET......................................**$0.1**

Pocket Type Meters

As this catalog goes to press, a series of Shurite pocket meters is being pu into production. They will be made in ranges suitable for pre-war and post war hearing aid batteries, portable radio batteries, and many other low voltage electrical applications, including polarity indication types.

Special attention is being given to test load requirements. Hexagona shape will provide sure grip.

For details, ask for bulletin, "Pocket Type Meters".

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 260
Set Tester

World-Famous High Sensitivity Set Tester

. . . for Radio and Television Servicing

The Simpson 260 has out-sold and out-performed every similar test instrument in its field since its introduction in 1939. The reason? It out-values them all. You cannot touch its precision, useful ranges, or sensitivity in any other instrument of equal price or selling for substantially more.

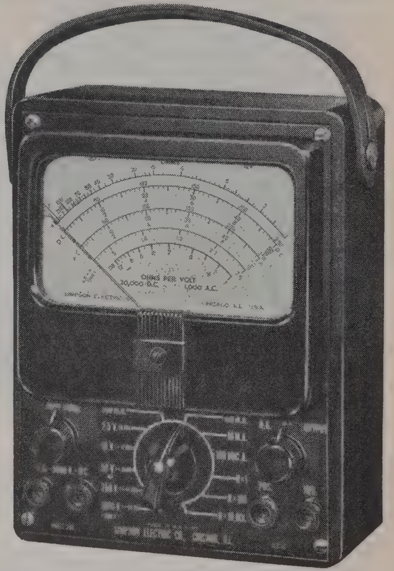
At 20,000 ohms per volt, this instrument is far more sensitive than any other instrument even approaching its price and quality. The practically negligible current consumption assures remarkably accurate full scale voltage readings. Current readings as low as .1 microampere and up to 500 milliamperes are available.

Resistance readings are equally dependable. Tests up to 20 megohms and as low as ½ ohm can be made. With this super-sensitive instrument you can measure automatic frequency control diode balancing circuits, grid currents of oscillator tubes and power tube, bias of power detectors, automatic volume control diode currents, rectified radio frequency current, high-mu triode plate voltage and a wide range of unusual conditions which cannot be checked by ordinary servicing instruments. Ranges of Model 260 are shown below.

RANGES

(20,000 ohms per volt D.C.) (1,000 ohms per volt A.C.)
Volts A.C. and D.C. and output: 2.5, 10, 50, 250, 1000, 5000
Milliamperes, D.C.: 10, 100, 500
Microamperes, D.C.: 100
Decibels: (5 ranges) −10 to +52 D.B.
Ohms: 0-2000 (12 ohms center)
0-200,000 (1200 ohms center)
0-20 Megohms (120,000 ohms center)

SIZE: 5½" x 7" x 3". WEIGHT: 3¼ LBS.
SHIPPING WEIGHT: 4½ LBS.



Dealer's Net Price, complete with Test Leads........	$38.95
Carrying Case	5.55

MODEL 266 *Vacuum Tube Voltmeter A Fine Instrument . . . .*

Here is a vacuum tube voltmeter that offers the extreme accuracy modern electronic engineering demands. It is another new development—another new triumph of Simpson designing and manufacturing skill. It covers a wide range, and the high accuracy at 100 megacycles makes this instrument wholly suited for the new FM band.

The D.C. input circuit is well filtered so that the presence of superimposed alternating currents does not affect the D.C. measurements. A zero center switch is provided for discriminator circuit alignment, a feature which embraces all D.C. voltage ranges. The D.C. volt input resistance ranges from 50 megohms to 200 megohms; A.C. volts input impedance at 60 cycles is 6 megohms.

Special probe furnished for work on RF voltages has been designed to reach hard-to-get-at connections more easily; probe has input capacitance of approximately 4 micro-microfarads. Changing from lowest to highest range causes no zero drift, therefore one zero adjustment takes care of all ranges. Primary of the power transformer is well regulated, holding close control over filament as well as plate voltage.

Model 266 is housed in a handsome oak case, with sloping panel of anodized aluminum. Large meter provides quick, accurate reading.

SIZE: 8½" WIDE x 9½" HIGH x 8" DEEP.
WEIGHT: 8 LBS. SHIPPING WEIGHT: 15 LBS.

Dealer's Net Price..	**$79.50**

RANGES

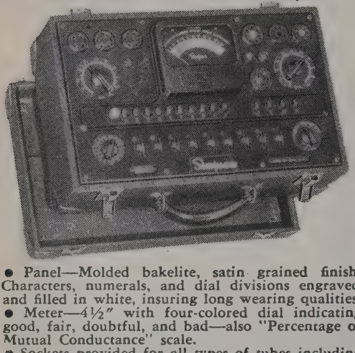
Volts: (A.C. & D.C.) 0-1, 5, 10, 50, 100, 250, 500, 1000, 5000
Milliamperes: (D.C.) 0-1, 5, 10, 50, 100, 250, 500
Amperes: (D.C.) 0-10

Ohms:	
0-1000	(10 ohms center)
0-10,000	(100 ohms center)
0-100,000	(1000 ohms center)
0-1 megohm	(10,000 ohms center)
0-10 megohms	(100,000 ohms center)
0-100 megohms	(1 megohm center)
0-1000 megohms	(10 megohms center)

★ Simpson

SIMPSON ELECTRIC C
CHICAGO, ILLINO

INSTRUMENTS THAT STAY ACCURATE



- Panel—Molded bakelite, satin grained finish. Characters, numerals, and dial divisions engraved and filled in white, insuring long wearing qualities.
- Meter—4½" with four-colored dial indicating good, fair, doubtful, and bad—also "Percentage of Mutual Conductance" scale.
- Sockets provided for all types of tubes including acorn tube.
- Neon glow tube to indicate shorted tubes.
- New simplified switching arrangement (see above.
- Tube chart arranged for quickly identifying the tube and setting controls.
- Tests tubes with voltage applied automatically over the entire operating range, under conditions approximating actual operation in radio set.
- Case—sturdy fabricoid covered plywood. Removable cover with slip type hinges.

SIZE: 15½"x9½"x6¼". WEIGHT: 9 LBS.
SHIPPING WEIGHT: 16 LBS.

Dealer's net price..$98.50

MODEL 330 *Mutual Conductance Tube Tester . . .*

Tube manufacturers consider that a radio tube has reached the en of its usable life when it falls to a certain percentage of its rated valu

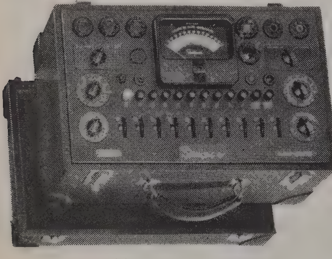
The new Simpson Model 330 tests tubes in terms of percentage c rated dynamic mutual conductance—a comparison of the tube unde test against the standard rate micromho value of that tube. The colore zones on the dial coincide with the micromho rating or the percent c mutual conductance, indicating that the tube is good, fair, doubtful c definitely bad. Thus, at a glance, you can check the tube against manufacturers' ratings. If it becomes desirable to know the actual value i micromhos, the percentage reading may be easily converted.

Tubes are tested with voltage applied automatically over the entir operating range, reproducing more completely than ever before th actual conditions under which a tube functions in a radio set.

Besides this revolutionary new method, Simpson offers you an equall revolutionary switching arrangement. The circuit is so arranged tha even though there are numerous combinations possible, very fe switches require moving to test any one tube. Many of the popula tubes are tested in the "normal" position without moving any of th nine tube circuit switches.

Ten push button switches and nine rotating switches of six positior each provide infinite combination in tube element and circuit selectior Only a few settings are necessary for the most complicated tube. Th tube chart provided is arranged for quickly identifying the tube an setting the controls.

When you have finished a tube test, the Automatic Reset takes ove to speed and simplify the next test. Just press the reset button an instantly all switches, both push button and rotary, return to norma automatically!



For 105-130 volts, 50-60 cycle

SIZE: 15½" x 9½" x 6¼". WEIGHT: 9 LBS.
SHIPPING WEIGHT: 16 LBS.

Dealer's Net Price..$85.00

MODEL 335 *Plate Conductance Tube Tester*

Another Simpson innovation, the Model 335 tests tubes today's wa —under conditions simulating actual use in a radio set. The dial ind cates percentage of rated plate conductance. With a minimum of setting a percentage reading is quickly obtained which, for all practical pu poses, is a true percentage of the tube's rated value.

Regardless of tube load, filament voltages are maintained practicall constant automatically. Each tube element is individually connected t proper potential. Reliable short test is provided. Diodes tested on lo voltage. Automatic reset switch clears way quickly for the next test.

All standard tube sockets are available, and additional space is pr vided for new sockets. Every socket connection, and all grid leads, ar connected through separate switches to provide for future tubes.

Model 335 is housed in a handy portable case, with panel an switches of molded bakelite. Meter proper is large 4½" size for eas reading.

MODEL 305

Tube Tester

Attractive appearance, compactness and remarkable versatility are combined in this popular tube tester. It provides for filament voltages from .5 volts to and including 120 volts. It tests loctals, single ended tubes, bantams, midgets, miniatures, ballast tubes, gaseous rectifiers, acorn tubes, Christmas tree bulbs and all popular receiver tubes.

The 3-way switching makes it possible to test any tube regardless of its base connections or the internal connections of its elements. No adapters or special sockets are required. Has sockets for all tubes on the market, plus spare socket for future tube developments. This tube tester is fused, and has the latest improved circuit. It provides for line adjustment from 100 to 130 volts with smooth vernier control.

The Model 305 has a handsome, conveniently arranged panel, and is housed in an attractive leatherette carrying case. The large fan shaped meter provides an exceptionally long scale, which has both "good" and "bad" English markings, plus a percentage scale for matching and comparing tubes. Simplified instructions and tube charts in book form are carried in cover.

SIZE: 8" x 10¾" x 5½". WEIGHT: 8 LBS.
SHIPPING WEIGHT: 12 LBS.

Dealer's net price..................................$49.50

For 60 cycle 115 volt current only.

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

Simpson

INSTRUMENTS THAT STAY ACCURATE

ew! Simpson Wide Range Signal Generator for A.M. and F.M. . . .

AODEL 415 *Signal Generator*

- Direct reading dial with continuous coverage from 70 Kilocycles to 130 Megacycles in the following ranges: 75-200; 200-600; 600-1750 Kilocycles and 1.5-4.5; 4-15; 14-30; 29-65; 58-130 Megacycles.
- Model 415 is practically independent of line voltage fluctuation. Calibration is stable regardless of wide variations in line voltage.
- RF output is controlled through its entire range, eliminating the necessity of a separate connection for high uncontrolled output as found in other signal generators.
- RF Output Voltage is practically constant throughout the entire frequency range.
- Modulation from 0 to 100% using either the 400 cycle internal sine wave or an external source. A range from 0 to over 20 volts of 400 cycle sine wave is available for external use.
- High fidelity modulation up to 100% from below 60 cycles per second to over 10 Kilocycles per second.
- No unwanted frequency modulation present.
- Each Signal Generator is individually calibrated against a crystal controlled frequency standard.
- Substantial construction assures maintenance of calibration accuracy indefinitely.

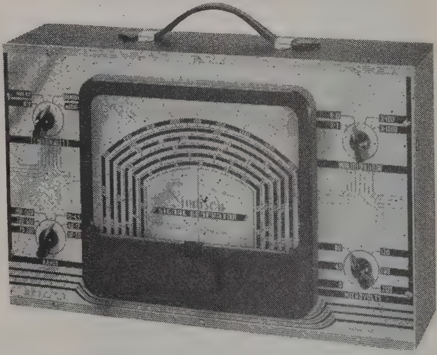
SPECIFICATIONS

NEL—Lustrous black anodized aluminum. Dial is encased a molded bakelite escutcheon with glass covering for otection against damage and dirt. Functional switches and ntrols are mounted on engraved molded bakelite panels.
ASE—Steel, copper plated for shielding effect and finished black durable wrinkled enamel. Leather carrying handle.
IELDING—In addition to the overall shielding offered by e case and panel, the coils and tuning condenser are indilually shielded, then an additional shield is placed over ese two assemblies. This series of shields together with ner factors reduce leakage to an absolute minimum.
OILS—Low loss RF coils are individually calibrated by eans of variable inductance and variable minimum capacitance. These adjustments provide the means for greatest possible accuracy in calibration.
BAND SELECTOR—The rotating turret coil assembly permits the use of shortest possible wiring, resulting in minimum circuit capacitance and permits quick selection of any frequency range.
CONDENSER—A two section tuning condenser using either one section or the other provides for ideal inductance to capacity ratio on all bands. Smooth vernier tuning permits accurate adjustment of the selected frequency.

SIZE: 5⅝" x 11⅜" x 15⅛". WEIGHT: 19 LBS.
SHIPPING WEIGHT: 22 LBS.

Dealer's Net Price..**$115.00**

AODEL 315 *Signal Generator*



The Model 315 Signal Generator is designed down the most minute detail for highest accuracy, greatest ability, minimum leakage and good wave form. Big ne-inch meter type dial, with knife edge pointer, ves high readability. Smooth vernier control perits close settings.

CIRCUIT: Electron coupled circuit assures extreme ability and output uniformity throughout the band. hree tubes are utilized in the circuit—full wave ctifier, modulator and oscillator. Standard 30% odulation at 400 cycles is used.

OUTPUT: Signal is controlled through an ingenious ep attenuator of the ladder type. Volume level of ach step is regulated by a smooth non-inductive conol which provides an RF output from ½ microolt to 0.1 volt and an approximately 400 cycle output from zero to 5 volts.

BANDS: Six RF coils provide ranges of 75-200; 00-600; 600-1700 kilocycles and 1.5-4.5; 4-12; 10-30 negacycles. Coils designed to retain original inducance regardless of temperature or humidity changes. pecial switch automatically eliminates "dead spots."

SHIELDING: Coils, attenuator and signal selector ndividually shielded. Oscillator and modulator asemblies sealed in rigidly welded, entirely enclosed hassis. Effective line filter used. Even line cord is hielded. Result: leakage is negligible.

CALIBRATION: Each coil individually calibrated to close tolerances against crystal standards by means of variable inductance and variable minimum capacitance. Tests show negligible changes over long periods of time with extreme temperature and humidity variations.

SIZE: 16" x 10" x 6". WEIGHT: 15 LBS.
SHIPPING WEIGHT: 20 LBS.

Dealer's Net Price..**$67.35**

SIMPSON ELECTRIC C
CHICAGO, ILLIN

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 445

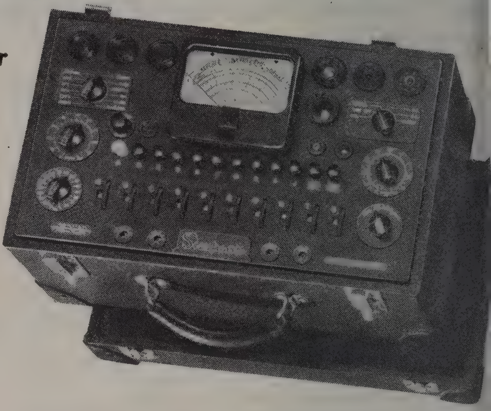
Plate Conductance Tube & Set Tester

The Model 445 offers in compact form an instrument that handles every radio testing requirement—in or out of the shop. It is a brand new instrument—designed to cover the entire wide range of today's servicing requirements and to provide the hair-line accuracy so necessary.

Model 445 Tube Tester is the plate conductance type. The dial indicates percentage of rated plate conductance, which can also be considered as percentage of mutual conductance in most cases, since the amplification factor of the tube remains constant in practically every case. It interprets tube condition today's way—in percentage of rated value—yet with a minimum of settings. Automatic reset switch clears the meter for the next test, avoids subsequent mistakes. All standard sockets available; space for new sockets is also provided.

The volt-ohm-milliammeter is the same "high sensitivity" type that is identified with the name of Simpson. The practically negligible current consumption assures remarkably accurate full-scale voltage readings ranging from 2.5 to 5000 volts. Current readings range from 1 microampere to 500 milliamperes, resistance readings from ½ ohm to 20 megohms.

The Model 445 is housed in a durable, easy-to-carry case. Panel is of molded bakelite. Large 4½" meter insures quick, accurate readings.

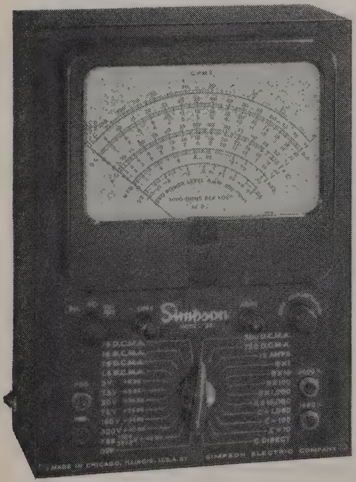


RANGES

Volts: (20,000 ohms per volt D.C.) 1000 ohms per volt A.C.) 0-2.5,
50, 250, 1000, 5000
Milliamperes (D.C.): 0-10, 100, 500
Microamperes (D.C.): 0-100
Decibels: (5 ranges) —10 to +52 DB
Output: A.C. volts: 2.5, 10, 50, 250, 1000, 5000
Ohms: 0-2000 (12 ohms center)
0-200,000 (1200 ohms center)
0-20 megohms (120,000 ohms center)

SIZE: 15½" x 9½" x 6¼". WEIGHT: 9 LBS.
SHIPPING WEIGHT: 12 LBS.

Dealer's Net Price..........$110



SIZE: 11⅝" x 8⅜" x 4". WEIGHT: 10 LBS.
SHIPPING WEIGHT: 15 LBS.

Dealer's Net Price..........**$59.50**

MODEL 321 *Giant Set Tester*

A New and Better Version of An Old Favori

A giant in size and in performance, the Model 321 Set Tester corporates 50 ranges. It's an old favorite among radio service m further refined by Simpson to make it more useful than ever. I ideally suited for either bench use or panel mounting.

The meter proper is large 7" size, housed in an attractive mol bakelite case. All D.C. scales are in black and A.C. scales in red simplify reading. Knife edge pointer insures correct determinat of values. The panel is of black anodized aluminum, with sil etched characters, excellently arranged for quick selection of ran The range selector is fitted with a large, easy-to-operate bake handle. Cabinet is of steel with black wrinkle finish.

Test leads, insulated for 3000 volts, are furnished with each ins ment. All voltage ranges both A.C. and D.C. have a resistance of 1 ohms per volt.

RANGES

Volts: (Both A.C. and D.C.) 0-3, 7.5, 30, 75, 150, 300, 750, 1500, 3
All A.C. volt ranges available for output measurement.
Milliamperes: (D.C. only) 0-1.5, 7.5, 15, 75, 300, 750
Amperes: (D.C. only) 0-15
Ohms: 0-2000 (22 ohms center)
0-20,000 (220 ohms center)
0-200,000 (2200 ohms center)
0-2 megohms (22,000 ohms center)
0-20 megohms (220,000 ohms center)
Microfarads: 0-.05, .5, 50
Decibels: 7 ranges, from —20 to +48 DB

★ **Simpson**

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

INSTRUMENTS THAT STAY ACCURATE

HERE THEY ARE the New 1946 Micro-Testers

New—for All Appliance Testing

MODEL 390 VOLT - AMP - WATTMETER

Model 390 embraces two ranges each of voltage and current, providing four wattage ranges which cover all types and makes of appliances. It can also be used for refrigeration, air conditioning, oil burner installations —anywhere a motor is used.

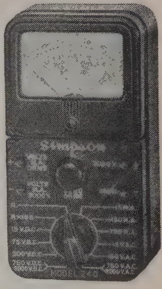
Panel has volt-ampere combinations clearly indexed to the proper sectors on the scale for quick, simple and sure use. All readings shown on one meter; in normal position meter indicates volts; ampere and watt readings are obtained by depressing buttons on the panel. Can also be used as an individual voltmeter to check line voltages, or as an ammeter. Special plug, furnished with the instrument for connection to meter and electrical outlet.

Has molded bakelite case, white engraved figures on panel, full 3″ meter.

RANGES—A.C. CIRCUIT, 60 CYCLES
Volts: 0-150, 0-300
Amperes: 0-3, 0-15
Watts: 0-300, 0-600, 0-1500, 0-3000

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2½ LBS.
SHIPPING WEIGHT: 4 LBS.

Dealer's Net Price	$39.50
Carrying case, with leads compartment	4.00



MODEL 240 HAMMETER

A.C. and D.C. Volt-Ohm-Milliammeter

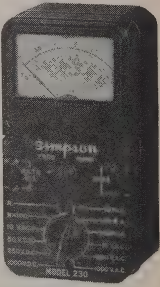
RANGES: 0-15, 150, 750, 3000 A.C. volts; 0-15, 75, 300, 750, 3000 D.C. volts; 0-15, 75, 300, 750 D.C. milliamperes; 0-3000 ohms (center scale 30), 0-300,000 ohms (center scale 3000); 1000 ohms per volt A.C. and D.C.

The Hammeter was the first self-contained pocket portable instrument built expressly to check high voltage and all component parts of transmitters and receivers. It has since undergone steady improvement.

Completely self-contained, needing no external multipliers, with a sensitivity of 1000 ohms per volt and a maximum voltage of 3000 volts A.C. or D.C., it has all the variety of useful ranges needed to do an all-around general service job for you. All components and the sub-panel are mounted directly on the bakelite panel. All figures are engraved and filled with white enamel.

Shock-proof, it has the famous Simpson movement with bridge-type construction and soft iron pole pieces, resistors in matched pairs to provide greatest possible accuracy for all ranges. Test leads furnished, insulated against 3000 volts, and fitted with rubber guarded alligator clips.

DEALER'S NET PRICE..........$26.50



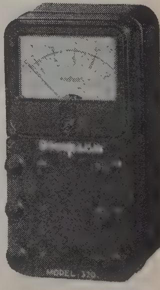
A.C. and D.C. Volt-Ohm-Milliammeter

MODEL 230

RANGES: 0-10, 250, 1000 A.C. volts; 0-10, 50, 250, 1000 D.C. volts; 0-10, 50, 250 D.C. milliamperes; 0-1000 ohms, 0-100,000 ohms.

This is one of the smallest A.C. and D.C. service instruments on the market, yet it contains a sufficient number of ranges to enable the experienced technician to do a complete servicing job. The entire case, including the front panel, is molded of bakelite for complete protection against high voltages. Has full size 3″ meter for easier reading, and all the refinements of Simpson construction such as resistors in matched pairs to provide greatest possible accuracy for all ranges. Furnished complete with test leads.

DEALER'S NET PRICE..........$24.75



Model 370 A.C. Ammeter

MODEL 370

(With self-contained current transformer)
(For use on 60 cycles)

RANGES: 0-1, 0-2.5, 0-5, 0-10, 0-25 Amps.

For the first time, a current transformer and indicating instrument have been combined in one small case to meet the consistent demand for a small multiple range A.C. ammeter, at a price that even a student can afford. Providing a complete range, from a fraction of an ampere to 25 amperes, it deserves a place in the equipment of every manufacturing establishment, every school, service organizations and all other branches of the electrical industry. Its many uses include the measurement of current draw by all types of electric appliances and motors, heating elements, lamps, radio sets, etc.

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

DEALER'S NET PRICE..........$18.50

Model 371 A.C. Voltmeter

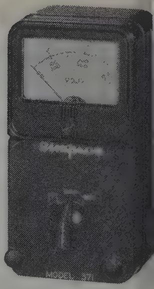
MODEL 371

RANGES: 0-150, 0-300, 0-600 Volts.

Particularly adaptable to testing line voltage. When servicing motors, electric appliances, etc., it is most essential to know if line voltage is normal. High voltage may damage or burn out motors, heater elements, etc. Low speed in motors or improperly heated elements in appliances may be due to low line voltage. A very desirable unit for any industrial test kit or laboratory.

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$16.75**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Model 372 Ohmmeter

MODEL 372

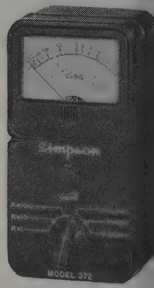
RANGES:

0-500 ohms	(5 ohms center)
0-5000 ohms	(50 ohms center)
0-50,000	(500 ohms center)
0-500,000	(5000 ohms center)
0-5 Meg.	(50,000 ohms center)
0-50 Meg.	(500,000 ohms center)

A complete instrument with self-contained batteries. Has wide range from .2 Ohms to 50 Megohms. "Ohms" adjuster compensates for variations in battery voltage to provide greatest possible accuracy in an instrument of the size and price. Wire wound and matched metallized resistors used throughout. The basic movement has a sensitivity of 85 microamperes.

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$23.20**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Model 373 D.C. Milliammeter

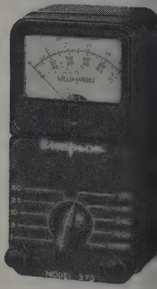
MODEL 373

RANGES:
0-1, 5, 10, 25, 50, 100, 250, 500, 1000 M.A.

Runs the whole gamut of milliamperes reading from .02 to 1000 M.A. Used in radio servicing and experimental work; checking burglar alarm circuits; railroad signal systems; telephone work; schools and colleges, etc. Particularly adaptable to reading current in circuits supplied by dry cells.

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$18.25**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Model 374 D.C. Microammeter

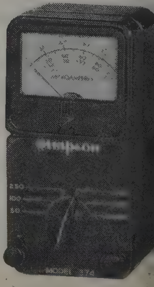
MODEL 374

RANGES: 0-50, 100, 250, 500, 1000 Microamperes.

Incorporates a basic movement of 50 microamperes sensitivity with self-contained shunts for all other ranges. Usually available only in expensive laboratory instruments, costing many times the price of this one. Conduct your experiments with one of these instruments. It's surprisingly accurate. Can be used with external resistors or multipliers for high sensitivity voltmeter at 20,000 ohms per volt. Of particular value in photoelectric cell experimental work. Meter may be shorted out of circuit by setting to "short" position.

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$20.90**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Simpson

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

INSTRUMENTS THAT STAY ACCURATE

Model 375 D.C. Ammeter

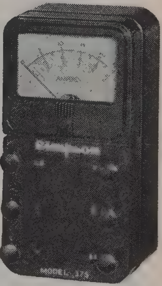
(Self Contained)
RANGES: 0-1, 0-2.5, 0-5, 0-10, 0-25 Amperes.

A new multi-range instrument which is extremely useful in testing the current in D.C. circuits. Provides a complete range from a fraction of an ampere to 25 amperes without the necessity of using auxiliary external shunts. A good instrument for checking auto radio sets, D.C. motors, etc. Excellent for school use and experimental work in D.C. circuits.

MODEL 375

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$18.70**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Model 376 A.C. Voltmeter

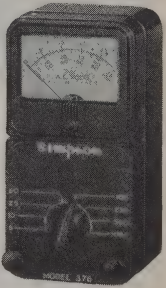
(Rectifier Type)
RANGES:
0-5, 10, 25, 50, 100, 250, 500, 1000 A.C. Volts

An A.C. Voltmeter, especially useful in circuits where a limited amount of current is present. Makes an excellent output meter when used with proper condenser. The wide variety of ranges covers both primary and secondary voltage ranges of transformers used in radio sets, toys and appliances.

MODEL 376

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$18.25**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra



Model 377 D.C. Voltmeter

RANGES:
0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 D.C. Volts

Resistance 1000 ohms per volt. Measures all dry battery voltage, both A and B, for radio sets, also grid and plate voltage and filament voltage in battery-operated sets. High ranges may be used for checking D.C. line voltage.

MODEL 377

SIZE: 3″ x 5⅞″ x 2½″ WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

Dealer's Net Price	**$18.25**
Test leads with prods	**1.25** extra
Test leads with Alligator clips and insulated sleeves	**1.25** extra

Model 378 A.C. Milliammeter

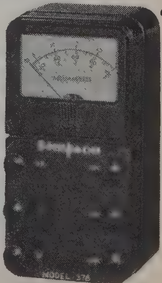
(With self-contained current transformer)
RANGES: 0-5, 0-25, 0-100, 0-250, 0-1000 M.A.

Here is the instrument that answers a big need—a low cost, handy size milliammeter that combines a current transformer and an indicating instrument in one case. It offers five separate ranges, making it suitable for a wide variety of testing jobs.

MODEL 378

SIZE: 3″ x 5⅞″ x 2½″. WEIGHT: 2 LBS.
SHIPPING WEIGHT: 3 LBS.

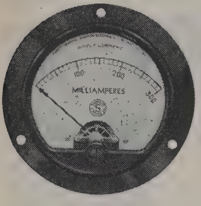
Dealer's Net Price	**$20.50**



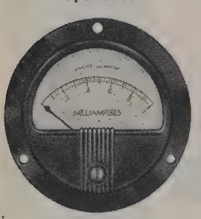
SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

★ **Simpson**

INSTRUMENTS THAT STAY ACCURATE



Open Face



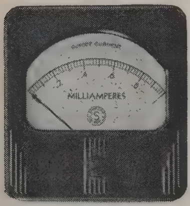
Shroud Style

· 3" ROUND CASE

Flange diameter, 3½"; body diameter, 2¾"; scale length, 2 $\frac{9}{16}$". Bakelite case.

2" ROUND CASE

Flange diameter, 2¾"; depth overall, 2 $\frac{1}{16}$"; body diameter, 2 $\frac{11}{64}$"; scale length, 1⅞". Bakelite case.

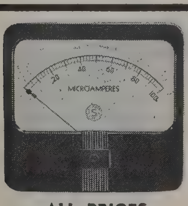


3" RECTANGULAR CASE

Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Bakelite case.

2" RECTANGULAR CASE

2⅜" square. Mounts in round hole. Body diameter, 2 $\frac{3}{16}$". Bakelite case.



ALL PRICES
DEALER'S NET

Form 1247

THREE-INCH ROUND OR RECTANGULAR INSTRUMENTS

DIRECT CURRENT VOLTMETERS

Mod. 25 (Rd.—Op. F.), 26 (Shr.) and 27 (Rect.)

Range		Range	
0-3	$ 6.75	0-50	$ 6.75
0-5	6.75	0-100	6.75
0-8	6.75	0-150	6.75
0-10	6.75	0-200	8.40
0-15	6.75	0-250	8.40
0-25	6.75	0-300	9.45

(1,000 ohms per volt)

Range		Range	
0-50	$ 9.90	0-300	$12.15
0-100	10.50	0-500	13.50
0-200	10.80	0-1000	15.00

DIRECT CURRENT MICROAMMETERS

Mod. 25 (Rd.—Op. F.), 26 (Shr.) and 27 (Rect.)

Range		Range	
0-100	$15.00	0-500	$ 9.90
0-200	12.60		

DIRECT CURRENT MILLIAMMETERS

Mod. 25 (Rd.—Op. F.), 26 (Shr.) and 27 (Rect.)

Range		Range	
0-1	$ 7.65	0-75	$ 6.75
0-1.5	7.65	0-100	6.75
0-3	7.65	0-150	6.75
0-5	6.75	0-200	6.75
0-10	6.75	0-250	6.75
0-15	6.75	0-300	6.75
0-20	6.75	0-500	6.75
0-25	6.75	0-750	6.75
0-50	6.75	0-1000	6.75

DIRECT CURRENT AMMETERS

Mod. 25 (Rd.—Op. F.), 26 (Shr.) and 27 (Rect.)

Range		Range	
0-1	$ 6.75	0-10	$ 6.75
0-1.5	6.75	0-25	6.75
0-3	6.75	0-50	6.75
0-5	6.75	30-0-30	6.75

ALTERNATE CURRENT VOLTMETERS

Mod. 55 (Rd.—Op. F.), 56 (Shr.) and 57 (Rect.)

Range		Range	
0-1.5	$ 6.30	0-50	$ 6.30
0-3	6.30	0-100	6.30
0-5	6.30	0-150	7.65
0-10	6.30	0-300	9.00
0-15	6.30	0-500	12.00
0-25	6.30	0-750	13.95
		0-1000	17.70

ALTERNATE CURRENT AMMETERS

Mod. 55 (Rd.—Op. F.), 56 (Shr.) and 57 (Rect.)

Range		Range	
0-1	$ 6.30	0-10	$ 6.30
0-1.5	6.30	0-15	6.30
0-3	6.30	0-25	6.60
0-5	6.30	0-50	8.25

ALTERNATE CURRENT MILLIAMMETERS

Mod. 55 (Rd.—Op. F.), 56 (Shr.) and 57 (Rect.)

Range		Range	
0-15	$ 6.30	0-100	$ 6.30
0-25	6.30	0-250	6.30
0-50	6.30	0-500	6.30

TWO-INCH ROUND OR RECTANGULAR INSTRUMENTS

DIRECT CURRENT MILLIAMMETERS

Mod. 125 (Rd.—Op. F.), 126 (Shr.) and 127 (Rect.)

Range		Range	
0-1	$ 6.45	0-100	$ 5.85
0-5	5.85	0-150	5.85
0-10	5.85	0-200	5.85
0-15	5.85	0-250	5.85
0-25	5.85	0-300	5.85
0-50	5.85	0-500	5.85
0-75	5.85	0-1000	5.85

DIRECT CURRENT AMMETERS

Mod. 125 (Rd.—Op. F.), 126 (Shr.) and 127 (Rect.)

Range		Range	
0-1	$ 5.85	0-15	$ 5.85
0-5	5.85	0-25	5.85
0-10	5.85	0-50	5.85

DIRECT CURRENT VOLTMETERS

Mod. 125 (Rd.—Op. F.), 126 (Shr.) and 127 (Rect.)

Range		Range	
0-5	$ 5.85	0-100	$ 5.85
0-10	5.85	0-150	5.85
0-15	5.85	0-300	6.45
0-50	5.85		

ALTERNATE CURRENT VOLTMETERS

Mod. 155 (Rd.—Op. F.), 156 (Shr.) and 157 (Rect.)

Range		Range	
0-5	$ 5.25	0-100	$ 5.25
0-10	5.25	0-150	6.60
0-15	5.25	0-300	7.95
0-25	5.25	0-500	10.80
0-50	5.25		

ALTERNATE CURRENT AMMETERS

Mod. 155 (Rd.—Op. F.), 156 (Shr.) and 157 (Rect.)

Range		Range	
0-1	$ 5.25	0-5	$ 5.25
0-3	5.25	0-10	5.25

VOLUME LEVEL INDICATORS DECIBELMETERS

(Copper Oxide Rectifier Type)

GENERAL PURPOSE TYPE—3 IN.

Mod. 45 (Rd. Op.), 46 (Shr.), 47 (Rect.)

—10 to +6DB Meter—2500 ohms	**$12.00**
—10 to +6DB Meter—5000 ohms	**15.00**

HIGH SPEED TYPE—3 IN.

Mod. 45 (Rd. Op.), 46 (Shr.), 47 (Rect.)

—10 to +6DB Meter—5000 ohms	**$21.75**

LOW SPEED TYPE—3 IN.

Mod. 45 (Rd. Op.), 46 (Shr.), 47 (Rect.)

—10 to +6DB Meter—5000 ohms	**$21.75**

GENERAL PURPOSE TYPE—2 IN.

Mod. 145 (Rd. Op.), 146 (Shr.), 147 (Rect.)

—10 to +6DB Meter—2500 ohms	**$10.20**
—10 to +6DB Meter—5000 ohms	**12.90**

HIGH RANGE D.C. PLATE VOLTMETERS

3 In. Round—Prices include resistor

Mod. 25 (Rd. Op.), 25 (Shr.), 27 (Rect.)

Ranges: 1500, 2000, 2500, 3000, or 4000 volts	**$15.00**
Range: 0-5000 volts	**20.00**

RADIO FREQUENCY AMMETERS

(Internal Thermocouple Type)

3 In. Round—Mod. 35 (Op.), 36 (Shr.), 37 (Rect.) Ranges: 0-1, 0-1.5, 0-2, 0-2.5, 0-3, or 0-5 Amps	**$8.70**
2 In. Round—Mod. 135 (Op.), 136 (Shr.), 137 (Rect.) Ranges: 0-1, 0-1.5, 0-2, 0-3, or 0-5 Amps	**7.65**

4½" RECTANGULAR INSTRUMENTS

MODEL 29— D.C.

Ma		Volts		Amps		Mics	
0-1	$9.00	0-15	$7.95	0-1	$7.95	0-50	$21.00
0-10	7.95	0-50	7.95	0-3	7.95	0-100	15.75
0-50	7.95	0-150	7.95	0-5	7.95	0-200	14.10
0-100	7.95	0-300	10.05	0-10	7.95	0-500	11.10
0-200	7.95			0-25	7.95		
0-500	7.95						

MODEL 59—A.C.

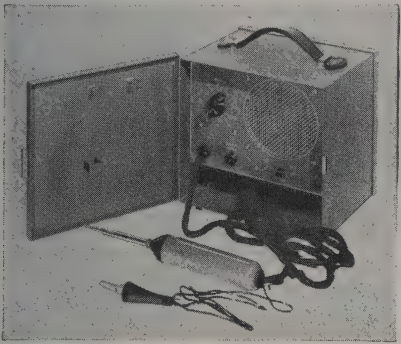
Ma		Volts		Amps	
0-50	$7.95	0-15	$7.95	0-1	$7.95
0-100	7.95	0-150	9.45	0-3	7.95
0-250	7.95	0-300	9.90	0-5	7.95
0-500	7.95			0-10	7.95
				0-25	9.45

SPECIAL PRODUCTS COMPANY
speco
SILVER SPRING, MARYLAND

SIGNAL TRACERS

For Easy, Quick Diagnosis of Radio Troubles

BATTERY OPERATED SIGNAL TRACER



Your Service Dealer Customers will Like this fine Portable Instrument

- Extremely Sensitive!
- Excellent Tone Quality!
- No Hum! No Distortion!
- Noiseless Gain Control!
- Size: 6¼" x 6" x 6¼"
- Weight: 4 lbs. 10 oz.
- Batteries: 1—67½ v. B; 2—Flashlight cells
- Tubes: 1—3S4; 2—IS5

Light - Compact - Sturdy - Scientifically Engineered

Model STAB $29.95 net, Less Batteries

AC OPERATED SIGNAL TRACER

- EXCELLENT TONE
- HIGHLY SENSITIVE
- AUDIBLE or VISUAL INDICATION
- SCIENTIFICALLY ENGINEERED
- EASY TO USE
- MAX. POWER OUTPUT: 5 WATTS
- SIZE: 8" x 10" x 8"
- WEIGHT: 11 POUNDS
- PROBE: 8½"
- TUBES: 1—6SQ7GT/G; 1—6V6GT/G; 1—5Y3 1—6E5; 1—6J5GT

Model STAC $44.95 net
Tracer Probe Only, $15.95

Capohmist

(Model Cap)

CAPACITOR AND RESISTOR
SUBSTITUTION UNIT
FOR RADIO REPAIR WORK

Saves time, saves effort, gives professional approach to radio repair men.

Astonishingly simple to operate. No need to replace each individual Resistor or Capacitor in diagnosing radio trouble. The Capohmist provides substitution of 22 principal values. The operator merely locates the proper values on the dial . . . then clamps ends of lead wires from Capohmist to the proper points in the circuit to see if the indicated part is operating or defective. Additional jobs can be handled easily, more satisfactorily. Sturdily built of metal, lightweight, attractive and with a handle for more comfortable carrying.

$16.95 NET PRICE

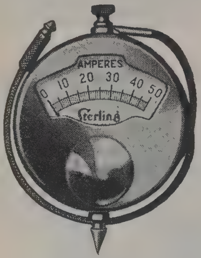
SPECIAL PRODUCTS COMPANY
9115 BROOKVILLE ROAD, SILVER SPRING, MD., P. O. BOX 471

Sterling

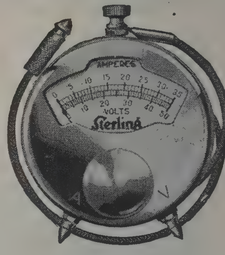
STERLING POCKET METERS

STANDARD LINE

Direct Current Pocket Ammeters, Voltmeters and Voltammeters for all Purposes



No. 24A Ammeter



No. 45 Voltammeter

STERLING Pocket Meters are useful in all kinds of battery testing, in railroad signal work, and in telephone and low-voltage electrical work generally. **They are polarity indicators.**

No. 24 Ammeter, for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions. **List Price** **$1.85**

No. 24A Ammeter for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions. ....**List Price, $2.10**

No. 23 Ammeter, for photo-flash dry batteries. 0-20 amp. scale, 1/2 amp. div..............**List Price, $2.25**

No. 33 Voltmeter for ordinary single cells and "Flashlight" cells, 0-3 v. scale, 1/10 v. div. **List Pr., $2.10**

No. 34 Voltmeter for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt div.......**List Price, $2.10**

No. 34A Voltmeter for 12 volt batteries. 0-16 volt scale, 1/2 volt divisions.......................**List Price, $2.30**

No. 34B Voltmeter for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions....**List Price, $2.30**

No. 34C Voltmeter for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div.....**List Price, $2.60**

No. 44 Voltammeter for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions ....**List Price, $2.50**

No. 44A Voltammeter for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, 1/2 volt divisions.. **List Price, $2.75**

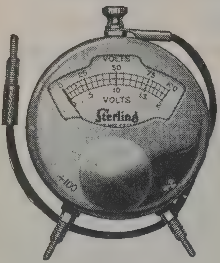
No. 45 Voltammeter for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale, 1 volt divisions.......................**List Price, $3.60**

No. 45A Voltammeter for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div.........**List Price, $3.85**

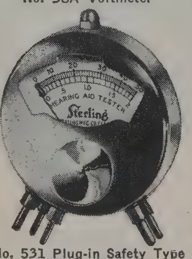
Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

STERLING SPECIAL-PURPOSE POCKET METERS—NEW SERIES

Testers for Portable Radio Batteries



No. 38A Voltmeter



No. 531 Plug-in Safety Type Double Voltmeter

The special "A" and "B" dry batteries built for the operation of Portable Radio sets cannot be satisfactorily tested with ordinary battery testers. The new STERLING double voltmeters are designed for testing with correct loads the special "A" and "B" dry batteries used on Portable Radio sets. The new STERLING flexible plugs of these meters fit easily into the small closely spaced socket holes.

No. 37A Voltmeter for 45 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries ....**List Price, $3.00**

No. 38A Voltmeter for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries..........................**List Price, $3.25**

No. 39A Voltmeter for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries. **List Price, $3.25**

No. 40A Voltmeter for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries ....**List Price, $3.50**

No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries. **List Price, $6.00**

Testers for Hearing Aid Batteries

No. 31A Double voltmeter for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v., 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs **List Price, $3.50**

No. 531 Plug-in—Safety type double voltmeter for testing hearing aid batteries. This new tester has the same capacity and scales as the No. 31A. No cord is necessary because the rigid plug-in type terminals are designed to fit hearing aid batteries having accessible keyed sockets. This arrangement makes it impossible to overload the No. 531 instrument or reverse the polarity while it is being used for testing hearing aid batteries ....**List Price, $3.50**

No. 35A Voltmeter for batteries used on carbon type hearing aids, also "C" batteries, scale 0-5 v., 1/10 v. divisions ....**List Price, $2.25**

Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

STERLING PANEL METERS

AMMETERS, VOLTMETERS, MILLIAMMETERS
FOR USE ON DIRECT AND ALTERNATING CURRENT
A COMPLETE MODERN LINE

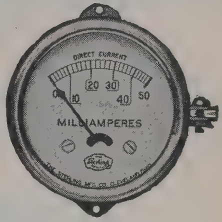
These improved STERLING Panel Meters while retaining the accuracy, beauty and ruggedness which have always characterized STERLING instruments, show a modern trend in the gracefully unique arrangement of the broader and more clearly defined scales. The meters for alternating current and direct current are perfectly matched and therefore suitable for mounting on the same panel. Both the A.C. and D.C. meters are of the permanent magnet, iron vane, solenoid type. This affords positiveness of action and breadth of movement suggestive of those of the D'Arsonval type. The large needle-tipped pointers and wide clearly marked scale divisions of these panel meters make them easily read.

STERLING Panel Meters may be had in any of the types illustrated.

SPECIAL COMBINATION A.C.-D.C. METERS WITH HAIRSPRING REPULSION TYPE MOVEMENT FITTING SAME CASES, ARE ALSO AVAILABLE.

Standard package, 100 meters, Shipping weight 30 lbs.

ALL STERLING Panel Meters are guaranteed accurate within 5%.



TYPE 80

Flush case, narrow flange, standard finish black enamel. Circular adjustable back clamp for mounting.
Diameter flange $2\frac{5}{32}$"
Diam. case 2". Depth case $\frac{31}{32}$".
Requires hole $2\frac{1}{32}$" in Diameter
Length terminals $\frac{7}{16}$"

Alternating Current Meters

A. C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	$3.00
871	0-6 Volts	3.00
872	0-10 Volts	3.00
873	0-15 Volts	3.00
874	0-150 Volts High Res.	4.75
875	0-300 Volts	5.75
876	0-600 Volts	6.60
877	0-750 Volts	8.50
878	0-10-140 Volts	4.75
879	0-50 Volts	3.60

A. C. MILLIAMMETERS

Number	Range	List Price
880	0-25 Milliamperes	$3.00
881	0-50 Milliamperes	3.00
882	0-100 Milliamperes	3.00
883	0-250 Milliamperes	3.00
884	0-500 Milliamperes	3.00

A. C. AMMETERS

Number	Range	List Price
886	0-1 Amperes	$3.00
887	0-3 Amperes	3.00
888	0-5 Amperes	3.00
889	0-10 Amperes	3.00
890	0-20 Amperes	3.30
891	0-50 Amperes	3.60
892	0-30 Amperes	3.30
893	0-60 Amperes	3.75
894	0-75 Amperes	3.75
895	0-100 Amperes	3.75

RESISTANCE METERS

Direct Reading

Number	Range	List Price
901	4.5 Volts, 10,000 Ohms 3 Flashlight cells required.	$3.00
902	2 M. A., 9 Volts, 100,000 Ohms 6 Flashlight cells required.	4.40

Direct Current Meters

D. C. VOLTMETERS

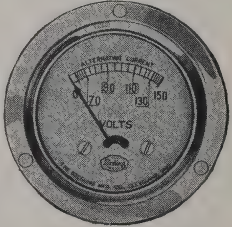
Number	Range	List Price
801	0-1 Volts	$1.65
802	0-3 Volts	1.65
803	3-0-3 Volts	1.65
804	0-5 Volts	1.65
805	0-6 Volts	1.65
806	0-8 Volts	1.65
807	0-10 Volts	1.65
808	0-15 Volts	1.65
809	0-25 Volts	1.65
810	0-25 Volts High Res.	3.00
811	0-50 Volts	1.65
812	0-50 Volts High Res.	3.60
823	0-75 Volts	1.75
813	0-100 Volts	1.85
814	0-100 Volts High Res.	3.60
815	0-150 Volts	2.25
816	0-150 Volts High Res.	3.50
817	0-300 Volts	3.50
818	0-500 Volts	5.00
819	0-750 Volts	6.00
820	0-8-160 Volts	3.00

D. C. MILLIAMMETERS

Number	Range	List Price
835	0-2 Milliamperes	$4.00
836	0-5 Milliamperes	2.50
837	0-10 Milliamperes	2.20
838	0-15 Milliamperes	1.65
839	0-25 Milliamperes	1.65
840	0-50 Milliamperes	1.65
841	0-100 Milliamperes	1.65
842	0-150 Milliamperes	1.65
843	0-200 Milliamperes	1.65
844	0-300 Milliamperes	1.65
845	0-400 Milliamperes	1.65
846	0-20-100 Milliamperes	2.50
847	0-15-150 Milliamperes	2.50
848	0-500 Milliamperes	1.65

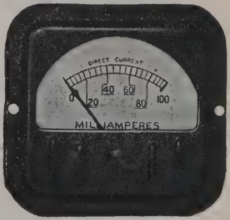
D. C. AMMETERS

Number	Range	List Price
855	0-1 Amperes	$1.65
856	0-3 Amperes	1.65
857	0-5 Amperes	1.65
858	0-10 Amperes	1.65
859	1-0-1 Amperes	1.65
860	3-0-3 Amperes	1.65
861	6-0-6 Amperes	1.65
862	10-0-10 Amperes	1.65
863	20-0-20 Amperes	1.65
864	0-15 Amperes	1.75
865	0-30 Amperes	2.20
866	0-50 Amperes	2.75
867	30-0-30 Amperes	2.20
868	0-20 Amperes	1.85
869	0-40 Amperes	2.75



TYPE 70

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting.
Diameter flange 2⅝"
Diam. case 2". Depth case ⅞"
Requires hole $2\frac{1}{32}$" in Diameter



TYPE 68

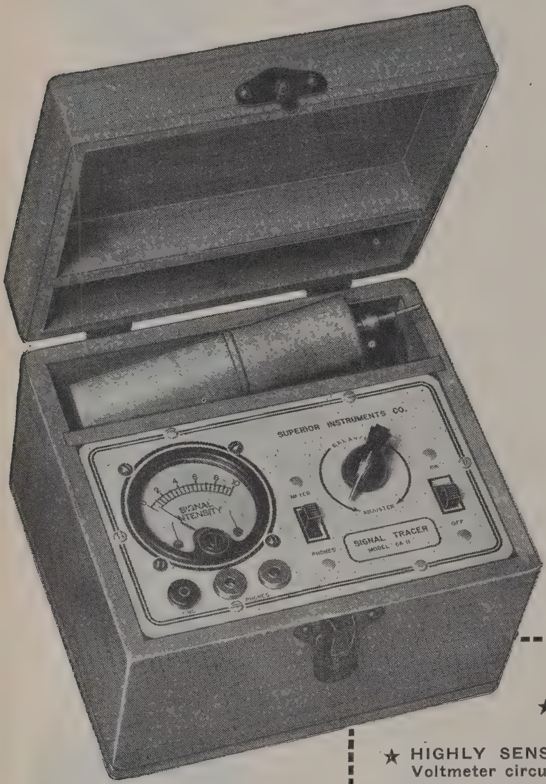
Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2⅝". Dia. case $2\frac{1}{32}$". Depth case ¾".

Type 68 square flange case furnished for any range of meter at an additional list price of 40 cents each.

SUPERIOR TEST EQUIPMENT

The New Model CA-11

SIGNAL TRACER



★

Simple to operate . . . because signal intensity readings are indicated directly on the meter!

Essentially "Signal Tracing" means following the signal in a radio receiver and using the signal itself as a basis of measurement and as a means of locating the cause of trouble. In the CA-11 the Detector Probe is used to follow the signal from the antenna to the speaker—with relative signal intensity readings available on the scale of the meter which is calibrated to permit constant comparison of signal intensity as the probe is moved to follow the signal through the various stages.

★

Features:

- ★ SIMPLE TO OPERATE—only 1 connecting cable—NO TUNING CONTROLS.
- ★ HIGHLY SENSITIVE—uses an improved Vacuum Tube Voltmeter circuit.
- ★ Tube and resistor-capacity network are built into the Detector Probe.
- ★ COMPLETELY PORTABLE—weighs 5 lbs. and measures 5″ x 6″ x 7″.
- ★ Comparative Signal Intensity readings are indicated directly on the meter as the Detector Probe is moved to follow the Signal from Antenna to Speaker.
- ★ Provision is made for insertion of phones.

The Model CA-11 comes housed in a beautiful hand-rubbed wooden cabinet. Complete with Probe, test leads and instructions........Net Price

$18.75

Manufactured by

SUPERIOR INSTRUMENTS CO.
227 FULTON STREET • NEW YORK 7, N. Y.

SUPERIOR TEST EQUIPMENT

The New Model 670 SUPER-METER

A COMBINATION VOLT-OHM MILLIAMMETER *plus* CAPACITY REACTANCE INDUCTANCE *and* DECIBEL MEASUREMENTS

OHMS
SUPERIOR INSTRUMENTS CO.
NEW YORK, N.Y. U.S.A.
ELECTROLYTIC LEAKAGE
MODEL 670

Added Feature: The Model 670 includes a special GOOD-BAD scale for checking the quality of electrolytic condensers at a test potential of 150 Volts.

Specifications:

D.C. Volts: 0 to 7.5/15/75/150/750/1,500/7,500 Volts.

A.C. Volts: 0 to 15/30/150/300/1,500/3,000 Volts.

Output Volts: 0 to 15/30/150/300/1,500/3,000 Volts.

D.C. Current: 0 to 1.5/15/150 Ma. 0 to 1.5 Amperes.

Resistance: 0 to 500/100,000 Ohms 0 to 10 Megohms.

Capacity: .001 to .2 Mfd. .1 to 4 Mfd.

(quality test for electrolytics).

Reactance: 700 to 27,000 Ohms 13,000 Ohms to 3 Megohms.

Inductance: 1.75 to 70 Henries 35 to 8,000 Henries.

Decibels: —10 to +18, +10 to +38, +30 to +58.

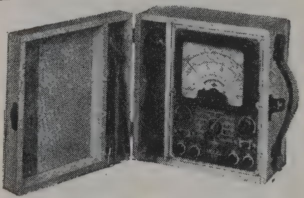
The Model 670 comes housed in a rugged, crackle-finished steel cabinet complete with test leads and operating instructions. Size 5½" x 7½" x 3".

Net Price **$28.40**

Model 670P

Identically the same as the Model 670 except housed in a portable, oak cabinet complete with cover. Dimensions: 8¼" x 8¼" x 4¾". Supplied with test leads and all operating instructions.

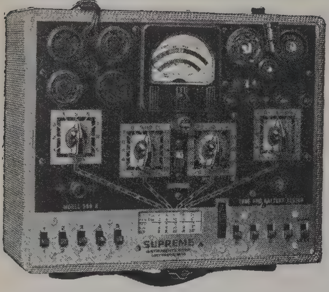
Net Price **$35.75**



Manufactured by

SUPERIOR INSTRUMENTS CO.
227 FULTON STREET • NEW YORK 7, N. Y.

SUPREME INSTRUMENTS
Newest Engineering Developments



MODEL 589-A
TUBE AND BATTERY TESTER

←

MODEL 599-A
TUBE AND SET TESTER

→

MODEL 589-A TUBE AND BATTERY TESTER has a completely modernized circuit. The tube test sockets are not wired directly to the circuit, but, instead, pass through the patented Supreme Double Floating Filament Return Selector system which automatically reconnects all tube elements to any possible tube base arrangement. Due to the fact that any or all elements of each socket can be rotated to any desired position, only one socket of each type is necessary. Tests every type of tube from ¾ volt to full line voltage at its correct anode potential under proper load. Tests **separate sections** in multi-purpose tubes. Checks all leakages, shorts, **open elements** and **filament continuity** with a neon lamp. A circuit insert is provided for checking noise, leakage, loose and bad connections.

The battery testing circuit of the Model 589-A provides the proper load at which each battery is to operate, plainly marked on the panel, for all 1.5, 4.5, 6.0, 45 and 90 volt portable radio types. The condition of the battery is indicated on an English reading scale.

This is the fastest and easiest tester to operate. Just "follow the arrows"—you can't go wrong. Roller type tube chart with brass geared mechanism lists tubes in logical numerical order. Each tester carries a one year free tube setting service. SUPREME engineering and construction PLUS the best materials the market affords, make the 589-A your biggest dollar value. You will be proud to own this instrument.
Dealer Net Cash Price.. **$49.75**

MODEL 599-A TUBE AND SET TESTER is very similar in appea
ance to the Model 589-A, and includes all the features and a
vantages of this instrument. In addition, it provides the followin
ranges:

0.2 TO 1500 D.C. VOLTS—5 carefully selected ranges—0/6 15
150/600/1500 volts. 1000 ohms per volt STANDARD sensitivit

0.2 TO 600 A.C. VOLTS—4 A.C. ranges—0/6/15/150/600 volt
Rectifier **guaranteed** with instrument and **fully protected** from ove
load damages.

0.2 M.A. TO 600 M.A.—3 direct current ranges 0/6/60/60
allow measurement of screen, plate, "B" supply and D.C. filamen
loads.

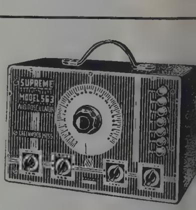
0.2 TO 600 OUTPUT VOLTS—0/6/15/150/600—ideal for alig
ment. No button to hold down—no external condenser necessary.

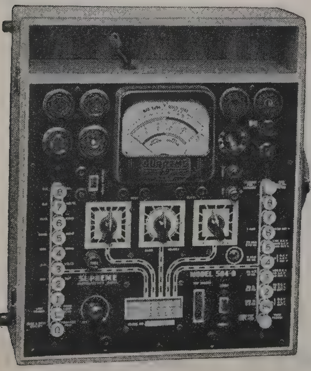
0.1 OHM TO 20 MEGOHMS—4 ranges 0/200/20,000 ohms, 0/2/2
megohms. A low range at high current with 3.5 ohms center scal

ELECTROSTATIC—ELECTROLYTIC LEAKAGE TEST—provides a
excellent test of paper condensers by means of the highly sensitiv
20 megohm range. Much better than neon lamp methods as th
ohmmeter is calibrated. Equally useful in checking leakage in ele
trolytic condensers. Just as the 589-A is your best value in a tube an
battery tester, the 599-A is your best value in a combination tub
tester, battery tester and set tester. All the features of the 589-
PLUS a complete AC, DC, volt, ohm, megohm, milliameter, at
cost of only 47c per range.
Dealer Net Cash Price.. **$62.5**

MODEL 563 AUDIO OSCILLATOR

The SUPREME Beat Frequency Audio Oscillator has many important service applications. It provides three output impedances of 250, 500, and 5,000 ohms; output frequency of 30 to 15,000 cycles ± 1 db. from 30 to 10,000 cycles. Down 2 db. at 15,000 cycles; power output is 125 milliwatts; distortion less than 5% RMS over entire range; hum level —60 db. below maximum output; large ratio dial, calibrated scale 11" in length; tube complement of 2 type 6SK7, 2 type 6C5, and 1 6X5; power consumption 35 watts—fuse protection. Shipping weight 20 lbs.
Dealer Net Cash Price.. **$62.95**





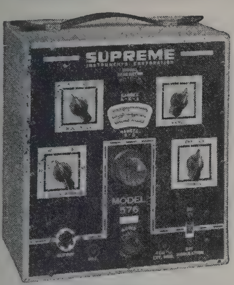
MODEL 504-B COMBINATION TESTER

Model 504-B is radio's finest quality combination **tube tester, battery tester, condense
leakage tester,** and a 31 range push-button operated **multimeter.** Correctly tests all type
receiving tubes with filaments from ¾ volt to full line voltage. Uses patented Doubl
Floating Filament Return Selector System which automatically re-connects each tub
socket for any possible tube base arrangement. Due to this special circuit only one socke
is required for each tube base. Tests all standard type tubes, including octals, loctals
miniatures, Bantam, Jr., pilot lamps, etc. Speedy operation. Set controls from left to right—
just "follow the arrows". Neon lamp checks for leakage, shorted elements, open element
and filament continuity. Pressing a button increases the sensitivity of the neon lamp t
2 megs. Circuit insert for noise test. Fast roll chart—free tube setting service for one year.
Checks portable radio batteries under proper load. Checks leakage of electrolytic and
electrostatic by-pass condensers. Quality of tubes, batteries, and electrolytic condensers al
indicated on English reading "good-bad" scale. Multimeter section completely automatic
with instantaneous push-button finger-tip control—7 ranges 0.1-5/25/100/250/500/1000/
2500 D.C. volts; 5 ranges 0.1-5/10/50/250/1000 A.C. volts and output; 7 ranges 10-500
microamperes/2.5/10/50/250 mils., 1/10 amperes; 5 ranges 0.1-200/2000/20,000/2 meg./
20 megs.—3.5 ohms center scale. Rectifier guaranteed— temperature compensated circuit.
No external condenser required on output volts. Accuracy of calibration 2% on D.C. and
3% on A.C. Complete with batteries and detailed instructions.

Dealers Net Cash Price.. **$89.50**

SUPREME INSTRUMENTS

MODEL 576 SIGNAL GENERATOR



In the Model 576 SUPREME offers the radio service man a Signal Generator which represents the ultimate in simplicity of operation. No longer is it necessary to have an isolating capacitor dangling from the lead connected to the receiver, nor to worry about "burning out" the output transformer when using the audio output since each of these sections is isolated from damage by DC voltages by isolating capacitors. Only two dial scales—but five bands.

DESCRIPTION

Simple Operation—All ranges read on two basic scales, accurately calibrated at both ends. **Dual Tuning Ratio**—One for speed—one for vernier adjustments. **Stability**—Electron coupled circuit, impregnated iron tuned inductors and air dielectric trimmers provide the maximum frequency stability. Guards against shift due to line voltage, aging, temperature, and humidity. **Ladder Multiplier**—Four steps from minimum to maximum. Also, continuously variable control. Double shielding minimizes leakage. Shielded line cord. Illuminated Hair Line Dial.

SPECIFICATIONS

R. F. Ranges—65-205 KC; 650-2050 KC; 2050-6500 KC; 6.5-20.5 MC, Harmonics to 82 megacycles. **Audio Frequency**—400 cycles—voltage output continuously variable from minimum to maximum. **Internal Modulation**—R. F. Carrier modulated at approximately 50% at 400 cycles. Can be cut off to provide unmodulated signal **External Modulation**—Jack provided for external audio modulation. **Professional Appearance**—Housed in heavy steel case; gray wrinkle finish. Supplied complete with shielded test leads and instructions. **Power Supply**—110-125 volts 50/60 cycles. Special voltage and frequency on request

Dealer Net Cash Price **$68.95**

MODEL 546-A OSCILLOSCOPE

SUPREME
OSCILLOSCOPE

Model 546-A has merited the endorsement of servicemen, radio set manufacturers in research and production, industrial laboratories, factories and colleges for more than four years. A complete oscilloscope incorporating a cathode ray scope, vertical and horizontal amplifiers and linear sweep generator. Uses a high vacuum 3" cathode ray tube of the medium persistance type. All controls are on the front panel including special terminals for direct connection to deflecting plates. Can be used with or without the specially designed sensitive linear amplifiers. Both vertical and horizontal amplifiers have high impedance input and wide frequency response. Has built-in linear sweep generator for providing timing axis from 15 to 30,000 cycles. Positive, stable synchronization, internal or external. Observations may be made using external or internal sweep. Ideal for checking alignment of radio receivers, percentage of modulation on transmitters, wave-forms. Extremely flexible design makes applications unlimited. Complete with detailed instructions.

Dealer Net Cash Price **$89.75**

MODEL 561 Combinatoin A.F. & R.F. Metered Signal Generator

SUPREME
MODEL 561 SIGNAL GENERATOR

SPECIFICATIONS

Meter—Large three-inch round meter used to set the desired amount of amplitude modulation. Variable from 0 to 80%. **Simplicity**—All frequencies on the R. F. Oscillator read on two scales. Both A.F. and R.F. push-button operated. **Attenuator**—R.F. Oscillator has ladder type four position resistor push-button attenuator. Also, vernier control from maximum to minimum on either of the four steps of the multiplier. A.F. output is controlled from minimum to maximum with continuously variable control. **Laboratory Appearance**—This fine instrument is housed in beautiful golden tone, lock cornered, natural finish oak case. Black ribbed steel panel with silver and red highlights. **Tube Line Up**—6X5 Rectifier. 6SK7 A.F. Beat Oscillator. 6SK7A.F. Beat Oscillator. 6SK7 R.F. Oscillator. 6C5 A.F. Oscillator Mixer. 6C5 A.F. Amplifier. 6F8 Audio Vacuum Tube voltmeter-frequency modulation control tube. 6F8 R.F. vacuum tube voltmeter-F.M. Oscillator. 6K6 Buffer Mixer.

DESCRIPTION R.F. OSCILLATOR

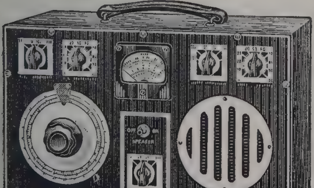
Ranges—5 band 65/205 KC, 205/650 KC, 650/2050 KC, 2050/6500 KC, 6.5/20.5 MC. Harmonics above 60 MC. **Tuning Mechanism**—Dual ratio from tuning knob to dial. One direct for speed, a second about 5 to 1 for vernier settings. **Accuracy**—Low end of band tuned with iron core inductors. High end of band tuned with air dielectric trimmers providing for greatest accuracy possible with printed scales. Meter used to set carrier level at a predetermined value, aligned for an accurate and variable per cent of modulation by the A.F. Oscillator. **Frequency Modulator**—F.M. signal available over range of R.F. Oscillator. Frequency modulated approximately plus or minus 15 KC. Rate of frequency modulation 120 cycles per second. 60 cycle time base provides for automatic positive synchronization.

A.F. OSCILLATOR

Range—15 to 15,000 cycles. **Output Impedances**—Center tap transformer of 50/500/5,000 ohms. High impedance resistor of 50,000 ohms. **Distortion**—Approximately 5%. **Voltage Output**—Open circuit 35 volts. **Frequency Characteristics**—Plus or minus 1 db between 30 and 10,000 cycles. 15 cycles and 15,000 cycles down approximately 2 db. **Attenuator**—Controls voltage output from 0 to maximum. **Power Output**—Approximately 150 milliwatts. **Power Supply**—110-125 volts—50/60 cycles. Special voltages and frequencies on request.

Dealer Net Cash Price **$138.45**

MODEL 562 AUDOLYZER



This is a quick, easy, inexpensive test instrument for DYNAMIC TESTING of every radio receiver using the Signal Tracing method. Easy to operate. You always HEAR the demodulated signal instead of watching a meter or magic eye. You can find the dead portion of any receiver by connecting your modulated signal generator to the receiver and touching the SUPREME AUDOLYZER'S probe first to the antenna post, then the grid of the R.F. tube, the R.F. tube plate, etc., right back through the complete receiver. You will hear a signal in the AUDOLYZER'S speaker (which has a volume control) until you hit the dead stage. You can use the AUDOLYZER'S vacuum **tube volt meter** to measure all D.C. voltages without disturbing receiver's normal operations. 7 D.C. voltage ranges of 0/1/3/10/30/100/300/1000 **at 15 megs input.** Meter is center-reading type with 'plus' and 'minus' readings to each side of center eliminating reversing test leads for polarity changes. You can measure resistance from 0.1 ohm to 20 megohms. 5 ranges give you perfect overlap as the 0/200 is the low range with 3.5 ohms center scale. Total ranges are 0/200/2000/20,000 ohms and 2/20 megohms. Next, you can check receiver's oscillator. If oscillator cuts out or is weak when receiver dial is rotated, AUDOLYZER meter immediately indicates it. To determine unknown frequency of oscillator, I.F., or R.F. signal, use tuning portion of SUPREME AUDOLYZER and AUDOLYZER'S V.T.V.M. as frequency meter.

For receiver's oscillator place probe on oscillator output and tune AUDOLYZER for greatest meter swing. Read frequency on AUDOLYZER'S direct-reading dial. For R.F. determination, connect your signal generator to receiver's input and place AUDOLYZER probe on output of R.F. stage under test. Adjust signal generator and AUDOLYZER to same frequency. Adjust receiver trimmer until receiver dial reads correctly. To determine actual signal fed to I.F. stages connect AUDOLYZER probe to first Det. output, feed a signal into receiver and adjust AUDOLYZER dial until you get maximum swing of its meter needle. Read actual I.F. signal's frequency on AUDOLYZER. Relative gain or loss of signal strength in any stage, tube or transformer can be determined. You can check A.V.C. circuits for correct applied voltage under actual operating conditions. You can adjust A.V.C. circuits. Distortion is easily noted by ear.

Dealer Net Cash Price **$128.75**

SUPREME INSTRUMENTS
Supreme by Comparison

SUPREME
SUPREME
MODEL 592

MODEL 592 SET TESTER

Service men who know the principle of Model 592 operation will never go gack to rotary switch or pin jack operation. 44 ranges at your finger tips.

1 Microampere to 14 amps; 8 ranges (1—70/700 microamps; 7/35/140/350 M A; 1.4/14 amps.)

0.1 to 1400 D.C. volts; 7 ranges at 1000 ohms per volt and 7 ranges at 25,000 ohms per volt sensitivity of: (0.1-3.5/7/35/140/350/700/1400). **Double Meter Sensitivity.**

¼ ohm to 50 megs: 6 ranges (¼—500/5,000/50,000/500,000 ohms and 5/50 megs). **All from self contained battery power.**

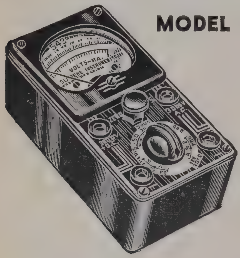
0.1 to 1400 A.C. volts: 6 ranges 0.1—7/35/140/350/700/1400). Temperature compensated—rectifier guaranteed.

Complete output ranges: 6 ranges (0/7/35/140/350/700/1400). No external condenser necessary.

—0 to +46 D.B.: 4 ranges 0.006 to almost 200 watts—(0/+16; +10/+26; +20/+36; +30/+46).

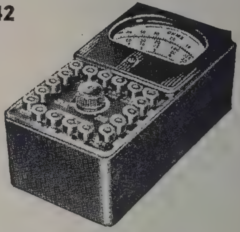
50 meg. resistance range allows very accurate leakage check of all electrostatic paper and mica condensers. New specially designed A.C. rectifier circuit minimizes burnouts from momentary overloads. NO SAFETY SWITCH TO HOLD DOWN. Copper-oxide rectifier GUARANTEED the same as every other part. D.B. (decibel) conversion chart furnished so D.B. readings can also be taken on any line of known impedance. D.B. readings direct from 500 ohm line. SUPREME 592 easiest multimeter to operate—just depress one button on left side of panel for desired function and one button on right side for desired range. One set of pin jacks serve 43 ranges. 14 amps range on separate binding posts. 40 microampere meter movement. Wire wound shunt resistors. Special push-button for quick ohmmeter zero adjustment. Four years actual field use by thousands of Service Men prove the 592 to be TOPS in instrument value.

Dealers Net Cash Price.. **$58.95**



MODEL 543

MODEL 542



MULTI-METERS

A POPULAR COMPACT POCKET LABORATORY

MODEL 543 POCKET MULTI-METER

The Model 543 Pocket Multi-Meter uses the same bakelite case as Model 542. Attractive two-color panel—full size 3″ one-mil meter. A single rotary selector switch provides functions and ranges of: Resistance—0/2000/200,000 ohms; Direct Current—0/6/60/600 M.A.; AC—0/15/150/600/3000 volts; D.C. 0/15/150/600/3000 volts. Batteries furnished and contained within case. Ranges at 1,000 ohms per volt standard sensitivity. With this instrument you can make A.C. and D.C. voltage measurements in radio and television receivers and if you are a "Ham" you can use the high voltage ranges on your transmitter and scope. This is a beautifully designed and rugged little instrument at an astonishingly low price.

Dealer Net Cash Price.. **$18.95**

MODEL 542 POCKET MULTI-METER

A regular little pocket laboratory with a case only 3 x 5¾ x 2″ in size, weighing but 23 ounces—24 ranges—just as accurate and even more convenient than you would expect to find in an instrument twice its price. 4 DC mil ranges (with first scale division 5 microamperes) of 0/0.3/6/30/150; 4 DC volt ranges (with first scale division 0.1 volt) of 0/6/150/300/1500; 4 ohms ranges (with 1 ohm first scale division and 25 ohms center scale) of 0/2,000/20,000/200,000/2 meg; 4 AC volt ranges (with first scale division 0.1 volt) of 0/6/30/150/600; 4 output ranges of 0/6/30/150/600; 4 decibel ranges of —6/+10, +8/+24, +22/+38, +34/+50. The Model 542 is not a toy—it uses a full size 3″ square meter with a rugged, accurate 200 microampere movement and a knife edged pointer. This movement has a sensitivity of 5000 ohms per volt. All ohmmeter ranges, including the megohm ranges, are operated by batteries furnished with the instrument and contained within its durable black moulded bakelite case.

Dealer Net Cash Price **$23.65**

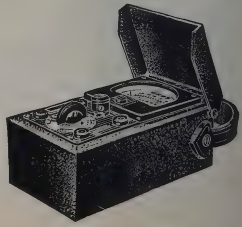
TERMS: IF PURCHASED WITH OTHER EQUIPMENT CASH PRICE ONLY WILL BE DIVIDED AND ADDED TO OTHER PAYMENTS. NO FINANCE CHARGE — NO ADDITIONAL DOWN PAYMENT.

BUILT FOR PUNISHMENT

Popular Supreme Model 542 and Model 543 in a Blitzkreig dress—used by the army—and telephone companies—where hard knocks are the rule rather than the exception. Built for Punishment. Heavy steel cover protects meter—snaps into place. Full protection without the inconvenience of the old style lid. Large, sturdy leather handle, but still small enough to slip in your pocket. Size 3½″ x 6¼″ x 2¾″. Wt. 2 lbs. 2 oz.

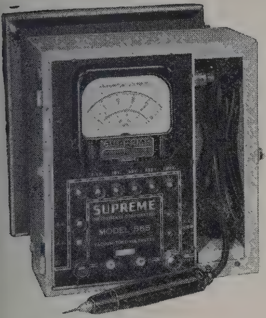
Model 542 with Metal Case
Dealer Net Cash Price.. **$26.15**
Model 543 with Metal Case
Dealer Net Cash Price.. **$18.95**

TERMS: See above.



SUPREME INSTRUMENTS
Supreme by Comparison

MODEL 565 VACUUM TUBE VOLTMETER


SUPREME
MODEL 565

The Model 565 is SUPREME'S answer to the demand for a vacuum tube voltmeter having the highest possible input impedance both on AC and DC measuring functions, compatible with easy selection of ranges and functions. Supplied with new type hand-fitting probe which allows ease of measurements, handles just as any ordinary test lead. Probe, which is used for RF measurements, incorporates new high-frequency diode giving best possible frequency response. The very high input impedances and low input capacity of probe result in a very minimum of detuning of RF tuned circuits.

Rugged SUPREME 4 inch meter fully isolated from test probes. Both AC and DC functions. DC and AC Audio measurements possible without removing probe from case. RF Measurements made by removing probe from case and touching voltage source with tip. Extremely High Input impedances both AC and DC. **Negligible** frequency error. **Measurements** possible directly in operating circuits. **Minimum Error** due to line voltage changes.

SPECIFICATIONS

Range—DC 0-1, 2.5, 10, 50, 250, 500. AC 0-1, 2.5, 10, 50, 250. Extended to 5000 volts by external multipliers.

Input Impedance—DC 80 megohms on 1 v. range. 40 megohms on 500 v. range. AC 60 cycle: 40 megohms on 1 v. range. 20 ohms on 250 v. range. AC 100 mc.: 20,000 ohms. **Input Capacity of Probe**—9 mmf. **Frequency Range**—20 cycles to 100 megacycles with negligible error.

Dealer Net Cash Price **$63.50**

SUPREME PANEL METERS

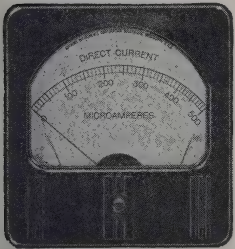
FEATURING A NEW DESIGN FOR GREATER EFFICIENCY!

ALNICO BAR MAGNET AND SOFT SINTERED POLE PIECES

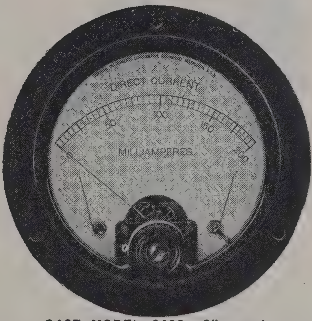
DOUBLE BRIDGE CONSTRUCTION—SIMPLE RUGGED ASSEMBLY

DIRECT CURRENT
50
100
150
200
MILLIAMPERES

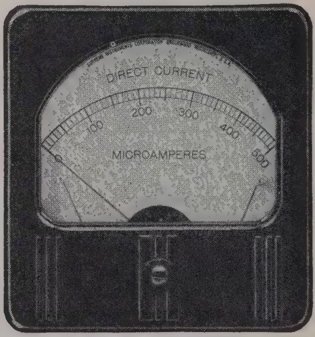
CASE MODEL 2400—2" round


DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

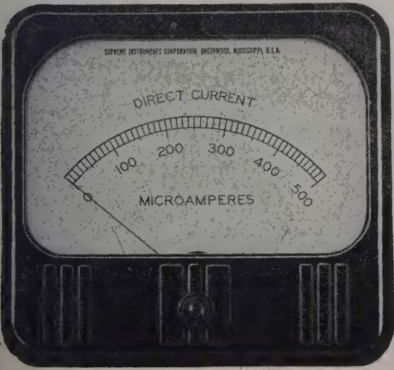
CASE MODEL 2100—2" sq.


DIRECT CURRENT
50
100
150
200
MILLIAMPERES

CASE MODEL 3400—3" round


DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

CASE MODEL 3100—3" sq.


SUPREME INSTRUMENTS CORPORATION, GREENWOOD, MISSISSIPPI, U.S.A.
DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

CASE MODEL 4100—4" sq.

"HAIRLINE" ACCURACY ASSURED BY:

(1) Efficient Alnico Bar Magnet.

(2) Double Bridge Construction.

(3) Selected Pivots and Jewels.

(4) Strong, Tough Pointer.

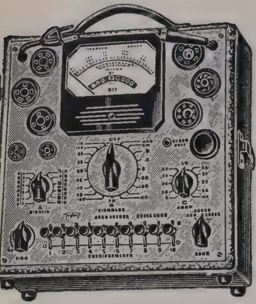
(5) Simple rugged assembly insures permanent alignment.

(6) High torque movement reduces friction.

For More Complete Information Write for the Supreme Meter Catalog.

SUPREME INSTRUMENTS CORP.
Greenwood, Mississippi, U. S. A.

Radio TRIPLETT Testers



Model 2425

NEW TRANSCONDUCTANCE READING TUBE TESTER

Conclusive tests under set operating conditions are made with Model 2425, an entirely new tester providing transconductance (dynamic mutual conductance) reading in micromhos.

This simplified transconductance reading tube tester incorporates a new plate current test method which gives correct micromhos values on a 0-2500-5000-10,000 Micromho scale. A scale is also provided for a separate test which indicates the percent of rated trancsonductance values. The percent scale has colored arc portions for reference as to good, questionable, and poor tubes, including diodes and rectifiers.

Transconductance readings in micromhos, plus flexibility of Triplett's exclusive three-position lever switching enables final analysis testing of all tubes with the Model 2425 Tube Tester.

Three-position lever switching makes this one of the most flexible of all tube testers. Simplified settings assure maximum speed in operation. Just snap the switch up or down. Provides the maximum in operating simplicity. Switching circuit gives individual control for each tube element. Takes care of roaming elements, dual-cathode structures, multi-purpose tubes, etc.

The only circuit with individual control of each tube element with respect to switching between plate and filament. Will always accommodate new tubes without regard to their element connections. One socket for each kind of tube base is used and there is a spare socket furnished as well as an extra element switch should future tubes require.

Constant improvement has been the keynote of Triplett superiority. Triplett engineering has combined in a most compact way the Model 2425 Transconductance reading tube tester to give a truly complete test through every tube element for quality, gas, shorted and open elements of all types of receiver tubes. Those wanting the ultimate in a tester that will furnish speedy, accurate, proven readings for all types of receiver tubes will find this their favorite tester.

Case: Metal with tan hammered enamel finish, brown trim. **Size:** 10" x 10" x 5¾". Equipped with detachable hinged cover and compartment for holding large book-type tube chart.

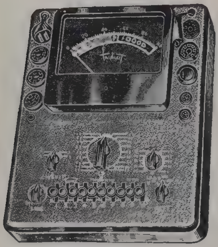
ROLL CHART ATTACHMENT FOR MODELS 2425 AND 2413

An external roll chart in a streamlined case that quickly can be attached to the tester case by the hinge posts when cover is removed. The roll chart fits in the carrying compartment in the tester cover when not in use.

This chart has all the advantages of a roll chart incorporated in a tester and yet has all the advantages of a book chart in reference to adding new data. The location is right, and settings can be made easily and quickly. A replacement chart may be obtained to cover new tubes at a minimum charge if the old one is returned.

The external roll chart is available at extra charge with Model 2425 or Model 2413.

COUNTER TUBE TESTER



Model 3212

A professional, highly attractive tube tester that will add distinction to any dealer's counter or service shop. Quickly and conclusively tests tubes for value, inter-element shorts and leakage—plus transconductance comparison test.

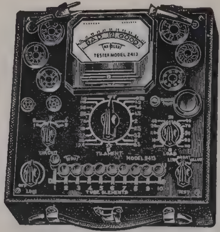
New slide-type three-position switch gives individual control for each tube element and makes this one of the simplest and speediest of all testers in operation. You will find tests easier to make than ever before. Simply snap the switch up or down. Generally, never more than a total of five settings per tube required. Takes care of roaming elements, dual cathode structures, multi-purpose tubes, etc. It is the final answer to simplified tube element control plus security, against obsolescence.

In the Transconductance Comparison test the test voltages are applied to the tube elements without any chance of overloading. In the direct reading GOOD—?—BAD Value test the control and screen grids are tied to the plate which operates at minimum plate voltage. An appliance check leads permits "short" and "continuity" test of motors, leads, resistance elements, etc.

Modern two-tone metal case, 15" x 11¾" x 6", is furnished in the new and highly attractive tan "hammered" enamel with brown molded sockets, knobs, etc. A design of unsurpassed styling and customer appeal. Its professional design and operation are a definite asset from the customer confidence aspect.

For 110 v. 60 cycle AC. Complete with large, easy-to-read speed roll tube and chart.

PORTABLE TUBE TESTER



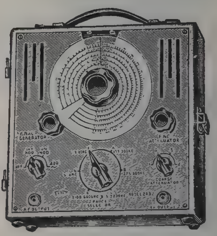
Model 2413

Highly flexible yet speedier in use than any tube tester of this type Triplett has yet offered. The instructions and test chart are so simple that anyone can quickly acquire the necessary test procedure. Has an additional element switch and spare socket to provide for possible new-type tubes.

Multi-purpose test circuit provides for emission test, short and open element test and transconductance (mutual conductance) comparison test for matching tubes. In the transconductance comparison the test voltages are applied to the tube elements without any chance of overloading. In the emission test the control and screen grids are tied to the plate which operates at minimum plate voltage. Nine three-position lever type switches provide fingertip control over each tube element. Continuity test provided for checking resistor and ballast utbes, pilot lamps, etc. 3" meter has red, yellow, and green BAD—?—GOOD scale and is Red•Dot lifetime guaranteed. A 19-step filament selector covers full range from 0.75 to 110 volts.

New SQUARE LINE case design, attractively finished in a new tan "hammered" baked-on enamel. It is an impressive counter or portable unit. Size: 10" x 10" x 5½".

WIDE RANGE SIGNAL GENERATOR



Model 2432

A completely new signal generator, Model 2432 embodies features normally found only in "custom priced" laboratory models.

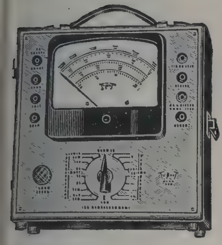
Frequency Coverage: Continuous and overlapping 75 KC to 50 MC. Six bands: 75 to 224 KC; 220 to 750 KC; 700 to 2500 KC; 2450 to 8500 KC; 8 to 25 MC; 24 to 50 MC. All fundamentals. Strong second and third harmonic signals provide for extending coverage to 150 MC. **Turret Type Coil Assembly:** Six-position turret type coil switching with complete shielding. Coil assembly rotates inside a copper plated steel shield. **Attenuation:** Individually shielded and adjustable, by fine and coarse controls, to zero for all practical purposes. **Stabilyt:** Greatly increased by use of air trimmer capacitors, electron coupled oscillator circuit, and permeability adjusted coils. **Internal Modulation:** Approximately 30% at 400 cycles. **Power Supply:** 115 Volts, 50-60 cycles A.C. Voltage regulated for increased oscillator stability. **Case:** Heavy metal with tan and brown hammered enamel finish. Size: 10" x 10" x 6¾".

There are many other features in this beautiful model of equal interest to the man who takes pride in his work.

ALL PRICES ARE SUBJECT TO CHANGE—ALL MODELS SUBJECT TO SUBSTITUTION

Radio TRIPLETT Testers

SENSITIVE VOLT-OHM-MIL-AMMETERS



Model 2405

Extreme sensitivity for your most exacting measurements . . . 25,000 ohms per volt sensitivity for DC voltage ranges.

Has 10 A.C. and D.C. volt ranges; 10 A.C. and D.C. current ranges; four resistance ranges; decibel readings: —10 to +55 and output readings. All easily readable on the long 5.6" instrument scale. Engineered to assure simplicity of operation, extreme accuracy and precision reliability.

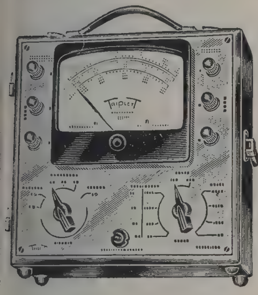
Striking new "Square Line" case design has "eye appeal"—attractively finished in a new tan "hammered" baked-on enamel. Size: 10" x 10" x 5¾".

Ranges: **D.C. Volts** 0, 10, 50, 250, 500, 1000 volts at 25,000 hms/v; **A.C. Volts** 0, 10, 50, 250, 500, 1000 at 1000 ohms/v; .C. **Amps.** 0, 0.5, 1, 5, 10; **D.C. Amps.** 0-10; **D.C. Ma.** 0, 1, 10, 0, 250; **D.C. Microamps.** 0-50; **Ohms** 0, 4000, 40,000; **Megohms** , 4, 40. **Output** uses condenser in series with A.C. Volts ranges.

Plug-in rectifier simplifies replacement in case of accidental damge by overloading. Banana jacks insure low contact resistance and rouble-free plug-in connections.

MODEL 2400—Ranges: **D.C. Volts** 0, 10, 50, 250, 500, 1000 volts t 5000 ohms/v; **A.C. Volts** 0, 10, 50, 250, 500, 1000 at 1000 hms/v; **A.C. Amps.** 0.5, 1, 5, 10; **D.C. Amps.** 0-10; **D.C. Ma.** 0, , 10, 50, 250; **D.C. Microamps.** 0-250; **Ohms** 0, 4000, 40,000; **Megs.** 0, 4, 40. **Output** uses A.C. Volts scale with capacitor.

WATTMETER, AMMETER, VOLTMETER ELECTRICAL CIRCUIT ANALYZER



Model 2470

An electrical circuit analyzer, new advanced design, that measures the wattage consumption, current and line voltage of all household appliances and small motors under actual operating conditions. New transformer and "Y" box developments for accurate testing on lines with unbalanced currents or voltages.

Just the tester for watt, current, and volt analyses of electric rferigerators, washers, radios, ironers, and other appliances, including ranges operating on 220-volt single phase three-wire and three phase wire systems. Power used by the smallest appliances is readily checked on the extremely low scale range of 0-20 watts, (fused to prevent damage from accidental overload). All switches and leads are ample to carry full load continuously.

Ranges: **A.C. Watts** 0, 20, 40, 500, 1000, 2000, 4000; **A.C. Ma.** 0-260; **A.C. Amps.** 0,, 6.5, 13, 26; **A.C. Volts** 0, 130, 260. 4" Red•Dot meter. Tan metal case, matching "SQUARE LINE" series, 10" x 10" x 5¾" with leads.

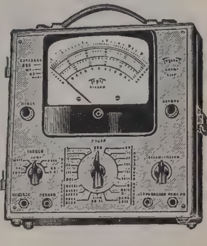
POCKET VOLT-OHM-MILLIAMMETER

Model 666H

Just the instrument for A.C.-D.C. voltage, direct current and resistance analyses. This handy Pocket Volt-Ohm-Milliammeter reads to 5000 volts without external multipliers. Has selector switch for all instrument readings. Molded case and panel, completely insulated. A.C.-D.C. Voltage at 1000 ohms per volt 0, 10, 50, 250, 1000, 5000; D.C. Milliamperes 0, 10, 100, 500; Resistance—0-300 ohms (shunt type circuit) 10 ohms reading at center scale; 0-250,000 ohms (series type) 3700 ohms at center scale. Higher resistance measurements are available by using external batteries. Black molded panel and case, completely insulated. Handy pocket size 3$\frac{1}{16}$"x5⅞"x2⅛" deep. Complete with self-contained battery and special test leads with pee wee clips.

Model 666-H—Code—TRAIB. **Dealer Net Price**......................**$16.00**

ELECTRONIC VOLT-OHM-MILLIAMMETER



Model 2450

A highly versatile, wide-range vacuum tube volt-ohm-milliammeter, with simple adjustment and control features that make it easy to use, yet answer all the requirements of a high impedance measuring device.

All A.C. and D.C. measurements are made electronically without circuit upsets, thus permitting readings to be taken under actual operating conditions. Saves considerable time, and removes much guesswork in analyzing complete or partial operational failure due to defective parts or circuit misadjustments. Red•Dot Lifetime Guaranteed meter with long 5.6" scale is fully protected against voltage overloads.

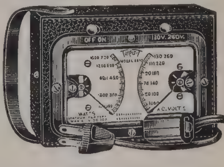
Ranges: **DC and A.C. Volts** 0, 2.5, 10, 50, 250, 500, 1000; **D.C. Ma.** 0, 0.1, 1.0, 10, 50, 250, 1000; **Ohms** 0, 1000, 10,000, 100,000; **Megohms** 0, 1, 10, 100, 1000; **MFD.** 0, .005, .05, .5, 5, 50; **Input** 51 megs resistance on D.C. Volts and 50 megs impedance at 6 mmf. on A.C. volts. Scale, 5.6" long on outer arc, black on white except AC volts red on white. For 115 v., 60 cycle A.C.

Two voltage regulator tubes provide absolute stability for both positive and negative voltages within a line variation range of 90 to 130 volts.

New SQUARE LINE case design, attractively finished in a tan "hammered" baked-on enamel, size 10" x 10" x 5¾".

DUAL INSTRUMENT APPLIANCE TESTER

A.C.-D.C. Watts: 0, 750, 1500 at 5 amps. rated, 10 amps. max.
A.C.-D.C. Volts: 0, 130, 260 at 125 ohms per volt (other ranges to order).
Tests: Power consumption of radios, small motors and household appliances under running conditions.
Case: Heavy leather with snap button cover and leather handle. 6½" x 4½" x 3¼". Ample space provided for connecting cords.
Switches: One "130V-260V" to control the two scale readings. One "off-on" to protect wattmeter on starting motor load.
Instrument: Consists of a Wattmeter on the left and a Voltmeter on the right. Permits watts and line volts to be read simultaneously.
Scale: 2¼" at outer arcs. Black on white.
Accuracy: +2% of full scale at any part of scale on 60 cycle supply.



Model 2000

LONG SCALE VOLT-OHM-MIL-AMMETER

Model 625-N

Maximum testing facilities plus greater sensitivity. Ideally suited for television and other high-resistance D.C. and A.C. circuit measurements, where it is important that very little current be consumed by the meter. 5" meter scale easily readable. All scale markings are black on white, except A.C. and D.B. range are red on white. Excellent for laboratory and shop.

D.C. Voltage ranges with dual sensitivity (10,000 and 20,000 ohms per volt) provide for double the number of full scale readings the average tester gives.

A.C. voltage ranges at 10,000 ohms per volt, permit checking many audio and high impedance A.C. circuits where a vacuum tube voltmeter usually is required. High sensitivity for A.C. means that only one scale is required for both low and high voltage readings. Spiral-X resistors used in circuit provide greater stability on voltage ranges.

Ranges: **D.C. Volts** 0, 1.25, 5, 25, 125, 500, 2500 at 20,000 ohms per volt and 0, 2.5, 10, 50, 250, 1000, 5000 to 10,000 ohms per volt; **A.C. Volts** 0, 2.5, 10, 50, 250, 1000, 5000 at 10,000 ohms per volt; **D.C. Microamps.** 0-50; **D.C. Ma.** 0, 1, 10, 100, 1000; **D.C. Amperes** 0-10; **Ohms** 0, 400, 50,000, 10 megs; **D.B.** —30 to +3, +15, +29, +43, +55, +69. Output range uses A.C. volts scales with capacitor in series. Housed in black molded plastic case with strap handle, completely insulated. Size 6" x 5½" x 2½". Complete with batteries, instructions and 50" test leads.

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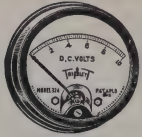
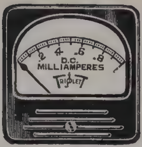
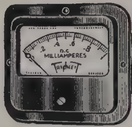
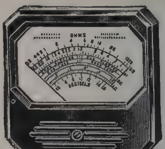
Measuring TRIPLETT Instruments

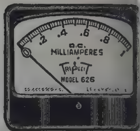
221-T, 321-T-D.C.
231-S, 231-S-A.C.


324,328,524-D.C.
334,338,534-A.C.


227-A, 327-A D.C.
237-A, 337-A A.C.


326,421-D.C.
336,421-A.C.


426 and 436


626-726-D.C.
636-736-A.C.

Model No.		Barrel Diameter	Flange Diameter	Barrel Depth		Case Type	Scale Length		Case Material
D. C.	A. C.			D. C.	A. C.		D. C.	A. C.	
221-T	231-S	2 7/32″	2 11/16″	15/16″	1 11/16″	Flush	1.72″	1.54″	Molded
222-T	232-S	2 1/16″	2 9/16″	1 1/16″	1 13/16″	Flush	1.72″	1.54″	Metal
223-T	233-S	2 1/16″	2 5/16″	1 1/16″	1 13/16″	Clamp-on	1.72″	1.54″	Metal
227-T	237-S	2 5/32″	2 3/8″ x 2 3/8″	1″	1 3/4″	Flush	1.72″	1.54″	Molded
321-T	331-S	2 3/4″	3 1/2″	15/16″	1 5/8″	Flush	2.49″	2.14″	Molded
322-T	332-S	2 9/16″	3 1/4″	1 3/32″	1 15/32″	Flush	2.49″	2.14″	Metal
323-T	333-S	2 5/8″	3 3/16″	1 3/32″	1 15/32″	Flush	2.49″	2.14″	Metal
324	334	2 3/4″	3 1/16″	1 17/32″	1 17/32″	Projection	2.49″	2.14″	Metal
327-T	337-S	2 3/4″	3″ x 3″	1″	1 11/16″	Flush	2.49″	2.14″	Molded
421	431	2 3/4″	4 1/4″ x 3 15/16″	15/16″	15/16″	Flush	3.12″	2.88″	Molded
422	432	3 9/16″	4 3/8″	1 11/32″	1 11/32″	Flush	3.12″	2.88″	Molded
426	436	3 1/8″	4 1/4″ x 4″	15/16″	15/16″	Flush	3.12″	2.88″	Molded
427	437	3 1/8″	4 1/4″ x 4 1/2″	31/32″	31/32″	Flush	3.72″	3.33″	Molded
521	531	4 3/8″	5 1/4″	1 9/16″	1 9/16″	Flush	3.12″	2.88″	Molded
524	534	4 3/8″	4 3/4″	1 5/8″	1 5/8″	Projection	3.12″	2.88″	Molded
626	636	3 1/8″	6″ x 5 3/8″	1 1/32″	1 1/32″	Flush	5.60	5.30	Molded
726	736	3 1/2″	7 9/16″ x 6 29/32″	15/16″	15/16″	Flush	6″	5.75	Molded

D. C. VOLTMETERS—125 OHMS PER VOLT

Range	Code	Mods. 221-T, 222-T, 223-T, 227-T	Mods. 321-T, 322-T, 323-T, 324-T, 327-T	Models 421, 422, 426	Models 521, 524	Models 427, 626	Model 726
0–5	TRCXC	$ 7.00	$ 8.25	$10.50	$11.50	$13.00	$21.00
0–10	TRDWD	7.00	8.25	10.50	11.50	13.00	21.00
0–15	TREVE	7.00	8.25	10.50	11.50	13.00	21.00
0–25	TRFUF	7.00	8.25	10.50	11.50	13.00	21.00
0–50	TRGTG	7.00	8.25	10.50	11.50	13.00	21.00
0–100	TRHSH	7.00	8.25	10.50	11.50	13.00	21.00
0–150	TRIRI	7.00	8.25	10.50	11.50	13.00	21.00
0–300	TRLOL	9.20	11.75	13.78	16.50	17.00	26.00
0–500	TRMNM	10.60†	13.00†	14.35†	18.25†	19.00†	27.75†
0–2000	TRPKP	37.50*	38.75*	41.00*	42.00*	43.75*	52.50*

D. C. VOLTMETERS—1000 OHMS PER VOLT

Range	Code	Mods. 221-T, 222-T, 223-T, 227-T	Mods. 321-T, 322-T, 323-T, 324-T, 327-T	Models 421, 422, 426	Models 521, 524	Models 427, 626	Model 726
0–10	TAIGA	$10.00	$11.50	$13.75	$16.50	$17.00	$25.50
0–150	TAINE	10.50	12.00	14.00	18.00	19.00	27.00
0–300	TRULL	13.00	13.75	16.25	20.00	21.00	29.00
0–500	TUBAL	14.75†	15.25	18.00†	21.75†	22.75†	30.50†
0–1000	TURIN	32.50*	35.00*	38.25*	43.50*	44.00*	52.75*

† Indicates instruments supplied with external wire-wound series resistors at prices shown. *Indicates external resistor boxes are recommended and regularly supplied. All other instruments are self-contained. Double range panel voltmeters not listed are available at $3.60 additional t price of highest single range listed above. D. C. VOLT-AMMETERS, VOLT-MILLIAMMETERS are available in combinations of listed Voltmeter and Ammeters. To the price of the Voltmeter and the Ammeter shunt add an extra $7.15 each.

D. C. MICROAMMETERS

Range	Approx. Res.	Code	Models 221-T, 223-T, 227-T	Models 322-T, 323-T, 324, 327-T	Models 421, 422, 426	Models 521, 524	Models 427, 626	Model 726
0–50	2100	TALBE	$22.00	$23.50	$31.25	$32.25	$37.00	$42.25
0–100	900	TRABA	19.50	21.00	28.00	29.50	34.00	39.25
0–200	360	TARDY	12.25	17.00	19.25	20.00	24.50	29.75
0–500	156	TWIRL	10.50	13.00	14.75	16.25	19.00	25.75

D. C. MILLIAMMETERS

0–1	55	TRAAN	$ 8.25	$10.00	$12.25	$13.75	$15.75	$23.25
0–15	6.6	TRFFS	7.00	8.25	10.50	11.50	13.00	21.00
0–25	4	TRGGT	7.00	8.25	10.50	11.50	13.00	21.00
0–50	2	TRHHU	7.00	8.25	10.50	11.50	13.00	21.00
0–100	1	TRJJW	7.00	8.25	10.50	11.50	13.00	21.00
0–150	.6	TRKKX	7.00	8.25	10.50	11.50	13.00	21.00
0–200	.5	TRLLY	7.00	8.25	10.50	11.50	13.00	21.00
0–250	.4	TRMMZ	7.00	8.25	10.50	11.50	13.00	21.00
0–300	.33	TRNNA	7.00	8.25	10.50	11.50	13.00	21.00
0–500	.2	TROOB	7.00	8.25	10.50	11.50	13.00	21.00

D. C. AMMETERS

0–1	.05	TALUS	$ 7.00	$ 8.25	$10.50	$11.50	$13.00	$21.00
0–10	.005	TROCK	7.00	8.25	10.50	11.50	13.00	21.00
0–25	.002	TANGS	7.00	8.25	10.50	11.50	13.00	21.00
30–0–30	.0016	TAPIR	7.00	8.25	10.50	11.50	13.00	21.00

A. C. VOLTMETERS

Range	Approx. Ohms per V.	Code	Mods. 231-S, 233, 237-S	Mods. 332-S, 333-S, 334, 337-S	Mods. 431, 432, 337-S	Models 531, 534	Models 636, 437	Model 736
0–5	4	TERSE	$ 7.00	$ 8.25	$10.50	$11.50	$13.00	$21.00
0–10	10	TRUMP	7.00	8.25	10.50	11.50	13.00	21.00
0–15	10	TURCO	7.00	8.25	10.50	11.50	13.00	21.00
0–150	125	TOYTE	8.25	10.00	12.75	14.25	16.25	24.25
0–300	144	TWEAK	10.25	11.50	14.00	22.50	24.50	32.50

A. C. AMMETERS

Range	Approx. Res.	Code						
0–3	.02	TULIP	$ 7.00	$ 8.25	$10.50	$11.50	$13.00	$21.00
0–5	.01	TEUCH	7.00	8.25	10.50	11.50	13.00	21.00
0–10	.005	TEHEE	7.00	8.25	10.50	11.50	13.00	21.00
0–25	.001	TELEO	8.25	10.00	12.75	14.25	16.25	24.25

A. C. MILLIAMMETERS

0–10	2670	TEETH	$ 7.75	$ 9.75	$14.25	$15.50	$19.50	$28.00
0–15	1150	TOUSY	7.00	8.25	10.50	11.50	13.00	21.00
0–50	82	TEMPT	7.00	8.25	10.50	11.50	13.00	21.00
0–100	21	THARM	7.00	8.25	10.50	11.50	13.00	21.00
0–200	6.7	TRFFT	7.00	8.25	10.50	11.50	13.00	21.00
0–500	.8	THEOS	7.00	8.25	10.50	11.50	13.00	21.00

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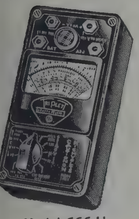
Measuring TRIPLETT Instruments

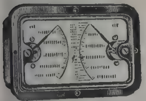
A.C.-D.C. POCKET VOLT-OHM-MILLIAMMETER


Model 666-H

Just the instrument for A.C.-D.C. voltage, direct current and resistance analyses. This handy Pocket Volt-Ohm-Milliammeter reads to 5000 volts without external multipliers. Has selector switch for all instrument readings. Molded case and panel, completely insulated. A.C.-D.C. Voltage at 1000 ohms per volt 0-10-50-250-1000-5000; D.C. Milliamperes 0-10-100-500; Resistance—0-300 ohms (shunt type circuit) 10 ohms reading at center scale; 0-250,000 ohms (series type) 3700 ohms at center scale. Higher resistance measurements are available by using external batteries. Black molded panel and case, completely insulated. Handy pocket size $3\frac{1}{16}$x5 ⅞x2 ⅛" deep. Complete with self-contained battery and special test leads with pee wee clips.

Model 666-H—Code—TRAIB. **Dealer Net Price......................$16.00**

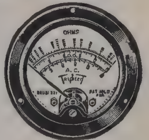
TWIN INSTRUMENTS



THE TWIN is furnished in any combination of A.C. or D.C. instruments. Both are included in the special rectangular molded case that requires a minimum of space. Permits simultaneous readings on both instruments when connected in the same or separate circuits. Instrument scales are side by side making possible two distinct readings at a glance. Used to balance loads in three-wire circuits; detect line fluctuations when load readings are taken; measure antenna and modulation current; determine filament and plate voltages and similar applications.

To determine Net Price of Twin Instruments take the sum total net price of both instruments as supplied in Models 321 or 331.

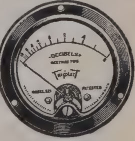
WATTMETERS—ELECTRODYNAMOMETER



Outstanding new developments assure extreme ruggedness and accuracy within 2 per cent. The instruments can be used on single phase A.C. or D.C. as wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that external connection can be made. For use on frequencies up to 133 cycles per second. Dynamometers are available in cases to match current Triplett three-inch models: Models 361 (331) and 367-A (337-A). Case dimensions are the same except for depth, the dynamometer case being 2" back of the flange. (2-15/16" over the studs.) Wattmeters can be combined in the Triplett twin case with a voltmeter or ammeter. Available later in larger models. Standard ranges as folows:

Code	Range Watts	Volt Limit	Amp. Limit	Sc. Div.	Net Price
TABEW	75	150	½	75	$22.50
TAMMA	150	150	1	75	22.50
TAWAB	300	150	2	60	22.50
TEPEG	750	150	5	75	22.50
THEAN	1500	150	10	75	25.00
THOAC	150	300	½	75	24.00
THRON	300	300	1	60	24.00
TIABA	600	300	2	60	24.00
TIMAB	1500	300	5	75	26.00
TOBUD	3000	300	10	60	28.00
DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)					
TAABO	75-150	150-300	.75	75	29.25
TACAB	150-300	150-300	1.75	60	29.25
TAFBO	300-600	150-300	3	60	29.25
TAHOE	750-1500	150-300	7.5	75	29.25
TALDO	1500-3000	150-300	15	60	31.75

POWER LEVEL INDICATORS



Used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Static Equipment, etc. The Decibel Meter permits the operator to make instant adjustments to prevent sound blasting or distortion. Furnished in two ways—either standard or highly damped. Standard range furnished reads up 6 and down 10 decibels, zero decibel at 1.73 volts, 500 ohm lines, 6 milliwatts. Standard damping furnished, unless highly damped is specified. Other ranges to order only.

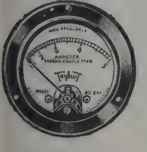
DECIBEL METER

Dealer Net Price

Model 426—Up 6 down 10 Decibel Meter............................**$28.00**

Model 321-T or 327-T—Up 6 down 10 Decibel Meter................ **16.75**

THERMO AMMETERS ‡ High Frequency. Accuracy 2%



Triplett Thermo Ammeters are supplied in Models 241, 341, 346, 441 and 541. These models correspond in size, etc., to corresponding D.C. models. All have molded cases. Have external couples which withstand 50% overload connected to meter with 2 ft. leads. Couples are easily replaced when necessary. Internal couples to order.

External Couples only, for any Model..**List Price $5.75**

Range	Approx. Res.	Models 241-T, 247-T	Models 341-T, 347-T	Models 441, 446	Model 541	Model 746
0.5 Amps.	.93	$8.25	$9.70	$12.25	$13.25	$23.50
0-1 Amps.	.35	8.25	9.70	12.25	13.25	23.50
0-1.5 Amps.	.21	8.25	9.70	12.25	13.25	23.50
0-2.5 Amps.	.13	8.25	9.70	12.25	13.25	23.50
0-5 Amps.	.06	8.25	9.70	12.25	13.25	23.50

A.C. RECTIFIER TYPE INSTRUMENTS

(Accurate within 5%)

VOLTMETERS

Range	List Price 1000 ohms per volt	List Price 2000 ohms per volt
0-1		$18.00
0-3		18.00
0-5	$15.70	18.00
0-10	15.70	18.00
0-15	15.70	18.00
0-50	15.70	18.00
0-100	15.70	18.00
0-150	17.05	19.25
0-300	17.90	20.25

MILLIAMMETERS

Range	Approx. Resis.	Price
0.5	1400	$17.90
0-1	1300	15.70
0-2	1000	15.70
0-3	1000	15.70

Models 321-T and 327-T Scale Length 2.37". 5% Accuracy. Moving Coil Permanent Magnet Type. Sine Wave 77° F.

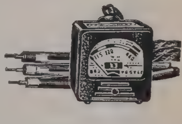
Voltmeters available in 10,000 ohms/volt on special order.

SENSITIVE RELAYS

Highly sensitive Triplett relays are of the D'Arsonval Moving Coil type, carefully designed to give dependable, satisfactory performance. Fixed contacts of instruments are set in adjustable screws, allowing a wide adjustment of upper and lower limits of contact. Contacts furnished are hardy metal; also platinum, silver, and platinum-iridium are supplied according to applied current and voltages. These relays are generally used in connection with polarized relays when current draw exceeds 50 M.A. Magnetic clutch type with manual release can also be had.

Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Each application should be accompanied with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points.

MODEL 337-AVP



Model 337-AVP Voltage-Polarity-Phase Rotation Tester provides the maintenance man with a compact, handy size, portable unit for making all necessary checks of a power line.

This tester is used to check 115, 220, or 440 line voltages when servicing an electrical installation for open circuit, blown fuses or damaged wiring, or when installing new equipment to converted plant installations. It can also be used for the same functions as an electrician test lamp for locating blown fuses, etc.

Ranges are 0-440 A.C.-D.C. Volts, at 166 ohms per volt. Accurate indications fall well within the black blocks at 115, 220, and 440 volts. A small polarized vane green-yellow-red indicator mounted on the center of the dial shows whether the green or red prods are connected respectively to + or — D.C. Phase rotation is indicated on the isntrument dial by an up or down scale motion of the line voltage pointer when black prod is connected to the third wire of a three-phase A.C. line.

VOLUME UNIT METER

Internal impedance 3900 ohms. Steady state reference 1 milliwatt. For 600 ohm line, 0-100% scale; also minus 20 to plus 3 V. U. scale. **Model 426**, ...**Price $39.50**

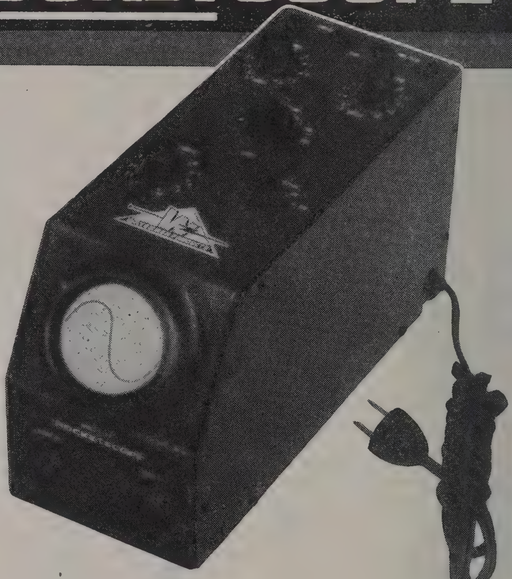
We also distribute a complete line of TRIPLETT Multipliers, Shunts, Ring Shunt Assemblies, Multi-Deck Selector Switches and Bar Knobs.

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO SUBSTITUTION

A Must in Every Lab..On Every Serviceman's Bench..In Every Service Kit..

A "Pocket-size" OSCILLOSCOPE

The POCKETSCOPE



- So **SMALL** in size (4" x 6⅜" x 10") • So **LIGHT** in weight (5¾ lbs.) • So **COMPLETE** in performance • So **INEXPENSIVE** in price • Plus **WIDE-ANGLE VISION:** on shelf, on floor, on bench • Plus **RETRACTABLE LIGHT SHIELD:** for increased visibility.

The Model S-10-A POCKETSCOPE is a small, compact, light-weight instrument for the observation of repetitive electrical circuit phenomena. It is a complete cathode ray oscilloscope incorporating the cathode ray tube, vertical and horizontal amplifiers, linear time base oscillator, synchronization means and self-contained power supply.

The POCKETSCOPE is capable of indicating in two independent dimensions—vertical and horizontal. As used normally, the vertical dimension is amplitude, and the horizontal may be either amplitude or time. However, by means of external signals, any variable can be assigned to independent dimensions. Although it has practically unlimited application, some of its common uses include study of wave shapes—measurements of modulation, frequency, phase shift, voltages, power, distortion—adjustments of audio-amplifiers, radio, television and FM receivers and transmitters as well as any other apparatus producing electrical waves—tracings of vacuum tube characteristics, hysteresis, and other curves.

The POCKETSCOPE weighs only 5¾ lbs. and occupies less than .15 cu. ft. of space. The cathode ray tube is magnetically shielded and the telescoping light shield (1 inch) permits observation even in places of high light intensity. The angle of vision is great. The construction of the POCKETSCOPE permits its physical use on the floor, on the bench, or in any position convenient to the operator without diminishing the wide angle of vision.

The controls and terminals are placed functionally so as to permit easy adjustments without reference to complicated instructions. No re-connections are required for signal passing either through the amplifier or directly to the deflecting plates.

The vacuum tubes used are the famous miniature glass tubes that have proven to be superior in many respects to regular metal or glass tubes.

The time base oscillator uses a double triode tube connected as a multi-vibrator, producing a substantial linear trace from 10 cycles to 50 KC. Synchronization with low voltages is possible in the audio, supersonic and low RF ranges.

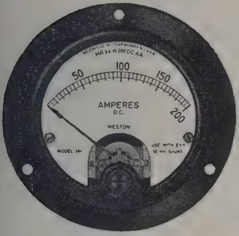
The response of the vertical and horizontal amplifiers is within 0 to —2DB from 20 cycles to 100 KC, and is within —6DB to 200 KC. Any variation from 1 KC is downward, thus there are no positive slopes that produce non-linear phase shift.

WATERMAN PRODUCTS CO., INCORPORATED, PHILA. 25, PA.

WATERMAN PRODUCTS

Weston RADIO INSTRUMENTS

PANEL INSTRUMENTS



Round Style

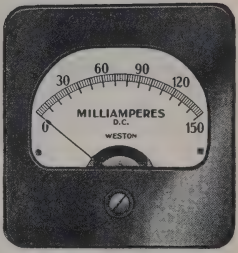
Behind this group of panel instruments is over half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependabiliy and service.

Model 301, 425 and 476 are regularly supplied in round flush 3½'' bakelite cases, 3⅜'' bakelite, or 3¼'' metal cases with black finish. Model 476 also available in surface metal; Model 301 or 425 in surface metal or bakelite. Rectangular bakelite, flush type only are also available.

Model 506, 507 and 517 instruments are regularly supplied in round flush 2½'' bakelite cases, or flush, narrow flange, black finished metal cases, with a clamp for panel mounting. Wide flange metal cases are also available. When ordering please specify style and type of case desired.

These instruments are normally calibrated for use on non-magnetic panels. Instruments for use on magnetic panels will be adjusted for a steel panel thickness of .09'' unless otherwise requested. Instruments for use on circuits above 300 volts should be ordered in bakelite cases when it is not possible to connect in grounded side of line.

List prices shown are subject to 25% discount. For other instrument prices, write to Weston Electrical Instrument Corporation, Newark 5, New Jersey.



Rectangular Style

3½'' PANEL INSTRUMENTS

MODEL 301—D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt—1 to 40 volts, 62 50 to 150 volts, 200; 200 volts, 250.

Range	Price	Range	Price	Range	Price
3	$9.00	15	$9.00	150	$11.25
5	9.00	30	9.00	200	13.00
8	9.00	50	9.00		
10	9.00	100	10.00		

With Resistance of 1,000 ohms per Volt

Range	Price	Range	Price	Range	Price
50	$12.00	300	$15.00	1500	$31.00
100	12.50	500	17.25	2000	34.00
200	14.00	1000	25.00*	3000	42.00

*Supplied with external resistor. Scale reading in kilovolts.

MODEL 301—D-C MILLIAMMETERS*

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	$10.00	30	1.2	$9.00
1.5	27	10.00	50	2.0	9.00
2	27	10.00	100	1.0	9.00
5	5.7	9.00	150	0.66	9.00
10	2.0	9.00	300	0 33	9.00
15	2.0	9.00	500	0.2	9.00

*Milliammeters with ranges above 30 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301—D-C AMMETERS*

Single Ranges: 1/1.5/5/10/15/30/50 at $9.00

*Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV±5%. Ranges above 50 amperes supplied with external shunts.

MODEL 301—D-C MICROAMMETERS

Range	Price	Range	Price
200	$14.25	500	$14.25

MODEL 301—RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms per volt	2000 ohms per volt	Range	1000 ohms per volt	2000 ohms per volt
1	......	$19.25	50	$17.00	$19.75
1.5	......	19.25	100	17.50	21.50
3	$17.00	19.25	150	19.00	23.00
5	17.00	19.25	300	20.00	.....
15	17.00	19.25			

MODEL 301—RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	$19.25	2	$15.00
1	15.00	5	14.00

MODEL 301—RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
500	$19.25

MODEL 301-VU METER—A OR B SCALE

Scale Div.	Ohms	Range	Price
−50	3400–900	100–500	$30.00

MODEL 476—A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20/30/50 at $9.00

MODEL 476—A-C AMMETERS

Range	Price	Range	Price	Range	Price
5	$9.00	100	$10.00	500	$19.50
10	9.00	150	11.25	750	23.50*
30	9.00	250	14.50	1000	28.50*

*Supplied with external resistance box.

MODEL 476—A-C VOLTMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $16.00

MODEL 425—THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $16.00

2½'' PANEL INSTRUMENTS

MODEL 506—D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200.

Range	Price	Range	Price	Range	Price
3	$7.50	10	$7.50	100	$8.50
5	7.50	15	7.50	150	9.75
8	7.50	50	7.50		

MODEL 506—D-C AMMETERS

Single Ranges: 1/1.5/5/10/15/30/50 at $7.50

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV ±5%.

MODEL 506—D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	105	$8.50	50	1	$7.50
1.5	18	8.50	100	.5	7.50
2	18	8.50	150	.33	7.50
5	9.5	7.50	300	.16	7.50
10	3.2	7.50	500	.1	7.50
15	1.5	7.50			

Milliammeters above 30 MA are shunted—drop approximately 50 MV.

MODEL 507—THERMO AMMETERS

For use on any frequency, including radio frequency

Single Ranges: 1/1.5/2/2.5/4/8/15/20 at $14.50

MODEL 517—A-C AMMETERS

Range	Approx. Resis. in ohms	Price	Range	Approx. Resis. in ohms	Price
1	.203	$7.50	20	.0016	$7.50
3	.024	7.50	30	.0007	7.50
5	.01	7.50	50	.00057	7.50
10	.0058	7.50			

MODEL 517—A-C VOLTMETERS

Range	Approx. Ohms per Volt	Price	Range	Approx. Ohms per Volt	Price
5	10	$7.50	50	52	$7.50
10	14	7.50	130	110	9.00
15	14	7.50	150	110	9.75
25	26	7.50	250	166	13.00
			300	166	15.00

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

Model 799

MODEL 799 INSULATION TESTER

The Model 799 insulation tester is a small compact device embodying a novel electronic circuit operating on the grid current characteristic and is an extremely sensitive resistance measuring assembly for a wide variety of purposes. High accuracy is sacrificed for a very broad coverage of from .1 to 10,000 megohms and its use is indicated where the degree of the leakage resistance is wanted rather than exact values. Less than 50 volts are applied to the resistance under test.

An ideal one hand operated instrument for leakage measurements on equipment, motors, electrical and radio components, insulating materials, etc., where breakdown voltages are not desired.

An Electrical Guard Circuit is provided for proper elimination of surface leakage when checking cables.

The vacuum tube used is the 1LH4 . . . the filament battery is 1½ volts . . . and the plate battery is 67.5 volts, all self contained. Battery life about one year under average conditions.

Accurate within ⅛'' of scale length........Scale Length: 2.375''

Dimensions: 3-3/16'' x 5¼'' x 5'' over binding posts   Approx. Weight: 3.8 lbs.

RANGE: 0-10,000 megohms (logarithmic scale)

LIST PRICE $54.00

MODEL 796 INSULATION TESTER

The constant check of insulation resistance has long been recognized as the most complete insurance against costly equipment failure.

This compact readily portable tester provides complete insulation and resistance tests up to 200 megohms at a test potential of 350 to 500 volts d-c. It operates from self contained, long life, light weight batteries, and there are no vibrators or tubes to replace.

The operator has the freedom of both hands, through elimination of the inconvenient hand crank generator.

Although the test potential is 500 volts at the terminals, the current is only a few microamperes. It is therefore impossible, under normal conditions, for the operator to receive any harmful shock. The Model 796 is also ideal for conductivity tests, e.g., conductive rubber safety shoes, flooring, etc.

Model 796 can also be used for general resistance measurements from 10,000 ohms to 200 megohms.

Ranges

0-20-200 megohms ....full scale

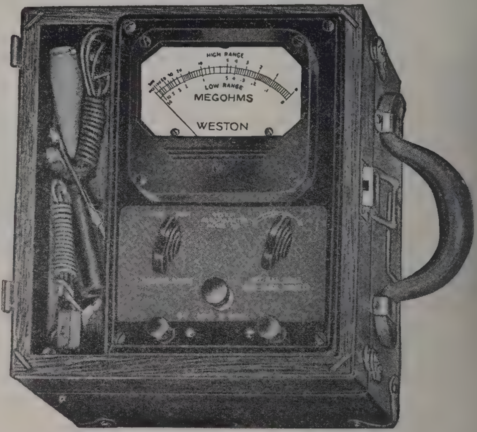
0-.5-5 megohms ....center scale

Accuracy within 2%   Scale length: 3.27''

Dimensions: 8⅜'' x 9⅛'' x 8'' deep

Approx. Weight Including Batteries: 15 lbs.

LIST PRICE, Model 796 ....$100.00


Model 796

Model 689 Type 1F

MODEL 689 OHMMETER—TYPES 1E AND 1F

Model 689 is a very convenient pocket-sized instrument for the resistance and continuity method of checking circuits. The indicating instrument is a full sized 3¼ inch meter. A self-contained battery provides the necessary potentials for resistance readings.

Type 1E ohmmeter has a double range of 0-5,000 and 0-50,000 ohms.

Type 1F ohmmeter also has a double range of 0-10 and 0-1,000 ohms for the accurate measurement of low resistance values. This type is widely used for production and maintenance testing of armature and field resistance of small motors, relay and coil testing, transformer winding tests, and other similar applications.

Ranges

689-1E Ohms Full Scale	689-1E Ohms Center Scale	689-1F Ohms Full Scale	689-1F Ohms Center Scale
50,000	1,250	1,000	50
5,000	125	10	1.9

Accurate within 2%   Scale Length: 2.36''

Dimensions: 5 x 2⅞ x 1⅞''   Approx. Weight: 1 lb.

Model 689, Type 1E (including test leads)........LIST PRICE $18.00

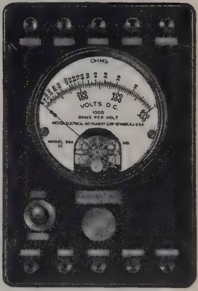
Model 689, Type 1F (including test leads)........LIST PRICE 20.00

Leather Carrying Case........LIST PRICE 5.50

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

MODEL 564—VOLT-OHMMETER, TYPE 3-C



Model 564 Type 3-C

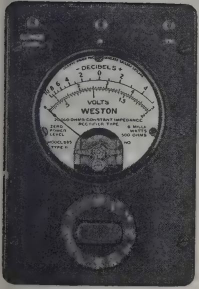
A fine, Weston quality instrument with a very useful selection of voltage and resistance ranges. A self-contained 4½ volt battery provides the necessary potential for the ohmmeter ranges. Ohmmeter adjustment compensates for changes in battery potential without any effect on meter accuracy. Ranges are available from pin jacks. A toggle switch connects meter in circuit as a voltmeter. Complete with a pair of 4 ft. test leads. Accuracy guaranteed to be within 2%.

RANGES: VOLTS, d-c, at 1,000 ohms per volt—0-3/30/300/600
OHMS (full scale)—0-1,000/10,000/100,000/1,000,000

Size: 5½" x 3¾" x $2\frac{9}{16}$" Weight: 1¾ lbs.

LIST PRICE, Model 564, Type 3-C	$38.40
LIST PRICE, Leather Carrying Case	$ 7.00

MODEL 695—TYPE 11
POWER LEVEL METER, VOLTMETER, OUTPUT METER



Model 695 Type 11

Gives readings in decibels as well as volts making it ideal for power level measurements in all types of speech equipment and radio receivers. Medium speed, moderately damped movement. Constant impedance of 20,000 ohms. 11 Db ranges from —4 to +36 Db. at zero on the Db scale. 7 voltage ranges from 2 to 200 volts. Calibrated for 500 ohm lines with zero level of 6 milliwatts (.006 watts) or 1.73 volts. Complete with pair of test leads. Accuracy guaranteed to be within 5% on rectified a-c. Size: 5½" x 3¾" x 3⅛". Weight: 1½ lbs.

LIST PRICE, Model 695, Type 11	$38.00
LIST PRICE, Leather Carrying Case	$ 7.00

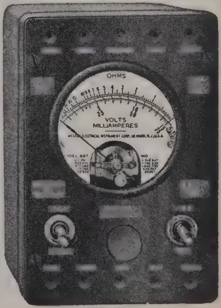
MODEL 697—VOLT-OHM-MILLIAMMETER

Very popular pocket-size device with a-c and d-c voltages, d-c milliampere and ohm ranges. Precision resistors used throughout. Accuracy has not been sacrificed for size. All ranges brought out to pin jacks. Toggle switches protect and connect the meter in the circuit as a voltmeter or ohmmeter. Self-contained 4½ volt battery supplies necessary potential for ohm ranges. Ohmmeter adjustment compensates for changes up to 25% in battery potential without affecting meter accuracy. Accuracy guaranteed to be within 2% on d-c and within 5% on a-c.

RANGES: VOLTS a-c and d-c—0-7.5/15/150/750
MILLIAMPERES, d-c only—0-7.5/75
OHMS (full scale)—5,000/500,000
OHMS (center scale)—35/3500

Size: $5\frac{9}{16}$" x 3¾" x $3\frac{9}{16}$" Weight: 1¾ lbs.

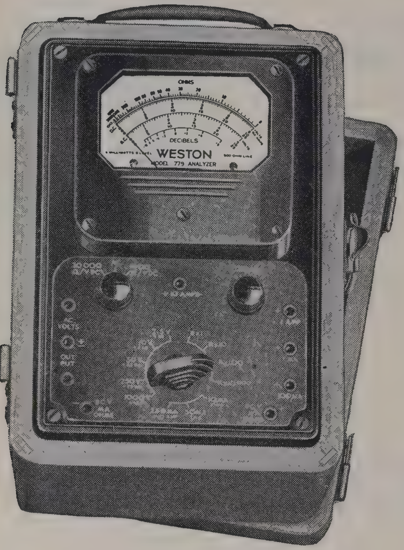
LIST PRICE, Model 697, complete with pair of test leads	$32.00
LIST PRICE, Leather Carrying Case	$ 7.00



Model 697

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS



MODEL 779-TYPE 1

SUPER-SENSITIVE ANALYZER

1,000 or 20,000 OHMS PER VOLT . . .

MAXIMUM RANGES . . . MINIMUM SIZE

Small . . . Light . . . Compact . . . Heavy molded bakelite panel . . . Rugged solid oak case . . . Removable cover . . . Convenient carrying handle . . . 26 Ranges . . . 5 d-c Voltage ranges at a sensitivity of either 1,000 or 20,000 ohms per volt . . . A-c temperature compensated . . . Precision resistors throughout . . . A-c accuracy within 3% . . . D-c accuracy within 2% up to 1,000 volts; 3% on 1,000 volt range.

Ideal for . . . Measurement of tube circuits, as in electronic receivers, low powered transmitters and electronic control equipment . . . Potentials and current in television equipment and wired communication systems . . . Power level in Decibels in audio equipment, P.A., telephone or speech lines . . . Cathode ray equipment . . . Maintenance of electronic control and alarm systems in industry . . . Production adjustment and testing of sensitive electronic devices and communication equipment . . . Measurement of plate voltage and current on amateur transmitters, as required by F.C.C. . . . Diode currents in AVC circuits and AFC current . . . Leakage of condensers . . . Resistance of all types of circuits.

Model 766 Televerters may be used with Model 779 for applications requiring higher d-c voltage measurements. Type 1 for 5,000 volts; Type 2 for 10,000 volts.

Model 666-1C Socket Selector (described below) may be used to to facilitate checking of tube cricuit conditons in radio service work. service work.

RANGES

Volts		Current		
D-C	A-C	D-C Only	Decibels	Ohms
2.5	2.5	.1 Ma.	—14 to +2	0-3000
10	10	1 Ma.	—2 to +14	0-30,000
50	50	10 Ma.	+12 to +28	0-300,000
250	250	50 Ma.	+26 to +42	0-30 Meg.
1000	1000	250 Ma.	+38 to +54	
		1 Amp.		
		10 Amp.		

Size: 6⅜" x 9⅛" x 4⅔"................Approx. Wt. 6 lbs.

Model 779—Type 1..List Price $92.25

SOCKET SELECTOR—MODEL 666 TYPE 1C

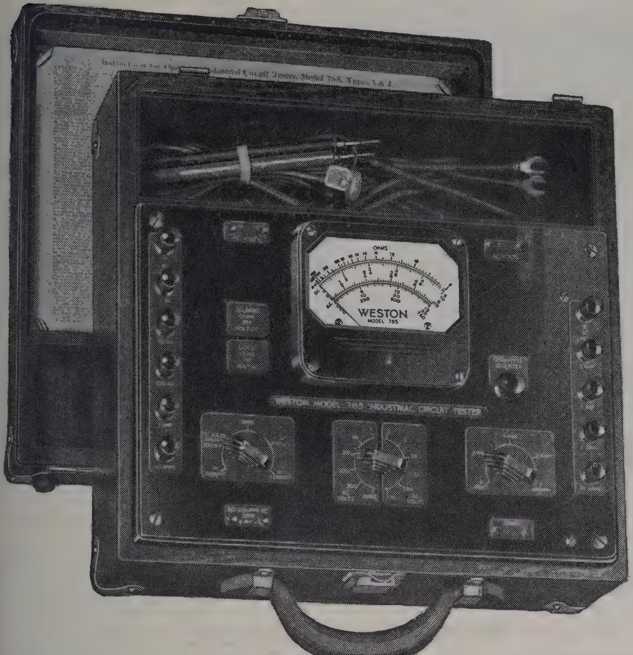
The selector block mounts mechanically on any analyzer by means of two pin terminals. With the tester plug inserted in the radio set socket and the tube in the Selector Socket, tube circuit conditions (voltage, current, resistance) can be checked by plugging in jumper cables from the jacks on the selector block to the analyzer jacks or binding posts. The pin jacks are marked with the RMA tube base numbers. A comprehensive tube base chart is furnished. All adapters are supplied including octal, loctal and miniature types.

Model 666 Type 1C...List Price $21.10

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

MODEL 785 INDUSTRIAL CIRCUIT TESTER



The Model 785 Circuit Teste with its 27 ranges is a multi-purpose instrument which not only performs many routine tasks, bu also covers a broad field o measurements requiring an ultrasensitive instrument.

Its usefulness is by no means confined to sensitive circuit applications. General maintenance work, such as checking motors lighting circuits, etc., can be accomplished with a minimum waste of time.

The broad range of applicatio of this circuit tester is indicate below:

Electronic Transmitters and Receivers . . . Communication Systems—Telephone, Telegraph, P.A. Radio . . . Network Protectors an Carrier Current Systems . . . Signal Systems—Police, Fire, Burgla Alarms . . . Servicing Electroni and Electrical Equipment . . . Soun Motion Picture Equipment . . Automatic Control Equipment . . Railroad Control Circuits, Switching Systems, etc. . . . Aircraft an Marine Communication, Electronic and Electrical Circuits . . . Laboratories — Production Control, Research, Development, School an College Courses . . .

D-C voltage sensitivity is 20,000 ohms per volt. Model 766 Type 1 Televerter extends the d-c voltage to 5,000 volts; Model 766 Type 2 to 10,000 volts. The use of Mode 666-1C Socket Selector facilitate the checking of tube circuit conditions in radio service work.

RANGES

Voltage		Current	
D-C	A-C	D-C	A-C
1,000	750	10 Amps.	10 Amps.
500	300	1 Amp.	5 Amps.
200	150	100 MA.	1 Amp.
50	30	10 MA.	.5 Amp.
10	15	1 MA.	
1	5	50 UA.	

Resistance

Full Scale	Center Scale
30 Meg.	250,000 Ohms
3 Meg.	25,000 Ohms
300,000 Ohms	2,500 Ohms
30,000 Ohms	250 Ohms
3,000 Ohms	25 Ohms

SIZE AND WEIGHT

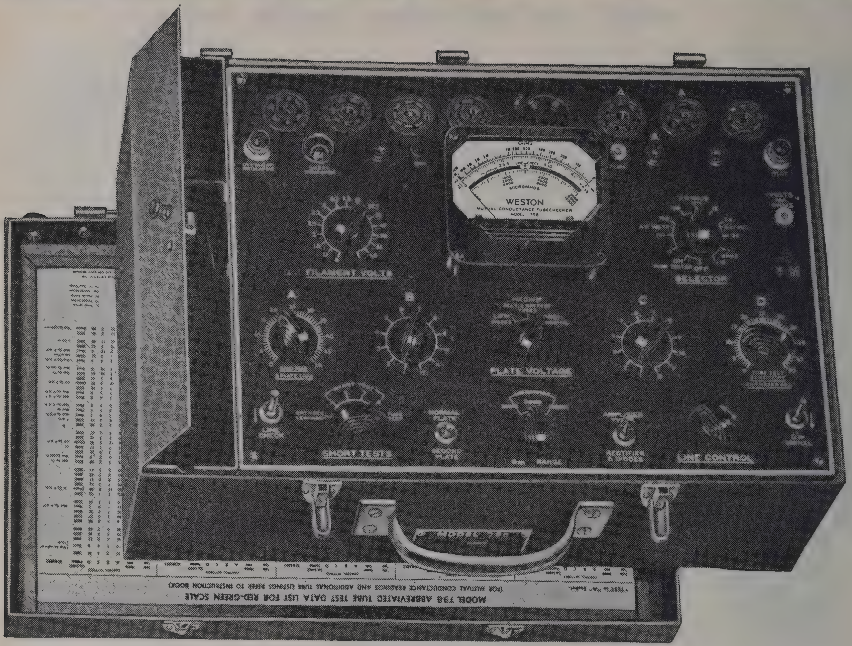
13″ x 12½″ x 5½″. Weight with batteries, oak case, etc. 13½ lbs.

LIST PRICES

Model 785—in Oak Carrying Case	**$125.00**
Model 785—without Carrying Case	**105.00**

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS


WESTON
MICROMHOS
MUTUAL CONDUCTANCE TUBECHECKER
MODEL 798
FILAMENT VOLTS
SELECTOR
PLATE VOLTAGE
SHORT TESTS
LINE CONTROL
RANGE
MODEL 798 ABBREVIATED TUBE TEST DATA LIST FOR RED-GREEN SCALE

MODEL 798 TYPE 3 — PROPORTIONAL MUTUAL CONDUCTANCE TUBECHECKER

Model 798 Vacuum Tube Analyzing equipment consists of a tube tester and a 10 range analyzer, mounted in one complete assembly and housed in a welded aluminum case. The case is provided with a two section storage compartment, equipped with a hinged cover. One section for the accessories, and one for spare parts, tools, etc.

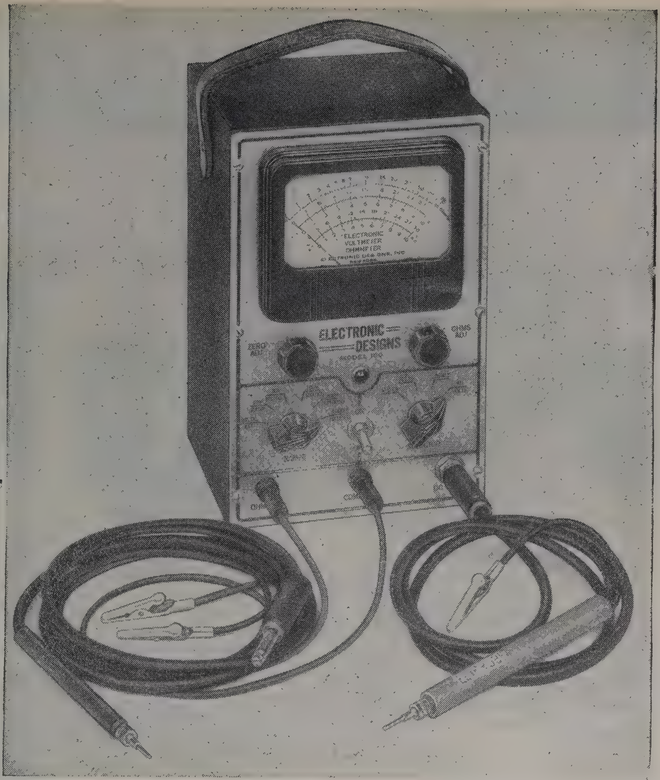
The device is a proportional mutual conductance tube tester, which indicates transconductance on a differential frequeny system, wherein a 5 kilocycle signal is applied to the grid of the tube under test, and the 5 kilocycle current component is measured in the plate circuit. The grid signal may be varied in three steps providing 3 mutual conductance ranges, 0-3000/6000/12000 micromhos. Three different plate potentials are used providing proper values for diodes, battery types, and general type tubes. The multi-meter or analyzer section has ten full scale ranges.

Model 798 is equipped with eleven vacuum tube testing sockets, ten rotary controls, and four toggle switches, three indicator lamps. A 4½″ rectangular meter is used, providing ease of readability of all microhmo, voltage, current and resistance values, as well as a GOOD-BAD scale.

Size: 17¾″ x 11½″ x 6¼″.
(451 x 292 x 159 mm)
Approx. Weight: 23 lbs.
(10.4 kgs.)

Model 798—Type 3 . . . . List Price $225.75

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE



VACUUM TUBE VOLTMETER-OHMMETER

PROVAC *With the R. F. Signal Tracing* EDIPROBE

The PROVAC Model ED-100 is the last word in visual dynamic signal tracing. It will enable the laboratory engineer and radio service technician to measure every voltage required in the design laboratory and radio servicing.

Measure R.F. with the same ease as measuring D.C. with our most recent development—THE PROVAC. It is no longer necessary to guess at which point the signal stops.

Our engineering skill and extreme care in the matching and selection of component parts has resulted in a unit we are proud to offer. The PROVAC is the finest in high quality test equipment.

D.C. Ranges: 0 to 3-10-30-100-300 and 1,000 volts. All ranges have a constant input resistance of 11,000,000 ohms. Accuracy 3%±.

A.C. Ranges: 0 to 10-30-100-300 and 1,000 volts. Sensitivity: 1,000 ohms per volt. Accuracy 5%±.

Ohmmeter Ranges: 0-1,000 ohms, 0-10,000 ohms, 0-100,000 ohms, 0-1 megohm, 0-10 megohms, and 0-1,000 megohms. R. F. Voltage ranges 0/3-10-30-50. 50 Volts to be measured on 100 Volt range. (Feature of the Provac.)

Bridge Amplifier Circuit Meter individually calibrated for use with set of test leads, signal tracer probe and batteries. The Provac and Model 100 are supplied in individual black steel cases, 9-5/16" high, 6" wide, 4¾" deep. Shipping weight 10½ lbs., complete.

110-120 volts 50-60 cycles.

PROVAC ED-100 (with Ediprobe)	$59.50
ELECTRONIC MODEL 100	$52.50

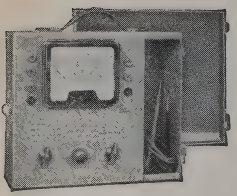
Jobbers and Dealers—Write for exclusive distribution in territories still available.

Electronic Designs, Inc., IRVINGTON, N.Y.

GENERAL ELECTRIC

TEST EQUIPMENT

UNIMETER TYPE UM-3



A completely portable all around utility instrument, ideally suited for service work where extreme sensitivity and higher voltage ranges are not the important factor. This unit has a large face panel instrument which is calibrated and laid out to reduce the error possibility in readings.

A single control is used for zero setting each resistance range. The scales are printed in red and black for quick, easy identification.

Range coverage: D-C volts. 0-2½-10-50-250-1000-2500 volts. All at 2000 ohms per volt. The highest range is obtainable at a separate jack.

A-C volts: 0-2½-10-50-250-1000-2500 volts. All are at approximately 1300 ohms per volt. The highest range is obtainable at a separate jack.

Resistance ranges: 0-1000, 100,000 and 1 megohms—center scale values are approximately 10, 1000 and 10,000 respectively with a self-contained battery. Extended ranges may be obtained with the use of external batteries.

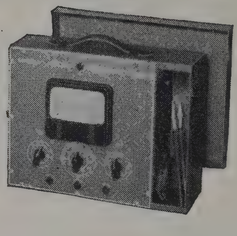
Direct current: 0-1-10-100 milliampere. 0-1-10 ampere. The two ampere ranges are obtainable on two separate jacks.

Db calibrations: —12 to +55 db in 5 ranges, 6 milliwatts into 500 ohms is used as 0 reference level.

Case and finish: Welded steel case with rounded corners and removable snap-on cover. Grey wrinkle finish. High grade sturdy test prods supplied. Size 9″ x 10″ x 4⅝″. Weight, 9¼ lbs.

SUGGESTED PRICE $35.00

UNIMETER TYPE YMW-1



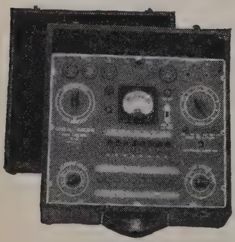
Completely portable Unimeter Type YMW-1 is a self-contained unit enclosed in a fabricated steel gray case. It is a 20,000 ohms per volt multi-range portable instrument developed by General Electric for service and general laboratory work. Rapid, accurate measurement of volts, ohms, current, and decibels, and extreme simplicity of operation are the features of the instrument. All functions except the 50 microamp and capacitor for output are available without changing the leads to various jacks. A single rotary selector switch controls all functions and ranges. A separate two-position switch handles AC or DC volts. Volts: AC and DC volts 0.25, 10, 50, 250, 1000. Sensitivity: DC volts, 20K ohms per volt; AC volts, 1K ohms per volt. Output meter: Same as AC volts through .5 mfd 600 volt capacitor. Decibels: —10 to +3, —2 to +15, +16 to +29, +30 to +43, +42 to +55. 0 level is 6 milliwatts into 500 ohms. Direct current: 0-.5, 5, 50, 500 ma; 0-50 microamps, available at separate jack. Resistance: 3 ranges, total coverage 1 ohm to 20 megohms; R x 1, 20 ohm center 2 K ohm maximum; R x 100, 2 K ohm center 200 K ohm maximum; R x 10K, 200 K ohm center 20 megohm maximum. Meter: G-E type DO-58,50 microamp ± 2%. 4 in. by 4½ in. case. Batteries: 1-No. 2 flashlight cell; 2-7.5 volt C batteries. Accessories: (supplied) One set high grade sturdy test leads (40″ long), Two slip-on alligator clips for test prods. Case and finish: portable carrying case of fabricated steel with removable cover. Gray wrinkle finish. Size 12⅝″ x 9¾″ x 5½″. Weight: 12 lbs.

SUGGESTED PRICE $66.00

TUBE CHECKER TYPE TC-3A

The portable model TC-3A tube checker is the latest emission-type tube checker for general service work and can be your most valuable service test equipment for this reason; a very large percentage of your service calls are usually tube failures and much time can be saved by checking the tubes first, consequently, this light, easy to carry, portable model will pay for itself many times. Most receiving tubes having 4, 5, 6, or 7 pin, octal, loctal, miniature 7 pin, Bantam Jr. and miniature (Raytheon) 5 pin bases can be tested for emission and hot tested for inter-element for this checker.

No switching is required to apply filament voltages to the most common filament pins for each base type. Where other filament arrangements are encountered, eight lever switches are provided for the proper connections. A series of ten lever switches connects the other elements to the proper voltages for quality test. QUALITY TEST: This is a form of dynamic emission test where the grid is placed at cathode potential while the screen is placed at a lower potential than the plate. Cathode emission as well as ability of other elements to control the plate current are tested simultaneously.



SHORT TESTING: This is accomplished without resetting the lever switches by rotating the Test Switch through four positions. This method ties the tube elements into groups which are then tested against each other for shorts or leakage. The four switch positions form four different groupings of the elements, thus making it possible to short-test all tube elements.

DC VOLTMETER CIRCUIT: By shifting the small push-switch near the meter to Batt. Test, DC Volts position, the DC Voltmeter Circuit is available at four pin jacks; one for common, three for ranges. Ranges are 0-10, 100, 1000 volts. DC at a sensitivity of 1000 ohms per volt. This voltmeter circuit is useful for measuring tube operating and supply voltages and the conditions of service batteries while on service calls.

Size: 14″ x 14″ x 17¾″. Case of wood with attractive leatherette covering. Metal corner protectors and feet. Sturdy carrying handle. Weight (including cover), 13 lbs.

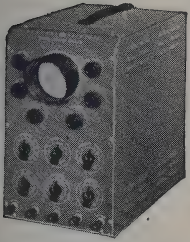
SUGGESTED PRICE $56.00

Net

GENERAL ELECTRIC

TEST EQUIPMENT

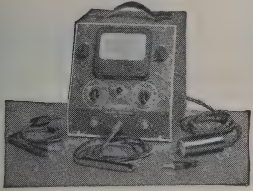
OSCILLOSCOPE TYPE CRO-3A



This new cathode-ray oscilloscope is ideal for accurate and rapid service work. It is entirely portable and designed for general radio service. Can be used for the study of wave changes and transients, measurement of modulation adjustment of radio transmitters, the determination of peak voltages, and the tracing of electronic tube characteristics. This model is equipped with a 3AP1 cathode-ray tube which has a green screen that can be viewed in daylight. All controls are conveniently located on the front panel. Welded steel case in gray wrinkle finish. Etched aluminum front panel. Size: 8″ x 12½″ x 13″. Weight 25 lbs.

SUGGESTED PRICE $79.50

ELECTRONIC VOLT-OHMETER TYPE PM-17



Electronic Volt-Ohmeter Type PM-17 was developed for general service and laboratory work in the design and repair of electronic equipment. This instrument permits measurement of actual operating voltages without undue circuit loading or detuning. In addition to d-c voltages, both audio and radio frequency voltages may be measured from 200 cycles to beyond 100 megacycles. Voltages not measurable with an ordinary 1000 to 20,000 ohms-per-volt meter are easily measured at true potential with the PM-17.

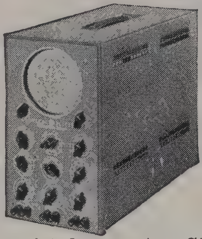
An ohmmeter circuit is included for convenience in measuring high and low ohmic values of resistance. Due to the self-balancing circuit and the high degree of degeneration, fluctuations in line voltage and changing of tubes has little or no effect on calibrations.

The instrument is housed in an attractive steel case of rugged construction. Easy access to the instrument is obtained by simply removing the panel screws. This unit can be carried anywhere, and will plug into any 115-volt 60-cycle power line.

ACCESSORIES: (SUPPLIED) Two alligator clips. Two pairs of leads and an r-f probe. CASE: Steel, 8½″ x 8″ x 8″. Sloping panel of aluminum. Instrument accessible as a unit by removing panel screws. WEIGHT: 15 lbs.

SUGGESTED PRICE $75.00

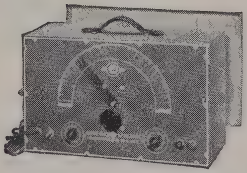
OSCILLOSCOPE TYPE CRO-5A



An extremely high-quality instrument, this 5″ Oscilloscope is portable and ideal for accurate, rapid service work and for laboratory and production testing use. Designed primarily for studying voltage and current wave-forms, it may also be used to study any variable which may be translated into electrical potentials by means of associated apparatus. Sturdy construction makes it possible for this instrument to withstand jars and vibrations. Tubes have been selected to give maximum amplification. All controls are conveniently located on front panel, making it unnecessary to reach to the side or rear of the case for circuit adjustments. Gray wrinkle welded steel case. PHYSICAL SPECIFICATIONS: Height - 14″, Width - 8″, Depth - 19″. Weight - 40 lbs.

SUGGESTED PRICE $167.50

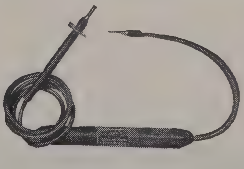
BEAT FREQUENCY AUDIO OSCILLATOR TYPE AO-2



This special type Beat Frequency Audio Oscillator has been designed to simplify the measurements of audio amplifier and radio receiving fidelity. It can be used for the testing of loudspeakers and for frequency measurements or calibration. It provides a stable sine wave, continuously variable frequency in 25-15,000 cycles per second. Its practical application for use in radio makes this instrument a preferred item for every radio engineer. Full vision, direct calibration with Vernier type dial. The panel control knob regulates the output level continuously from zero to full power output. Welded steel finished in gray wrinkle. The front panel is etched aluminum. Size: 10″ x 13″ x 7″, weight 18 lbs.

SUGGESTED PRICE $52.00

HIGH VOLTAGE MULTIPLIER TYPE YYW-1



For measuring voltages up to 10,000 volts, General Electric has developed the new YYW-1 High Voltage Multiplier. When used with the type YMW-1 Unimeter, or similar 20,000 ohms per volt equipments, this multiplier gives accurate measurement. Neat in appearance, designed to give long, efficient service, the High Voltage Multiplier Type YYW-1 is ideal for general service and laboratory use.

SUGGESTED PRICE $18.75

Net

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

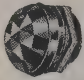
DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

DIALCO JEWELS: Complete with Turned Brass Holders for Mounting in Panels

Jewels presented here are merely representative of our general line. We manufacture the most extensive line. For additional information on other types, or special jewels, send specifications.

10-F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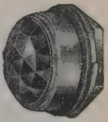
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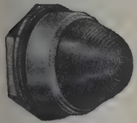
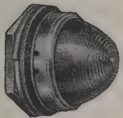
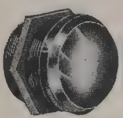

TS97-01


TS97-02


910-JHS

1" Torpedo Jewel Screw Type Assembly — Series TS97-01

Features: Water Tight . . . 1" Hole Mounting . . . Length of thread behind Jewel Holder $\frac{5}{16}$" . . . Furnished with washer, lockwasher, and nut . . . Material: Brass or 17 S.T. Aluminum. Finishes: Dull White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized, or Ebinol. **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.

1" Jewel Assembly Series TS97-01	List Price $0.75

1" Torpedo Jewel Friction Type Assembly — Series TS97-02

This model has the same features as the TS97-01 except that it is of the Friction Type, which makes possible the removal of lamp from front of panel . . . Panel bushing is available in any length from ⅛" to 2" depending on the thickness of the panel.

1" Jewel Assembly Series TS97-02	List Price $0.75

1" Jewel with Bushing & Mounting Nut

Single 1" hole for mounting . . . Allows removal of lamp from front of panel through use of panel bushing with Jewel Holder . . . Highly polished chrome plated brass Jewel Holder . . . Faceted or Smooth-Faced Jewels . . . Colors optional: Red, Green, Amber, Blue, Opal, White and Clear Jewels . . . Frosted White Jewels can be furnished with removable colored discs, color showing only when lamp is on.

	List Price
910-JHF—Jewel Holder with Panel Bushing and Mounting Nut, Faceted Jewel	$0.60
910-JHS—Jewel Holder with Panel Bushing and Mounting Nut, Smooth Jewel	.60
910-JHD—Jewel Holder with Panel Bushing and Mounting Nut, Frosted White Jewel with Removable Colored Disc	.60

Jewel holders can be furnished with special finishes other than listed.

NOTE: Specify color of Jewel or Disc when ordering.

1" Screw Type Jewel Assembly — Series S97-03

This unit has the same features as Model TS97-01 illustrated above, except for the difference in the lens which is as shown. May be had in either Smooth or Diamond-faced jewel. Specify when ordering.

1" Jewel Assembly Series S97-03	List Price $0.75

¾" Jewel with Mounting Nut

Used where low priced large Jewel is needed . . . Single $\frac{11}{16}$" hole for mounting . . . Highly polished chrome plated brass Jewel Holder . . . Faceted or Smooth-Faced Jewels. Colors optional: Red, Green, Amber, Blue, Opal and Clear Jewels.

25-F—Jewel Holder and Mounting Nut, Faceted Jewel	List Price $0.40
25-S—Jewel Holder and Mounting Nut, Smooth Jewel	List Price .40

NOTE: Specify color of Jewel when ordering.

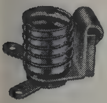
½" Jewel and Mounting Nut

Low Cost—All Purpose . . . Single $\frac{7}{16}$" hole for mounting. Nickel plated brass Jewel Holder. Faceted or Smooth-Faced Jewels. Colors optional: Red, Green, Amber, Blue, Opal and Clear Jewels.

	List Price
10-F—Jewel Holder & Mounting Nut, Faceted Jewel	$0.15
10-S—Jewel Holder & Mounting Nut, Smooth Jewel	.15

NOTE: Specify color of Jewel when ordering.

MINIATURE SCREW BASE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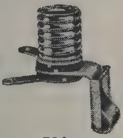
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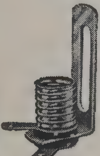
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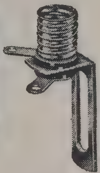
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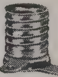
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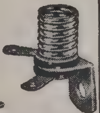
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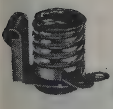
CANDELABRA 110 V.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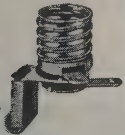
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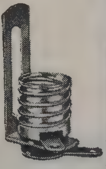
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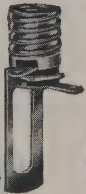
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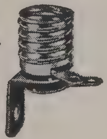
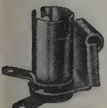

608

MINIATURE BAYONET BASE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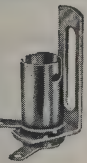
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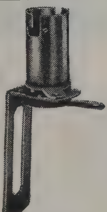
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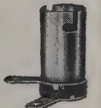
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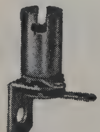

708

DIALCO SOCKET ASSEMBLIES

Have Exclusive Anchoring Feature

Units shown here are only representative of our extensive line. For additional information, send specifications.

All units are fool-proof and "Short-proof" . . . The exclusive Dialco Anchoring Feature permanently locks the lugs, washers, socket, and bracket. The result is a rugged, immovable, shake-proof, fool-proof assembly in which the danger of a short-circuit is eliminated.

Cadmium Plating on all brackets . . . Terminal lugs of tinned brass facilitate rapid soldering . . . Assemblies also available with single lug terminal, other connection effected through grounded bracket . . . Terminals can be supplied in any desired position . . . To assure positive contact, bayonet type sockets are furnished with approved coil spring construction . . . Highest grade insulating washers furnished with all assemblies.

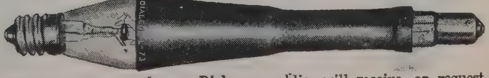
Series	List Price
500—Miniature Screw Base Socket Assemblies	$0.07
600—110 Volt Candelabra Socket Assemblies	.09
700—Miniature Bayonet Socket Assemblies	.09

We are equipped to manufacture any type of bracket to specifications, and supply any type of finish and insulation.

For Lamp Specifications see page G-8

DIALCO LAMP INSTALLER

For All Lamps



Made of rubber; takes all types of miniature, neon and candelabra lamps . . . Designed to expedite mass production, this device makes lamp installation extremely simple and rapid. Especially effective in places that are hard to reach or constricted.

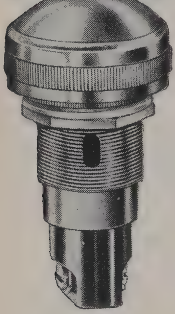
Manufacturers who use Dialco assemblies will receive, on request, a sufficient quantity of Dialco Lamp Installers to meet their production requirements.

Dialco Lamp Installer No L-73	List Price $0.40

WARNING & SIGNAL DIALCO PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

SERIES "A"



61901

The Pilot Lights presented on this and the adjoining page are only representative of the extensive Dialco line of 1" and 1½" Pilot Lights. These units are in service in every conceivable Aircraft, Marine, Electronic, Radio, Electrical and Industrial application. Should you require a special unit, we can rapidly submit suggestions and samples to meet your specific requirements.

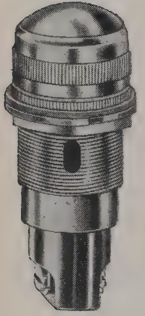
GENERAL DATA

SERIES "A"—1½" Marine Cap Screw Pilot Lights.
SERIES "B"—1" Marine Cap Screw Pilot Lights.
SERIES "C"—1" Marine Cap Screw Full View Torpedo Pilot Lights.
SERIES "D"—1" Marine Cap Screw "Vari-Dim" Pilot Lights.

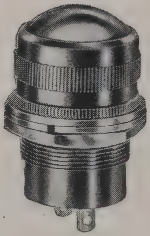
The following general features and specifications apply to all units in the Series presented on this page:

All units are water-tight, tested under 15 lbs. pressure per square inch. The Jewel Holder Cap screws on from front of panel. ***All lamps are removable from front of panel. Require 1" panel hole for mounting.***

SERIES "B"



51901



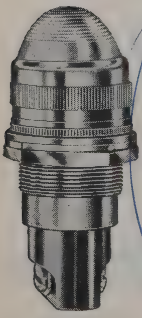
51410

Navy Specifications 17-P-4-CFG Moulded Bakelite Housing.

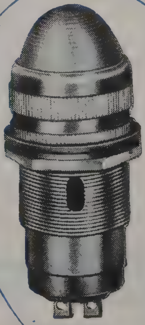
- Heavy terminals for soldering or terminal screw connection. Terminals are perfectly secured—so that they do not turn or become loose regardless of the severity of the tests to which they may be subjected.
- **Material:** Brass or Aluminum 17 S.T.
- **Finishes:** Dull White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized, Ebinol, and Olive Drab Anodized Lusterless U.S.A. Signal Corps Specifications.
- **Lenses:** Series "A-B-D"—Smooth- or Diamond-faced. If smooth, specify clear color, Sandblasted-on-back or Sandblasted-over-all.
Series "C"—Torpedo lens.
- **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.
- **Lamp Specifications:** See page G-8 for 9 standard lamps applicable to these series of Pilot Lights.

Plus LAMPS...
To help speed production, Dialco offers Pilot Lights completely assembled with G.E. or Westinghouse Lamps—any type or voltage. Samples submitted on request.

SERIES "C"

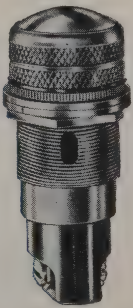


51901-5



51206-5

SERIES "D"



71901

HOW TO ORDER

The choice of a Pilot Light is determined partly by the type and size of bulb to be used. On page G-8 are listed 9 standard bulbs. Select your Pilot Light from any Series in conjunction with the required bulb. **Note:** Prices quoted do not include the bulbs. Prices will be quoted on application. We are in a position to supply any standard or special General Electric or Westinghouse Bulb for any Dialco Pilot Light which you select.

ALL DIALCO PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

The units presented on this page are recommended for general applications other than marine. Precision engineered and ruggedly constructed, these Pilot Lights will give dependable and lasting service.

GENERAL DATA

SERIES "E"—1″ Lock-Tite Friction Bayonet-Lock Pilot Lights.

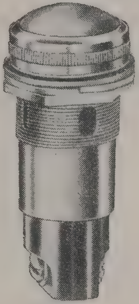
SERIES "F"—1″ Lock-Tite Friction Bayonet-Lock, Full-View Torpedo Pilot Lights.

SERIES "G"—1″ Standard Friction Fit Pilot Lights.

SERIES "H"—1″ Standard Friction Fit Full-View Torpedo Pilot Lights.

SERIES "R"—1″ Standard Friction Fit Pilot Light, Porcelain Base.

SERIES "E"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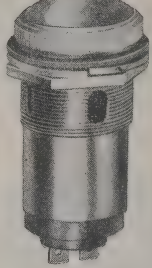
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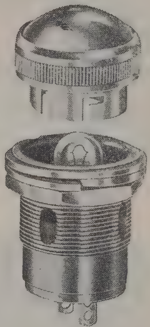

41410

The following general features and specifications apply to all units in the Series presented on this page:

All "Lock-Tite" units are designed for service on vibrating panels. The positive "friction-lock" construction of the jewel holder prevents impairment of the unit even when subjected to severe vibration.

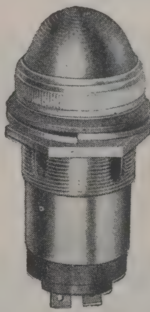
The "Friction Fit" units are designed for installation in which the vibration factor is of minor importance. The "friction-fit" Jewel Holder is inserted firmly and securely, assuring efficient, dependable service of the assembly.

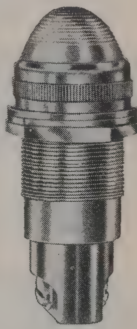
All lamps are removable from front of panel. A 1" panel hole is required for mounting.

Navy Specifications: 17-P-5 FBG Bakelite Housing.
17-P-4 CFG Moulded Bakelite Housing.

- Heavy terminals for soldering or terminal screw connection. Terminals are perfectly secured — so that they do not turn or become loose regardless of the severity of the tests that they may be put through.
- Dialco anchoring feaures of the lamp housing permanently seals the position of the bayonet shell so that the lamp is easily removed from front of panel.
- **Material:** Brass or Aluminum S.T.
- **Finishes:** Dull White Nickel. Black Nickel, Satin Chrome, Polished Chrome, Anodized, Ebinol, and Olive Drab Anodized Lusterless U.S.A. Signal Corps Specifications.
- **Lenses:** Series "E", "G", 'R": — Smooth or Diamond-faced. If smooth, specify clear color. Sandblasted-on-back or Sandblasted-over-all. Series "F", "H": — Torpedo lens.
- **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.
- **LAMP SPECIFICATIONS: See page G-8.**

SERIES "F"


41206-5

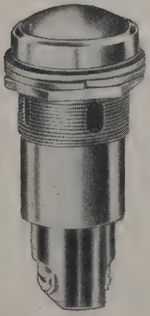

41901-5

UNDERWRITERS' LABORATORIES LISTED Pilot Light Assemblies and Warning & Signal Lights are a major feature of the extensive Dialco line.

When ordering, please be sure to give the following information in regard to the Jewel: Color, whether Smooth-Faced or Faceted; if Smooth-faced, whether Clear, Sandblasted-on-back, or Sandblasted-overall. Also specify type of Socket and Lamp. See page G-8 for lamp chart and price list.

All DIALCO Prices Subject to Change Without Notice.

SERIES "G"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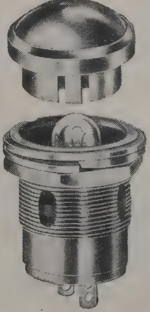
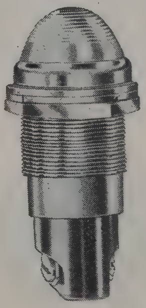
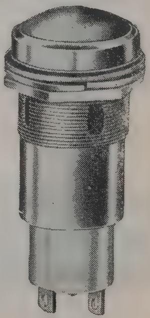

31410

SERIES "H"

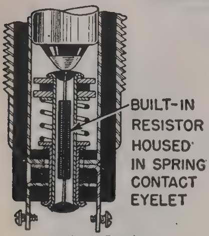

31901-5

SERIES "R"


31601

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

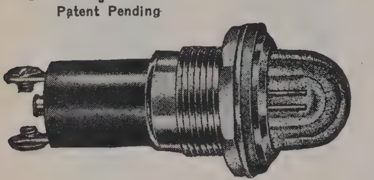


Patent Pending

SERIES PLN PILOT LIGHT ASSEMBLIES . . . designed for Ne-51 NEON LAMP . . . Features BUILT-IN RESISTOR for 110 and 220 VOLT CIRCUITS. Has these design features:

In the PLN-849 series Dialco introduces an important advance in the functiona design of indicator light assemblies. These new pilot lights are the product o intensive development work and the cooperation of a number of leading manufacturers. In one compact unit are combined these features:

1. **Integral housing of the resistor necessary for operating the NE-51 lamp.** (See sketch at left for detail.)
2. The safety afforded by heavy molded bakelite socket and adequate elecrtical clearances.
3. Rugged construction to match the shock and vibration resistance of the neon lamp.
4. Full view jewel plastic cap giving wide angle visibility and brilliant color.
5. Simple one hole mounting, easy wiring to screw or solder terminals.

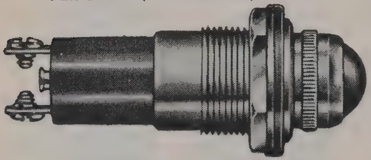


PLN-849—951308 (binding screw)
—95408 (solder terminals)
*PLN 911308 (binding screw)
PLN 91408 (solder terminals)

SPECIFIC DATA: MODELS 951308-851308 INCLUSIVE

No. 951308—A compact, versatile unit fitted with a Jewel Plastic Cap which may be had in a choice of 5 colors: Red, Amber, Opal, White, and Clear. Jewel Cap is male-threaded and is readily unscrewed from front of panel, facilitating replacement of bulb. Terminals may be screw type, or permanent soldering type. Specify terminals desired when ordering.

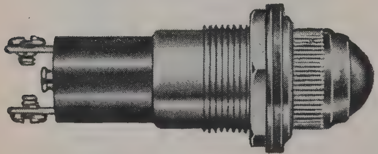
***No. 911308**—This unit is the same as the above except that the Plastic Jewel Cap is longer. This unit is recommended for installations where space behind the panel is limited; also where greater visibility of the light is desired.



811308 (binding screw)
81408 (solder terminals)
**881308 (binding screw)
88408 (solder terminals)

No. 811308—Has metal Jewel Head with screw-type (male threaded) collar. Fitted with ½″ smooth or faceted lens. If smooth, the lens may be had in clear color, sand-blasted-on-back, or sand-blasted over-all. Recommended for frontal "on-off" signal indication.

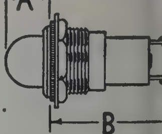
****No. 881308**—This unit is the same as the above, except that the Jewel Head is longer. This unit is recommended where a more forward on-off signal is desired; also where space behind the panel is limited.



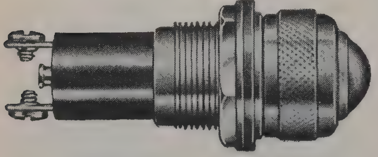
871308 (binding screw)
87408 (solder terminals)

No. 871308—This unit is the same as the No. 811308 shown above, except that the collar of the Jewel Head is of the push-in snap-fit type. When snapped into position, Jewel Head and body of assembly form one vibration-proof friction-tight unit.

No. 821308—This unit features a Jewel Head assembly $\frac{13}{16}$″ in diameter with ½″ lens. The collar of the Jewel Head is female-threaded, easily unscrews from front of panel, facilitating replacement of bulb. The lens may be smooth or faceted; if smooth, it may be clear color, sandblasted-on-back, or sandblasted over-all.



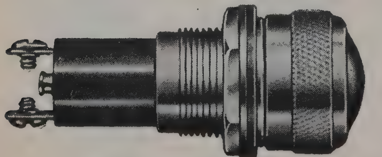
$\frac{11}{16}$″ Mounting Hole



821308 (binding screw)
82408 (solder terminals)

No. 851308—This unit features a $\frac{13}{16}$″ Jewel Head with ¾″ lens. The collar of the Jewel Head is female-threaded. Lens may be smooth or faceted; if smooth, it may be clear color, sandblasted-on-back, or sandblasted over-all. This unit is recommended where a large lens is desired on a unit mounting into an $\frac{11}{16}$″ panel hole.

TERMINALS: In all cases be sure to specify Binding Screw Type, or Soldering Type Terminals.



851308 (binding screw)
85408 (solder terminals)

Model No.	A	B	List Price
951308	$\frac{17}{32}$″	$1\frac{19}{32}$″	$1.50
911308	$\frac{21}{32}$″	$1\frac{17}{32}$″	1.50
811308	$\frac{17}{32}$″	$1\frac{23}{32}$″	1.50
881308	¾″	$1\frac{17}{32}$″	1.50
871308	$\frac{9}{16}$″	$1\frac{23}{32}$″	1.50
821308	¾″	1¼″	1.50
851308	$\frac{23}{32}$″	$1\frac{15}{32}$″	1.50
12408	$\frac{29}{32}$″	$1\frac{19}{32}$″	1.50
201308	$\frac{13}{16}$″	$1\frac{13}{32}$″	1.50
21408	$\frac{29}{32}$″	1¼″	1.50
89408	$\frac{29}{32}$″	1¼″	1.50
90408	$\frac{29}{32}$″	1⅜″	1.50
22408	$\frac{29}{32}$″	1⅜″	1.50

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

GENERAL CHARACTERISTICS applying to ALL UNITS IN THIS SERIES

LAMPS: Removable from front of panel. (All Dialco assemblies can be supplied complete with lamps.)

MATERIAL: Body is machined of Brass or Aluminum and may be plated with any one of these finishes: White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized, Ebinol, Black Alumalite on Aluminum.

SOCKET: Moulded bakelite housing.

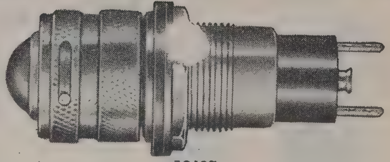
LENSES: Plastic or glass. Smooth or faceted. If smooth, specify clear color, sandblasted-on-back, or sandblasted overall.

FLAT LENSES may be had with or without Etched Numbers, Letter or Words.

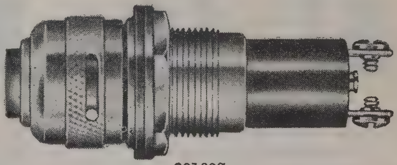
LENS COLORS: Red, Amber, Yellow, Opal, White, Clear. Also Green, Blue and Yellow for use with incandescent lamps.

MOUNTING: All units mount in $\frac{11}{16}$" hole on panels of any standard thickness. Mounting hardware (lock washers, space washer, and nut) supplied.

TERMINALS: Binding Screw Type, or permanent soldering type. Plated or unplated brass. Specify type when ordering. . . . All terminals are permanently secured and cannot turn or loosen under severe stress or vibration.



12408

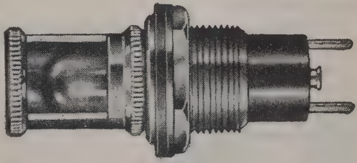


201308

SPECIFIC DATA: MODELS 12408-20138

o. 12408—A "Vari-Dim" unit containing a built-in Mechanical hutter. A 60° turn to the right reduces the light from a full low to a complete blackout. Collar of head is female-threaded, eadily unscrews from body of assembly. Terminals may be ither screw type or permanent soldering type.

o. 201308—Another "Vari-Dim" unit. Similar in function to e units shown above. In this case, however, the head of the nit has a male-threaded collar and a flat lens. This type lens ay be had with or without etched Numbers, Letters, or Words.



21408

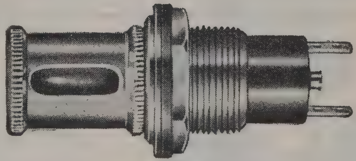
SPECIFY COMPLETE or SEMI-BLACKOUT

"LIGHT-SHIELD" PILOT LIGHT ASSEMBLIES

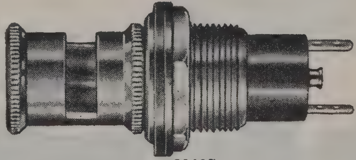
he following units are designed on the "light-shield" priniple—to direct a beam of light within a rotation of 360 degrees. turn of the knurled head directs the light on to any localized pot, at any desired angle. Housing and shield are made of rass. The head is a friction fit to the body permitting full tation. It is secured by a snap lock and will not loosen under ibration but is easily removed. Units with different sizes of penings in the shields are provided as follows:

o. 21408—Has opening ½" wide x ½" long; provides maxium illumination.

o. 89408—Has opening $\frac{3}{16}$" wide x $\frac{9}{16}$" long.
o. 90408—Has opening ½" wide x $\frac{3}{16}$" long.
o. 22408—Has opening ½" wide x $\frac{3}{32}$" long.



89408



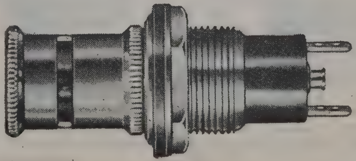
90408

LUS LAMPS: DIALCO PILOT LIGHTS will serve you best if ey are equipped with correct lamps. For your convenience **e carry large stocks of genuine General Electric Neon Glow nd Miniature Incandescent Lamps of all voltages.** Prompt elivery can be made in large or small quantities.

ll Units Shown Herein Are Also Available Without Resistors
his series of Pilot Lights may be ordered without resistors r use on low voltage circuits with the following T-3¼ Incanescent Lamps: 44, 47, 313, 1488, 1815 and all other available oltages. The model numbers of the resistor-less units end ith 10 instead of 08. For example:

No. 951308, with resistor   No. 951310, without resistor

UNDERWRITERS' LABORATORIES LISTED Pilot Light Assemblies and Warning & Signal Lights are a major feature of the extensive Dialco line.



22408

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

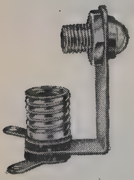
MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

Half-Inch Pilot Light Assemblies—Series 510-610-610U-710-710U

Have Exclusive Anchoring Feature

Units shown here are only representative of our extensive line. For additional information, send specifications.

Fool-proof, "short-proof" construction. All units shown here have the exclusive Dialco anchoring feature.



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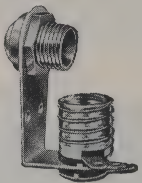

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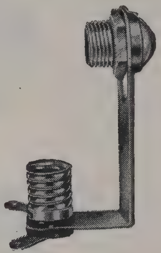
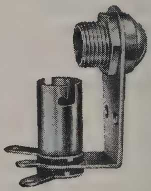


610 Universal



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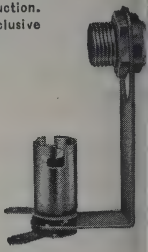


710 Universal

Low cost space saver . . . Mounts in single $\frac{7}{16}$" hole . . . Nickel plated brass Jewel Holder . . . Equipped with Candelabra 110 V, Miniature Bayonet or Miniature Screw Base Sockets . . . Choice of smooth or facet-faced jewels.

Jewel Color Choice: Red, Green, Amber, Yellow, Blu Opal and Clear . . . Has an extra center groundin lug . . . 610 Universal is a longer, adjustable brack for use where more accurate focus of jewel to lam filament is required. **Lamps:** See page G-8.

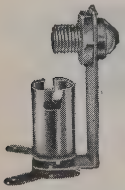
		List Price
510-F	Miniature Screw Socket Assembly with Faceted Jewel	$0.25
510-S	Miniature Screw Socket Assembly with Smooth Jewel	.25
610-F	Candelabra 110 Volt Socket Assembly with Faceted Jewel	.30
610-S	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.30
610-UF	Candelabra 110 Volt Adjustable Bracket Assembly with Faceted Jewel	.35
610-US	Candelabra 110 Volt Adjustable Bracket Assembly with Smooth Jewel	.35

		List Price
710-F	Miniature Bayonet Socket Assembly with Faceted Jewel	$0.30
710-S	Miniature Bayonet Socket Assembly with Smooth Jewel	.30
710-UF	Adjustable Miniature Bayonet Socket Assembly with Faceted Jewel	.35
710-US	Adjustable Miniature Bayonet Socket Assembly with Smooth Jewel	.35

When ordering, please specify Color of Jewel

3/8" PILOT LIGHT ASSEMBLY — Series 555-755

Have Exclusive Anchoring Feature



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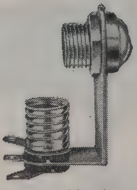


755

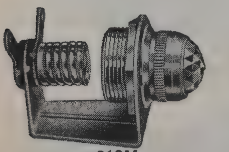
Mounts in $\frac{5}{16}$" hole . . . Nickel-plated brass jewel holder. Equipped wit miniature screw base and miniature bayonet base sockets . . . Jewels ar smooth or faceted . . . **Jewel Colors:** Red, Green, Amber, Yellow, Blu Opal, Clear. **Lamps:** See page G-8.

		List Pri
555F	Miniature Screw Socket Assembly with Faceted Jewel	$0.
555S	Miniature Screw Socket Assembly with Smooth Jewel	.
755F	Miniature Bayonet Socket Assembly with Faceted Jewel	.
755S	Miniature Bayonet Socket Assembly with Smooth Jewel	.

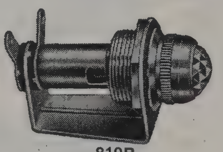
When ordering, please specify Color of Jewel

REMOVABLE ½" JEWEL PILOT LIGHT ASSEMBLY—Series 810

Have Exclusive Anchoring Feature



810M



810B

Mounts in single $\frac{11}{16}$" hole . . . Designed for stan ard Mazda Miniature Bayonet or Miniature Scre Base lamps . . . Lamps are instantly removab from front of panel . . . Embossed Rib giv bracket added strength and assures perfect alig ment . . . Screw-in type Jewel Holder, nick plated brass . . . **Lenses:** Smooth or facet-fac . . . **Lens Colors:** Red, Green, Amber, Yellow, Blu Opal and Clear. **Lamps:** See page G-8.

		List Price
810-MF	Miniature Screw Socket Assembly with Faceted Jewel	$0.40
810-MS	Miniature Screw Socket Assembly with Smooth Jewel	.40
810-BF	Miniature Bayonet Socket Assembly with Faceted Jewel	.40
810-BS	Miniature Bayonet Socket Assembly with Smooth Jewel	.40

When ordering, please specify Color of Jewel

UNDERWRITERS' LABORAT RIES LISTED Pilot Light A semblies and Warning & Sig Lights are a major feature of t extensive Dialco line.

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

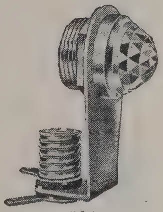
THREE-QUARTER INCH PILOT LIGHT ASSEMBLIES — Series 525-625-725

Exclusive Anchoring Feature

All units shown on this page are absolutely ool-proof and "short-proof," thanks to the nchoring feature. Lugs, washers, bracket, nd socket are permanently locked together, making a shake-proof, foolproof unit.

- Fills need for a low priced large jewel pilot light assembly.
- Requires single $\frac{11}{16}''$ hole for mounting.
- Available with Candelabra 110V, Miniature Bayonet and Miniature screw base sockets.
- Faceted or Smooth Faced Jewels.
- Jewel Colors: Red, Green, Amber, Blue, Opal and Clear.

Note: Specify Color of Jewel When Ordering.



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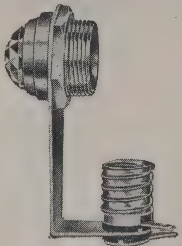

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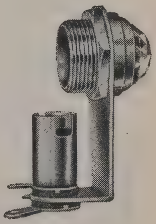


725

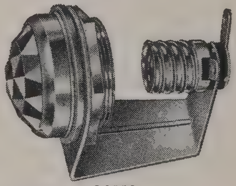
		List Price
525-F	Miniature Screw Socket Assembly with Faceted Jewel	$0.60
525-S	Miniature Screw Socket Assembly with Smooth Jewel	.60
625-F	Candelabra 110 Volt Socket Assembly with Faceted Jewel	$0.60
625-S	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.60
725-F	Miniature Bayonet Socket Assembly with Faceted Jewel	$0.60
725-S	Miniature Bayonet Socket Assembly with Smooth Jewel	.60

ONE INCH OPEN TYPE PILOT LIGHT ASSEMBLY—Series 910

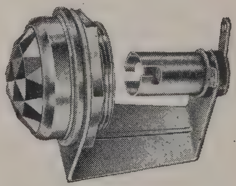
Have Exclusive Anchoring Feature

A low priced unit for most applications . . . Requires single one inch hole for mounting . . . Embossed rib in center of bracket gives added rigidity and strength; assures perfect alignment . . . Uses standard Mazda lamps, removable from front of panel through use of Panel Bushing with Jewel holder . . . Jewel holder of highly polished chrome plated brass . . . Available with Candelabra 110 Volt, Miniature Bayonet or Miniature screw base sockets . . . Faceted or Smooth Faced Jewels . . . Colors optional, Red, Green, Amber, Blue, Opal, White, and Clear Jewels . . . Frosted White Jewels can be furnished with removable colored discs color showing only when lamp is on.

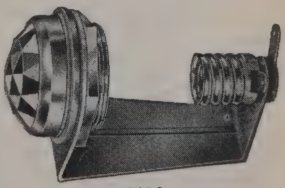
		List Price
910-MF	Miniature Screw Socket Assembly with Faceted Jewel	.85
910-MS	Miniature Screw Socket Assembly with Smooth Jewel	.85
910-MD	Miniature Screw Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85
910-BF	Miniature Bayonet Socket Assembly with Faceted Jewel	.85
910-BS	Miniature Bayonet Socket Assembly with Smooth Jewel	.85
910-BD	Miniature Bayonet Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85
910-CF	Candelabra 110 Volt Socket Assembly with Faceted Jewel	$0.85
910-CS	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.85
910-CD	Candelabra 110 Volt Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85



910M



910B



910C

Plus LAMPS...

To help speed production, Dialco offers Pilot Lights completely assembled with G.E. or Westinghouse Lamps—any type or voltage. Samples submitted on request.

LAMPS: We can supply any of the standard lamps shown on page G-8, or any special lamp, in conjunction with the required Pilot Light Assembly. Send specifications for immediate solution of your problem.

ALL DIALCO PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

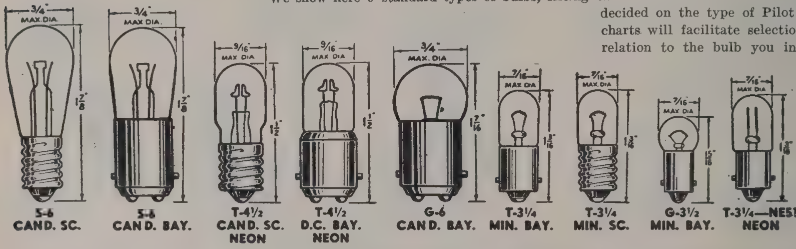
DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

PRICE LIST: DIALCO PILOT LIGHT ASSEMBLIES

SERIES A-B-C-D-E-F-G-H-R
Illustrated on pages G-2 and G

In selecting a Pilot Light, a deciding factor is the type and size of bulb to be housed within the un We show here 9 standard types of bulbs, listing each Series in relation to these bulbs. After you ha decided on the type of Pilot Light, the use of the charts will facilitate selection of the correct unit relation to the bulb you intend to use.



NOTE:

PRICES DO NOT INCLUDE BULBS.

Prices on bulbs on application.

ALL DIALCO PRICES SUBJECT TO CHANGE WITHOUT NOTICE!

Series "A"
1½" MARINE CAP SCREW PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
61901	**S6 Cand. Sc.**	**$3.50***
61202	S6 Cand. Bay.	3.50
61914	T4½ Neon Cand. Sc.	3.50
61206	T4½ Neon Cand. Bay.	3.50
61204	G6 Cand. Bay.	3.50
61410	T3¼ Min. Bay.	3.50
61511	T3¼ Min. Sc.	3.50
61412	G3½ Min. Bay.	3.50
61408	T3¼ Neon NE51	3.50

Series "B"
1" MARINE CAP SCREW PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
51901	**S6 Cand. Sc.**	**$1.75***
51202	S6 Cand. Bay.	1.75
51914	T4½ Neon Cand. Sc.	1.75
51206	T4½ Neon Cand. Bay.	1.75
51204	G6 Cand. Bay.	1.75
51410	**T3¼ Min. Bay.**	**1.75***
51511	T3¼ Min. Sc.	1.75
51412	G3½ Min. Bay.	1.75
51408	T3¼ Neon NE51	1.75

Series "C"
1" MARINE CAP SCREW FULL VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	Lis
51901-5	**S6 Cand. Sc.**	**$1.7**
51202-5	S6 Cand. Bay.	1.7
51914-5	T4½ Neon Cand. Sc.	1.7
51206-5	**T4½ Neon Cand. Bay.**	1.7
51204-5	G6 Cand. Bay.	1.7
51410-5	T3¼ Min. Bay.	1.7
51511-5	T3¼ Min. Sc.	1.7
51412-5	G3½ Min. Bay.	1.7
51408-5	T3¼ Neon NE51	1.7

Series "D"
1" MARINE CAP SCREW "VARI-DIM" PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
71901	**S6 Cand. Sc.**	**$2.50***
71202	S6 Cand. Bay.	2.50
71914	T4½ Neon Cand. Sc.	2.50
71206	T4½ Neon Cand. Bay.	2.50
71204	G6 Cand. Bay.	2.50
71410	T3¼ Min. Bay.	2.50
71511	T3¼ Min. Sc.	2.50
71412	G3½ Min. Bay.	2.50
71408	T3¼ Neon NE51	2.50

Series "E"
1" LOCK-TITE FRICTION BAYONET LOCK PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
41901	**S6 Cand. Sc.**	**$1.50***
41202	S6 Cand. Bay.	1.50
41914	T4½ Neon Cand. Sc.	1.50
41206	**T4½ Neon Cand. Bay.**	**1.50***
41204	G6 Cand. Bay.	1.50
41410	**T3¼ Min. Bay.**	**1.50***
41511	T3¼ Min. Sc.	1.50
41412	G3½ Min. Bay.	1.50
41408	T3¼ Neon NE51	1.50

Series "F"
1" LOCK-TITE FRICTION BAYONET LOCK, FULL-VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	Li
41901-5	**S6 Cand. Sc.**	**$1.**
41202-5	S6 Cand. Bay.	1.
41914-5	T4½ Neon Cand. Sc.	1.
41206-5	**T4½ Neon Cand. Bay.**	1.
41204-5	G6 Cand. Bay.	1.
41410-5	T3¼ Min. Bay.	1.
41511-5	T3¼ Min. Sc.	1.
41412-5	G3½ Min. Bay.	1.
41408-5	T3¼ Neon NE51	1.

Series "G"
1" STANDARD FRICTION-FIT PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
31901	**S6 Cand. Sc.**	**$1.50***
31202	S6 Cand. Bay.	1.50
31914	T4½ Neon Cand. Sc.	1.50
31206	T4½ Neon Cand. Bay.	1.50
31204	G6 Cand. Bay.	1.50
31410	**T3¼ Min. Bay.**	**1.50***
31511	T3¼ Min. Sc.	1.50
31412	G3½ Min. Bay.	1.50
31408	T3¼ Neon NE51	1.50

Series "H"
1" STANDARD FRICTION-FIT FULL-VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
31901-5	**S6 Cand. Sc.**	**$1.50***
31202-5	S6 Cand. Bay.	1.50
31914-5	T4½ Neon Cand. Sc.	1.50
31206-5	T4½ Neon Cand. Bay.	1.50
31204-5	G6 Cand. Bay.	1.50
31410-5	T3¼ Min. Bay.	1.50
31511-5	T3¼ Min. Sc.	1.50
31412-5	G½ Min. Bay.	1.50
31408-5	T3¼ Neon NE51	1.50

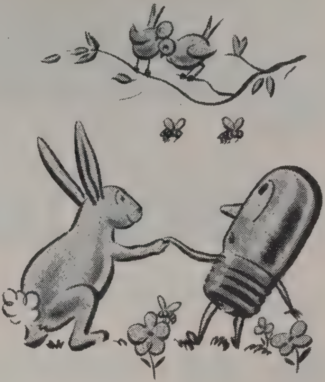
Series "R"
1" STANDARD FRICTION-FIT PILOT LIGHT with PORCELAIN B

Assembly Cat. No.	For Bulb Type	Li
31601	**S6 Cand. Sc.**	**$1.**
31614	T4½ Neon Cand. Sc.	1.

*UNITS LISTED IN BOLD FACE are il trated on pages G-2 and G-3.

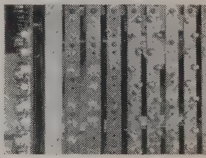
BASE ABBREVIATIONS: Cand. Sc.—Ca delabra Screw; Cand. Bay.—Candelabra Ba onet; D. C. Bay—Double Contact Bayone Min. Bay.—Miniature Bayonet; Min. Sc.— Miniature Screw.

It tells the facts of Life!



Radio
Dial Lights

Every year, the life-rack tests thousands of General Electric Lamps: lights them and burns them continuously until they go out. The lamp life, light output, and wattage consumed are all carefully checked. And that's just another step General Electric takes to produce the long life and efficiency you get in G-E Miniature Lamps. Many other tests and inspections are used.



Each makes sure the lamps you sell will give the best possible service at low cost. For radio dial lights and similar uses, consider these profit-points of G-E Miniature Lamps:

1. **Dependable, trouble-free performance.**
2. **High level of maintained light output.**
3. **Low current consumption.**
4. **Profitable to handle.**
5. **Greater dealer acceptance.**

***FOR INFORMATION** on prices and types of G-E Miniature Lamps, see your nearby G-E Lamp Office. Or write to General Electric Company, Division 166, Nela Park, Cleveland 12, Ohio.*

G·E LAMPS

GENERAL ELECTRIC

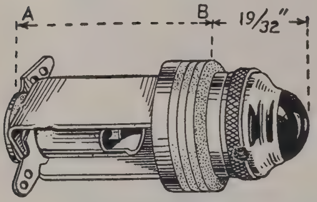
Dial and Jewel PILOT LIGHT ASSEMBLIES

WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES

½" Polarized Pilot Light

No. 80 TYPE



PATENT NO. 2220516
Net Wt. 0.080 lb.

The patented No. 80 incorporates the use of polarized discs to regulate light intensity. A partial turn of the jewel dims the light. Supplied with three fibre washers which compensate for different panel thicknesses.

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
80	Minature Bayonet	1 7/16"	0" to ¼"	$ 1.40
80S	Miniature Screw	1 3/16"	0" to ¼"	1.40

SPECIFICATIONS

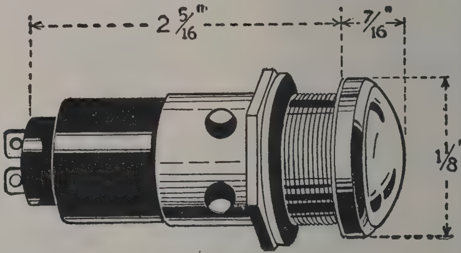
COLORS: Amber, Blue, Green Ruby, White, Yellow, Colorless. **TYPES OF JEWEL:** Regularly supplied with smooth glass, frosted on back only. Optional at no extra cost smooth glass frosted on face and back, symbol SFA; diamond cut (faceted) glass, symbol DC. Mounts in 11/16" hole. Lamp removable from front of panel. **LAMPS REQUIRED:** Any miniature bayonet or miniature screw based lamp with G 3½ or T 3¼ bulb size. **PACKED** in bulk fully assembled. **FINISH:** Bright nickel. Extra charge for Chrome, Statuary bronze, or 200-hour salt spray protection.

PRICE LIST OF PARTS

Part Number	Description	List Price
25A-CSP	Socket assembly for No. 80	$ .12 Ea.
25B-CSP	Socket assembly for No. 80S	.11 Ea.
50A	Round nut	.18 Ea.
50B	Vulcoid spacing washer	.03 Ea.
80AB-CSP	Jewel assembly including dimming mechanism	.78 Ea.
80C	Collar	.23 Ea.

• 1" Jewel—Horizontal Mounting
Double Contact Candelabra Bayonet Socket

No. 675 TYPE



Net Wt. 0.137 lb.

The No. 675 has a "slip fit" bezel. It is exceedingly neat in appearance. Very substantial and easy to install. All parts are burnished cadmium plated except the bezel (jewel holder) which has a highly polished chrome finish.

Type Number	Style Socket	Panel Thickness	List Price
575	D.C. Cadelabra Bayonet with screw terminals	0" to ½"	$ 1.85
675	D.C. Cadelabra Bayonet with solder terminals	0" to ½"	1.85

SPECIFICATIONS

COLORS: Amber, Blue, Green, Red, White, Yellow, Colorless. **TYPES OF JEWEL:** Regularly supplied with smooth, colorless, frosted on back only glass and removable color disc. Optional at no extra cost colored glass diamond cut (faceted) symbol DC; or smooth, frosted on back only, symbol SFB. Mounts in 1" hole. Lamp removable from front of panel. **LAMPS REQUIRED:** Any double contact, candelabra sized. bayonet base lamp with G6 or T-4½ bulb size. **PACKED** in bulk and fully assembled. Extra charge for 200-hour salt spray protection.

PRICE LIST OF PARTS

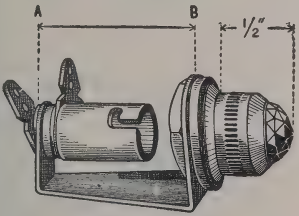
Part Number	Description	Price List
75A-CSP	Jewel	$ .62 Ea.
75C	Nut	.05 Ea.
75E	Color Disc	.03 Ea.
75F	Disc retaining ring	.02 Ea.
75G	Fibre washer—1¼" O.D.	.04 Ea.
3-14CSP	Socket assembly with screw terminals secured in tube	1.19 Ea.
3-17CSP	Socket assembly with solder terminals secured in tube	1.19 Ea.

JEWEL LIGHT ASSEMBLIES

½" Jewel . . Horizontal Mounting

No. 20 TYPE

The original Drake Horizontal Mounting Lamp Assembly, and still a fast seller. When ordering please be sure to select the correct part number for the thickness of panel on which to be installed; otherwise lamp may not extend far enough forward for easy removal, or if too far, prevent bezel screwing all the way on collar.



PATENT NO. 2220515
Net Wt. 0.036 lb.

Type Number	Style Socket	Length A to B	Panel Thickness	List
20	Min. Bayonet	$1\frac{3}{16}$"	$\frac{1}{16}$"	$.50 EA.
30	Min. Bayonet	1"	¼"	.50 EA.
40	Min. Bayonet	$1\frac{3}{32}$"	⅛"	.50 EA.
20-S	Min. Screw	1"	$\frac{1}{16}$"	.50 EA.
30-S	Min. Screw	$\frac{13}{16}$"		.50 EA.

NOTE: Dimension A to B is overall length of mounting bracket.

SPECIFICATIONS

LAMPS REQUIRED: Miniature T 3¼ tubular, 6-8V, or other T 3¼ lamps of same over-all length. • Lamp removable from front of panel. • Mounts in $\frac{11}{16}$" hole. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in bulk with jewel, collar and nuts in bag. • **SPECIAL JEWELS:** SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back. • List Price SFA and SFB, 2c each extra.

PRICE LIST OF PARTS

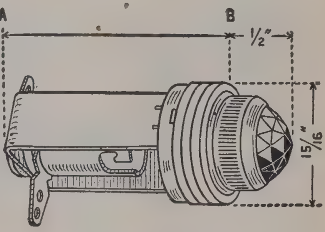
Part No.	Description	List Price
20A-CSP	Socket Assembly for No. 20	$ .12*
21FB-CSP	Socket Assembly for No. 30	.12*
21V-CSP	Socket Assembly for No. 40	.12*
22V-CSP	Socket Assembly for No. 20-S	.11*
22G-CSP	Socket Assembly for No. 30-S	.11*
25CSP	Jewel	.20*
27	Nut	6.40†
28	Collar for No. 0.¼" panels	12.70†
30	Collar for ⅜" panel, ½" long	20.00†

*—Each. †—Per 100

½" Jewel . . Horizontal Mounting

No. 50 TYPE

This patented Drake Assembly is ideal for various applications. Specially designed for use on more than one thickness of panel. Supplied with two fibre washers which compensate for panel thicknesses. It is of sturdy construction, easy to mount, and requires little space.



PATENT NO. 2220516
Net Wt. 0.05616 lb.

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
50	Min. Bayonet	1⅛"	0" to ¼"	$.70 EA.
50½	Min. Bayonet	1⅛"	0" to ⅜"	.80 EA.
50-S	Min. Screw	⅞"	0" to ¼"	.70 EA.
50½-S	Min. Screw	⅞"	0" to ⅜"	.80 EA.

NOTE: Dimension A to B is over-all length from front of panel.

SPECIFICATIONS

LAMPS REQUIRED: Miniature T 3¼ tubular, 6-8 V. or other T 3¼ lamps of same over-all length. • Lamp removable from front of panel. • Mounts in 11/16" hole. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in individual boxes for jobbing trade; in bulk and fully assembled for manufacturing trade. • **SPECIAL JEWELS:** SP—Smooth, plain; **SFA**—Smooth, frosted all over; **SFB**—Smooth, frosted on back. • List price **SFA** and **SFB**, 2c each extra.

PRICE LIST OF PARTS

Part No.	Description	List Price
25CSP	Jewel	$ .20*
25A-CSP	Socket Assembly for No. 50 types	.12*
25B-CSP	Socket Assembly for No. 50-S types	.11*
28	Collar, ⅜" long	12.70†
30	Collar, ½" long for No. 50½ types	23.00†
50A	Round nut	18.00†
50B	Fibre Washer, 15/16" O.D.	3.00†

DRAKE

Dial and Jewel

PILOT LIGHT ASSEMBLIES

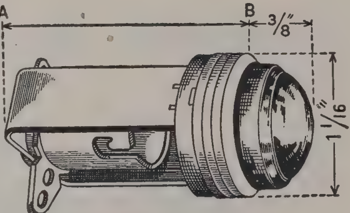
WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES

¾″ Jewel . . Horizontal Mounting

No. 60 TYPE

This patented item is similar to the No. 50, but has a ¾″ Jewel in a "slip-fit" bezel. Supplied with three fibre washers which compensate for panel thickness. Its sturdy construction, ease of mounting, and small size make it an ideal assembly. When used with a neon glow lamp, a transparent jewel is supplied.



PATENT NO. 2220516

PRICE LIST

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
60	Min. Bayonet	1½″	0″ to ¼″	$1.10 EA.
60¾	Min. Bayonet	1½″	0″ to ⅝″	1.65 EA.
60-S	Min. Screw	$1\frac{1}{16}$″	0″ to ¼″	1.10 EA.
60¾-S	Min. Screw	$1\frac{1}{16}$″	0″ to ⅝″	1.65 EA.
60N	Candelabra	1¾″	0″ to ¼″	1.10 EA.
60¾-N	Candelabra	1¾″	0″ to ⅝″	1.65 EA.
60T	Candelabra	2″	0″ to ¼″	1.65 EA.
60¾-T	Candelabra	2″	0″ to ⅝″	1.10 EA.

NOTE: Dimension A to B is over-all length from front of panel.

SPECIFICATIONS

LAMPS REQUIRED: For No. 60, 60¾, 60-S and 60¾-S, Miniature T 3¼ tubular, 6-8 V., or other T 3¼ lamps of same over-all length. For No. 60-N and 60¾-N, Neon glow T 4½; and 4W, T4, Herzog lamps • Lamp removable from front of panel. • Removable color discs (color shows only when lamp is lighted). • Colored glass jewel, smooth, plain, or smooth frosted on back, furnished on request at no extra cost in Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow. • Mounts in 13/16″ hole. • **JEWEL** regularly supplied: smooth crystal frosted on back. • Color discs: Amber, Blue, Green, Red, White, Yellow. • Bezel polished chrome. • **PACKED** in individual boxes for the jobbing trade; in bulk and fully assembled for the manufacturing trade.

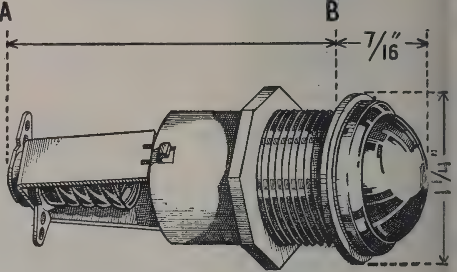
PRICE LIST OF PARTS

Part No.	Description	List Price
28U-CSP	Socket Assembly for No. 60 Type	$ .12*
28V-CSP	Socket Assembly for No. 60-S Type	.11*
28W-CSP	Socket Assembly for No. 60-N Type	.14*
60A-CSP	Jewel	.50*
60B	Collar for No. 60¾ Types, $\frac{25}{32}$″ long	75.00†
60C	Collar for No. 60 Type, $\frac{13}{32}$″ long	20.00†
60D	Round nut	30.00†
60E	Color Disc	2.00†
60G	Retaining ring	2.00†
60I	Fibre Washer, $1\frac{1}{16}$″ O.D.	4.00†

*—Each. †—Per 100

1″ Jewel . . Horizontal Mounting

No. 75 TYPE



PATENT NO. 2192345

The patented No. 75 type has a "slip-fit" bezel. It is exceedingly neat in appearance. Very substantial and easy to install. All parts are burnished cadmium plated except the bezel which has a highly polished chrome finish.

Type No.	Style Socket	Length A to B	Panel Thickness	List Price
75	Candelabra	2¼″	0″ to ½″	$1.30 EA.
175	Min. Screw	1¾″	0″ to ½″	1.30 EA.
275	Min. Bayonet	$2\frac{1}{32}$″	0″ to ½″	1.30 EA.
375	S. C. Bayonet (Candelabra)	$2\frac{5}{16}$″	0″ to ½″	1.30 EA.

NOTE: Dimension A to B is over-all length from front of panel. Over-all diameter of mounting nut 1⅜″. The No. 75 AP is intended for use in apparatus requiring Board of Underwriters' approval.

SPECIFICATIONS

LAMPS REQUIRED: For No. 75 and 75AP, Candelabra base 6W (115 V.) S6; for No. 175 and 275 Miniature T 3¼ tubular, 6-8 V; or other T 3¼ lamps of same over-all length. For No. 375, single contact, G6, bayonet lamp such as used for automobile headlights. • Lamp removable from front of panel. • Removable color discs (color shows only when lamp is lighted). • Mounts in 1″ hole in panels up to ½″ thick. • **JEWEL** regularly supplied: smooth crystal frosted on back. • Color discs Amber, Blue, Green, Red, White, Yellow. • Bezel polished chrome. • Colored glass Jewels, smooth frosted on back or diamond cut (faceted) furnished on request at no extra cost in Amber, Blue, Crystal, Green, Ruby, White (Milk White) or Yellow. • **PACKED** in individual boxes for the jobbing trade; in bulk and fully assembled for the manufacturing trade.

PRICE LIST OF PARTS

Part No.	Description	List Price
19V CSP	Socket Assembly for No. 75	$ .18*
24H CSP	Socket Assembly for No. 275	.12*
24I CSP	Socket Assembly for No. 175	.11*
24J CSP	Socket Assembly for No. 375	.18*
75A CSP	Jewel	.62*
75B	Tube	.40*
75C	Nut	.05*
75E	Color Disc	3.00†
75F	Retaining ring	2.00†
75G	Fibre washer—1¼″ O.D.	4.00†

DRAKE Dial and Jewel PILOT LIGHT ASSEMBLIES

WORLD'S LARGEST EXCLUSIVE MANUFACTURER

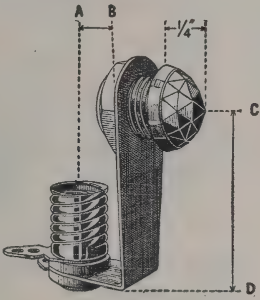
JEWEL LIGHT ASSEMBLIES AND JEWELS

½" Jewel . . Vertical Mounting

No. 10 TYPE

NOTE:

Dimension A to B is from center of socket to outside of bracket. C to D from center of jewel to bottom of bracket. The No. 10B and 10C have brackets with oblong hole permitting adjustment to obtain best position for lamp filament back of jewel.



PRICE LIST

Type Number	Style Socket	A to B	C to D	List Price
10	Min. Screw	½"	1¼"	$.32 EA.
10B	Min. Bayonet	¾"	Adj. from 1 5/16" to 1⅝"	.33 EA.
10C	Candelabra	¾"		.35 EA.
10G	Min. Bayonet	½"	1¼"	.33 EA.

SPECIFICATIONS

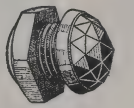
LAMPS REQUIRED: For No. 10 and 10B, miniature screw or bayonet base of any voltage (tubular preferred). For No. 10G, miniature bayonet, type G 3½ bulb. For No. 10C any candelabra base lamp may be used. • Mounts in 7/16" hole on panels up to ¼" thick. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White), and Yellow. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in bulk with jewels and nuts in bags. • **SPECIAL JEWELS:** SP—Smooth, plain; SFA — Smooth, frosted all over; SFB — Smooth, frosted on back. • List price SFA and SFB, 2c each extra.

PRICE LIST OF PARTS

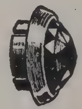
Part No.	Description	List Price
15CSP	Socket Assembly for No. 10	$ .11*
15CSP-B	Socket Assembly for No. 10B	.12*
15CSP-G	Socket Assembly for No. 10G	.12*
15CSP-C	Socket Assembly for No. 10C	.14*
16CSP	Jewel and Nut	.21*
17	Nut	4.40†

*—Each. †—Per 100

½" Jewels



THREADED TYPE



SLOTTED TYPE

THREAD TYPE WITH NUTS

		LIST PRICE	
16CSP	Shank ⅜" long, 7/16" O.D.	EA.	$ .21
16½CSP	Shank ½" long, 7/16" O.D.	EA.	.34

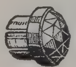
SLOTTED TYPES

		LIST PRICE	
22CSP	Shank ⅛" long, ⅜" O.D.	EA.	$ .18
23CSP	Shank 3/16" long, ⅜" O.D.	EA	.18
31CSP	Shank .085" long, ⅜" O.D.	EA.	.18

JEWELS: Diamond cut (faceted), Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow.

SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back. • List price SFA and SFB, 2c each extra. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze.

11/32" JEWELS . . Slotted Types Only

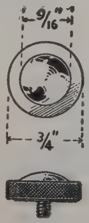


JEWELS: Diamond cut (faceted), Amber, Crystal, Green, Ruby, White (Milk White). Also supplied with smooth plain glass (specify "SP") at same price.

FINISHES: Regular finish Statuary Bronze. Also supplied in nickel finish if so ordered, at same price.

21CSP, slotted type, Shank 3/16" long, 9/32" O.D.
LIST PRICE EACH .... $ .15

24CSP, slotted type, Shank ¼" long, 9/32" O.D.
LIST PRICE EACH .... .15



SELF LUMINOUS BULLS EYE

Per Navy Drawing No. 9S-5012-L parts 15 to 20 inclusive.

The No. 9S-5012-L self luminous bulls eye is for use on a Navy Jack box—W. T., type T-1M, for battery and sound powdered telephones, Navy drawing 9S-5012-L—Alt. 8.

The bulls eye is shipped fully assembled, individually wrapped in tissue paper and packed in bulk.

Orders for less than 1000 pieces not accepted.

List Price ....$1.75 EA.

DRAKE

Dial and Jewel

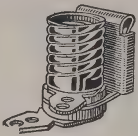
PILOT LIGHT ASSEMBLIES

WORLD'S LARGEST EXCLUSIVE MANUFACTURER

DIAL LIGHT ASSEMBLIES

FOR ALL STANDARD OR SPECIAL NEEDS

Clip Bracket Types With FLANGE Brackets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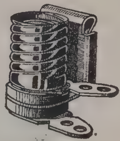
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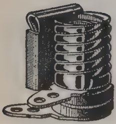
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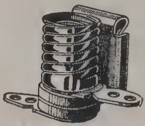
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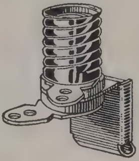
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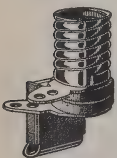
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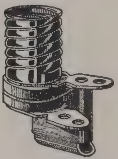
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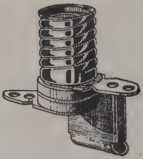
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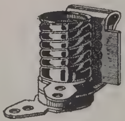
Clip Bracket Types With Flat Brackets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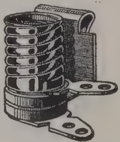
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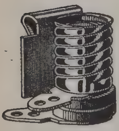
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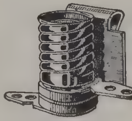
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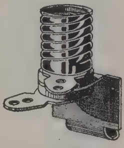
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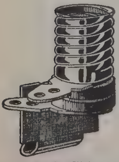
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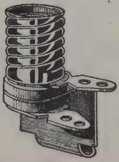
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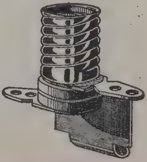
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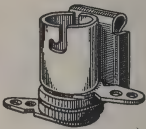
Bayonet Type Socket Assemblies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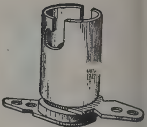
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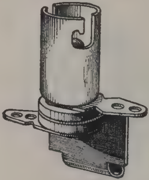
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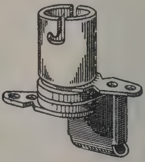
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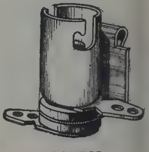
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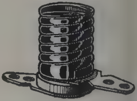
MISCELLANEOUS TYPES . . SPECIAL SIZES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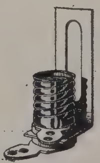
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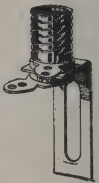
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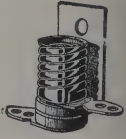
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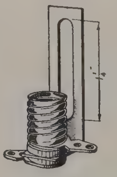
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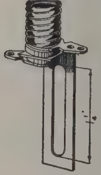
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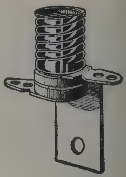

109 CH

PRICE LIST . . DIAL LIGHT ASSEMBLIES

Min. Screw Type		Min. Bayonet Type		Candelabra Type	
No.	List Price per 100	No.	List Price per 100	No.	List Price per 100
103	$ 9.00	203	$10.00	403	$17.50
104		204		404	
106		206		406	
107		207		407	
108		208		408	
109		209		409	
156B		256B		456B	
119		219		419	
117H	$ 6.50	217H	$ 9.00	417H	$15.00

CODE NUMBERS: Miniature Screw, 100 Series. Miniature Bayonet, 200 Series. Candelabra, 400 Series. (Except 317H).

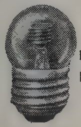
NELA SPECIALTY DIVISION LAMP DEPARTMENT

G·E *Neon Glow* LAMPS

GENERAL ELECTRIC

THE unique characteristics of General Electric Neon Glow Lamps recommend them for a variety of uses in radio and electronic devices . . . as indicators, voltage regulators, pilot lights and test lamps.

1. *Distinctive orange-red glow—no colored cover glass needed.*
2. *Dependable performance and long life—rated at 3,000 hours.*
3. *Very low current consumption—less than ½ milliampere for smallest lamp.*
4. *Variety of sizes and wattages.*
5. *High resistance to vibration, shock.*
6. *Normally usable on a-c or d-c.*
7. *Screw base lamps with internal resistors; bayonet base lamps available without internal resistors.*
8. *Produce practically no heat.*
9. *Nearly flat volt-ampere characteristics.*
10. *Lamp life not seriously effected by voltage variations.*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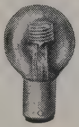
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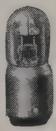
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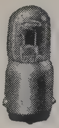
NE-2

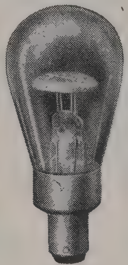
NE-51

NE-57

NE-45
NE-58


NE-17

NE-34


NE-36

NE-40

NE-42

Screw Base Lamps

Required series resistor mounted within base. See values marked "IN" in column "Series Resistance." Lamps may be applied to higher circuit voltages by use of suitable external resistors.

Bayonet Base Lamps

External means must be provided to limit current to normal amount. External resistors, to be supplied by user, should be of the values marked "EX" in column "Series Resistance" for rated volts.

CLEAR NEON LAMPS

Average useful life, all types, approximately 3000 hours

Lamp Number		NE-2	NE-51	NE-48	NE-16③	NE-45	NE-17	NE-57	NE-30	NE-32	NE-56	NE-34	NE-36	NE-40	NE-42	NE-58
Watts, Nominal		1/25	1/25	1/4	1/4	1/4	1/4	1/4	1	1	1	2	2	3	3	1/2
Volts (Circuit)		105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125	210-250	105-125	105-125	105-125	105-125	210-250
★Bulb		T-2	T-3¼	T-4½	T-4½	T-4½	T-4½	T-4½	G-10	G-10	G-10	S-14	S-14	S-14	S-14	T- ½
Base		Unbased (Wire Term.)	S. C. Bay. Min.	D. C. Bay. Cand.	D. C. Bay. Cand.	Cand. Screw	D. C. Bay. Cand.	Cand. Screw	Med. Screw	D. C. Bay. Cand.	Med. Screw	Med. Screw	Sk. D. C. Bay. Cand.	Med. Screw	Sk. D. C. Bay. Cand.	Cand. Screw
Max. Over-all Length, Inches		1⅟₁₆②	1³⁄₁₆	1½	1½	1⅝	1½	1⅝	2⅟₁₆	2⅟₁₆	2⅟₁₆	3⁵⁄₁₆	3¾	3⁵⁄₁₆	3¾	1⅝
Electrode Shape		W-11	W-11	P-3	P-3	P-3	PW-27	PW-27	PW-5	PW-5	PW-5	P-2	P-2	P-4	P-4	P-3
Approx. Starting Voltage①	A.C.	65	65	65	—	65	55	55	60	60	105	60	60	60	60	65
	D.C.	90	90	90	④	90	70⑦	70⑦	85	85	140	85	85	85	85	90
Series Resistance	Ohms	200000 EX	200000 EX	30000 EX	30000 EX	30000 IN	30000 EX	30000 IN	4800 IN	4800 EX	23500 IN	3500 IN	3500 EX	2200 IN	2200 EX	100000 IN
Package Quantities	Unit	100	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Standard	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
List Price and Tax Symbol		$0.08 T	$0.10 T	$0.35 T	$0.42 N	$0.40 T	$0.45 T	$0.40 T	$0.40 T	$0.45 T	$0.40 T	⑥ $0.50 T	$0.55 T	⑥ $0.60 T	$0.65 T	$0.40 T

★ Bulbs are designated by a letter to indicate shape and a figure to indicate the approximate diameter in eighths of an inch.

① Applies to a new lamp.

② The 1⅟₁₆″ dimension is for glass parts only, the lamp has wire terminals which extend ¹³⁄₁₆″.

③ Meets JAN-1A specifications for 991. Special marking JCG-991 supplied at small extra charge.

④ Designed for 67-87 volts, D.C. (D.C. operating voltage at 1.5 milliamperes, 53-65 volts.)

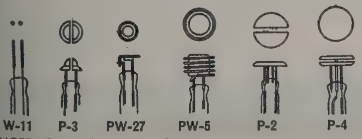
⑤ Center electrode connected to base shell.

⑥ NE-34 and NE-40 are supplied with red sprayed finish at additional charge of 5¢ each, list.

⑦ D.C. starting voltage is for lamp connected so that center electrode is negative.

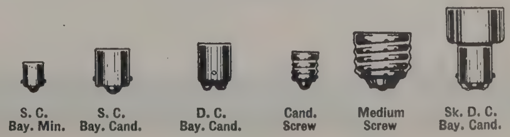
NOTE—T—Following List Price indicates subject to Federal Tax N—Nontaxable

ELECTRODE SHAPES



NOTE—Electrodes not to scale

BASE DESIGNATIONS



Gothard INDICATOR LIGHT ASSEMBLIES

REMEMBER . . .

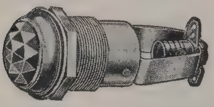
(1) Seek a busy man that specializes—for a RIGHT job. Gothard engineers are exclusively engaged in Indicator Light Assembly development work and manufacture and they are at your disposal on stock and special requirements at all times—profit by their experience.

(2) The Gothard Sales Policy, that has won many lasting friends, is and always will be—**"the same price, top quality and precision workmanship"** to all. Gothard Assemblies are not sold at varying prices to anyone—standard discounts, based on quantity, are adhered to in all cases.

(3) Many of the advancements achieved in Indicator Light Assembly standards, such as developing of **rigid, non-short terminals** which are employed in all Gothard Assemblies, higher standards in variable intensity lights, **built-in resistances** for neon bulbs, and others too numerous to mention have been developed by Gothard Engineers and since widely imitated.

FOR ORIGINALITY AND POSITIVE QUALITY, ALWAYS USE GOTHARD INDICATOR LIGHT ASSEMBLIES.

1-INCH INDICATOR LIGHTS—DETACHABLE SOCKETS



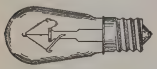
This type for panelboards up to 2 inches thick. Bulbs can be changed from back. Prices on request.

With Miniature Screw Socket

Uses Mazda No. 50— 6-8 V
Uses Mazda No. 52—12-16 V

Cat. No. Description
800—Faceted Jewel
801—Plain Jewel

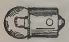
With Miniature Candelabra Socket



Uses Mazda 6S6 115 Volt

802—Faceted Jewel
803—Plain Jewel

With Miniature Bayonet Socket



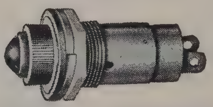
Uses Mazda No. 51— 6-8 V
Uses Mazda No. 53—12-16 V
Uses Mazda No. 356— 28 V

804—Faceted Jewel
805—Plain Jewel

SPECIFICATIONS

Prices do not include bulbs.
1-inch Jewels. Jewel holders snap in place.
1-inch mounting hole. Up to ⅝-inch panel thickness.
Parts heavily plated. Jewel holder chrome.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

REMOVABLE ½-INCH JEWEL—HORIZONTAL TYPE



Prices do not include bulbs.

Uses Mazda No. 44—6-8 Volt
Uses Mazda No. 1815—12-16 Volt
Uses Mazda No. 313 28 Volt

Cat. No. Description
1110—Faceted Jewel
1111—Plain Jewel

Uses Mazda No. 51— 6-8 V
Uses Mazda No. 53—12-16 V
Uses Mazda No. 356— 28 V

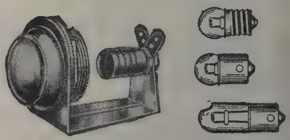
1112—Faceted Jewel
1113—Plain Jewel

This is a very compact Indicator Light. The body is available in two different lengths. If a long glass bulb bayonet base lamp is used, specify the long body—Nos. 1110 and 1111. If lamp using small round bulbs are used, specify the short body.

SPECIFICATIONS

Prices do not include bulbs.
Lamp bulbs can be removed by the fingers from the front of the panel.
Jewel holder unscrews for bulb removal.
Fibre washer, lock washer and nut furnished.
Metal parts brass, except nut and lock washer.
Requires 11/16 inch hole for mounting.
All parts heavily plated.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

1-INCH JEWEL—OPEN BRACKET TYPE



With Miniature Screw Socket

Uses Mazda No. 50— 6-8 Volt
Uses Mazda No. 52—12-16 Volt

Cat. No. Description
100—Faceted Jewel
101—Plain Jewel

With Miniature Bayonet Socket

SHORT BULB

Uses Mazda No. 51— 6-8 Volt
Uses Mazda No. 53—12-16 Volt
Uses Mazda No. 356— 28 Volt

LONG BULB

Uses Mazda No. 44— 6-8 Volt
Uses Mazda No. 1815—12-16 Volt
Uses Mazda No. 313— 28 Volt

106—Faceted Jewel
107—Plain Jewel

With Candelabra Base Socket

Uses Mazda No. 6S6—115 Volt

103—Faceted Jewel
104—Plain Jewel

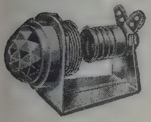
SPECIFICATIONS

Prices do not include bulbs.
1-inch mounting hole for panels up to inch.
Fixed position terminals.
Note bracket reinforcing rib.
Faceted or plain glass jewels .
Colors: Red, Green, Amber, Blue, Opal, Clea

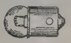
SEND SPECIFICATIONS ON SPECIAL REQUIREMENTS

Gothard INDICATOR LIGHT ASSEMBLIES

¾-INCH JEWEL — OPEN BRACKET TYPE



Uses short bulb.
11/16-inch
mounting hole.



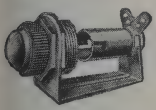
With Miniature Screw Socket

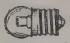
Cat. No. Description
700—Faceted Jewel
701—Plain Jewel

With Miniature Bayonet Socket

703—Faceted Jewel
704—Plain Jewel

½-INCH REMOVABLE JEWEL TYPE





Uses short bulb.
11/16-inch
mounting hole.

With Miniature Screw Socket

Cat. No. Description
400—Faceted Jewel
401—Plain Jewel

With Miniature Bayonet Socket

403—Faceted Jewel
404—Plain Jewel

SPECIFICATIONS

Prices do not include bulbs.
Both types require 11/16-inch mounting hole.
½-inch type, bulbs removable from front of panel.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

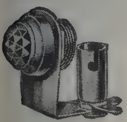
¾-INCH JEWEL — VERTICAL MOUNTING

With Miniature Screw Socket

Uses Mazda No. 50— 6-8 Volt
Uses Mazda No. 52— 12-16 Volt

Cat. No. Description
200—Faceted Jewel
201—Plain Jewel

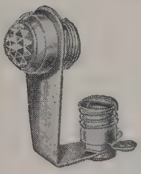
With Miniature Bayonet Socket



Uses Mazda No. 51— 6-8 Volt
Uses Mazda No. 53— 12-16 Volt
Uses Mazda No. 356— 28 Volt

Cat. No. Description
206—Faceted Jewel
207—Plain Jewel

With Candelabra Socket



Uses Mazda 6S6— 115 Volt

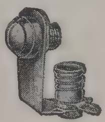
203—Faceted Jewel
204—Plain Jewel

SPECIFICATIONS

Prices do not include bulbs.
Requires 11/16-inch mounting hole.
Fixed position terminals.
Insulating washers—laminated bakelite.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

½-INCH JEWEL — VERTICAL MOUNTING

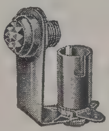
With Miniature Screw Socket



Uses Mazda No. 50— 6-8 Volt
Uses Mazda No. 52— 12-16 Volt

Cat. No. Description
300—Faceted Jewel
301—Plain Jewel

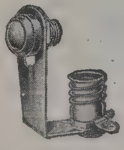
With Miniature Bayonet Socket



Uses Mazda No. 51— 6-8 Volt
Uses Mazda No. 53— 12-16 Volt
Uses Mazda No. 356— 28 Volt

306—Faceted Jewel
307—Plain Jewel

With Candelabra Socket



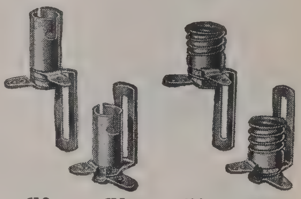
Uses Mazda 6S6— 115 Volt

303—Faceted Jewel
304—Plain Jewel

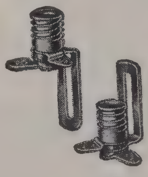
SPECIFICATIONS

Prices do not include bulbs.
Requqires 7/16-inch mounting hole.
Bracket made from heavy metal.
Insulating washers, laminated bakelite.
All parts heavily plated.
Fixed position terminals are used on all assemblies. A step in the terminal locks over one side of an octagonal washer. Patent pending.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

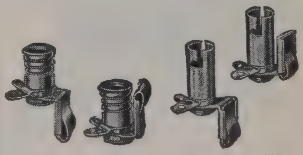
DIAL LIGHT BRACKETS



610 611 620 621



600 601



640 641 630 631

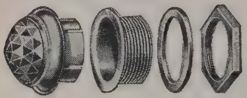
Cat. No.	Socket	Bracket
600	Miniature Screw	Down
601	Miniature Screw	Up
610	Miniature Bayonet	Down
611	Miniature Bayonet	Up
620	Candelabra	Down
621	Candelabra	Up
630	Miniature Bayonet	Down
631	Miniature Bayonet	Up
640	Miniature Screw	Down
641	Miniature Screw	Up

The above—all brass construction.

GOTHARD MANUFACTURING COMPANY
2130 Clear Lake Avenue Springfield, Illinois

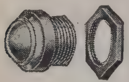
Gothard INDICATOR LIGHT ASSEMBLIES

JEWELS FOR SEPARATE MOUNTING



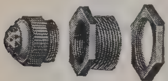
1-inch Jewel. 1-inch mounting hole.

Cat.
No. Description
110—Faceted Jewel
111—Plain Jewel



¾-inch Jewel $\frac{11}{16}$-inch mounting hole.

210—Faceted Jewel
211—Plain Jewel



½-inch Jewel. $\frac{11}{16}$-inch mounting hole.

410—Faceted Jewel
411—Plain Jewel

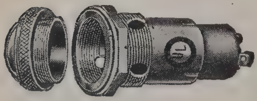
½-inch Jewel. $\frac{7}{16}$-inch mounting hole.

310—Faceted Jewel
311—Plain Jewel

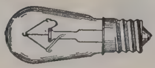
SPECIFICATIONS
Prices do not include bulbs.
Colors: Red, Green, Amber, Blue, Opal, Clear.

THREADED JEWEL HOLDERS 1-INCH JEWELS

Underwriters Listed

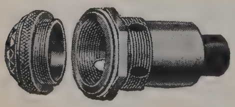


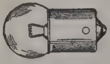
Uses Mazda 6S6—115 Volt



Cat.
No. Description
1200—Faceted Jewel
1201—Plain Jewel
1202—Frosted Jewel, Colored Disc

With Single Contact Bayonet Socket





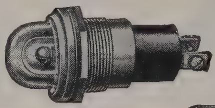
1203—Faceted Jewel
1204—Plain Jewel
1205—Frosted Jewel, Colored Disc

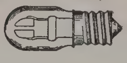
With Double Contact Bayonet Socket

Cat.
No. Description
1206—Faceted Jewel
1207—Plain Jewel
1208—Frosted Jewel, Colored Disc

NEON GLO-LITE

Underwriters Listed



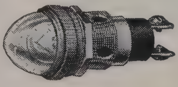


Uses Mazda NE-45—¼ Watt, 115 Volt

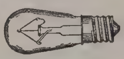
Cat.
No. Description
1217—Colored Lucite Cap

SPECIFICATIONS
Transparent colors: Red, Green, Amber, Blue.

The Neon bulbs consume only ¼-watt current and their life is rated at 3000 hours. Note that the glow portion of the bulb sets up in the Lucite cap. The interior of the cap is covered with tiny hemispheres. This design diffuses the light so that the cap is readily visible from the side, as well as in front.



Underwriters Listed



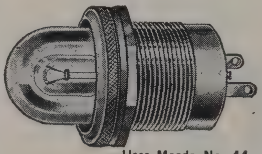
1¼-inch diam. wide angle, diffusion lens.

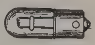
Cat.
No. Description
1600—Diffusion glass lens, 6S6 bulb
1604—Single contact, bayonet socket bulb
1605—Double contact, bayonet socket bulb

SPECIFICATIONS
Glass caps: Red, Green, Amber, Blue, Opal, Clear. Specify color.

MINIATURE BAYONET SOCKET WITH LARGE LUCITE CAP

Bakelite interior.
Underwriters Listed

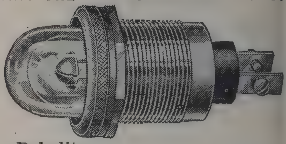




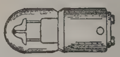
Uses Mazda No. 44—6-8 Volt
Uses Mazda No. 1815—12-16 Volt
Uses Mazda No. 313—28 Volt

Cat.
No. Description
1218—Lucite Cap, 1" mounting hole
Colors: Red, Green, Amber, Blue, Clear.

LUCITE CAP MINIATURE BAYONET BASE D. C.



Bakelite Insulation Underwriters Listed

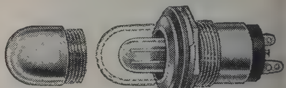


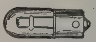
Double Contact Neon
Uses Mazda NE-48—Requires external resistance 30,000 ohms for 115 volts

Cat.
No. Description
1219—Lucite Cap
Colors: Red, Amber, Clear.

LUCITE CAP

$\frac{11}{16}$-inch mounting hole
Bakelite insulation
Underwriters Listed

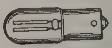




Uses Mazda No. 44—6-8 Volt
Uses Mazda No. 1815—12-16 Volt
Uses Mazda No. 313—28 Volt

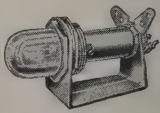
Cat.
No. Description
1142—Removable Lucite Cap

SPECIFICATIONS
Colors: Red, Green, Amber, Opal, Clear.

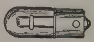


Uses NE-51 Neon—110 Volts. Requires built-in resistance

Cat.
No. Description
1143—As illustrated above but with 200,000 ohms built-in resistance
1144—With 100,000 ohms resistance. Brighter glow but decreases life of the bulb slightly



LUCITE CAP HORIZONTAL BRACKET



Requires $\frac{11}{16}$" mounting hole
Uses Mazda No. 44— 6-8 Volts
Uses Mazda No. 1815— 12-16 Volts
Uses Mazda No. 313— 28 Volts

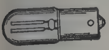
Cat.
No. Description
406—Removable Lucite Cap
Colors: Red, Green, Amber, Opal, Clear.

Cont'd on Next Page

SEND SPECIFICATIONS ON SPECIAL REQUIREMENTS

Gothard INDICATOR LIGHT ASSEMBLIES

Cont'd from Page G-18

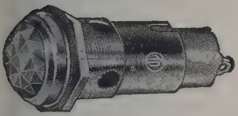


Uses NE-51 Neon—110 Volts. Requires built-in resistance

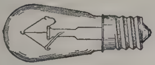
Cat. No. Description
407—As illustrated above but with 200,000 ohms built-in resistance.
408—With 100,000 ohms resistance

1-INCH INCLOSED

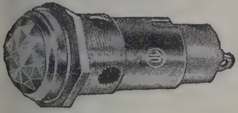
Underwriters Listed



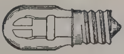
Uses Mazda 6S6—115 Volts



Cat. No. Description
1000—Faceted Jewel
1001—Plain Jewel
1002—Frosted Jewel, Colored Disc



Uses Mazda NE-45—¼ Watt, 115 Volt

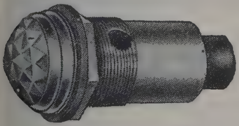


Cat. No. Description
1003—Faceted Jewel
1004—Plain Jewel
1005—Frosted Jewel, Colored Disc

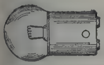
SPECIFICATIONS

Prices do not include bulbs.
Designed for 110-volt current.
Underwriters' approved. Has porcelain socket.
Lamps removable from front at panel.
1-inch Jewels. Holders snap in place.
1-inch mounting hole. For panels up to ⅜ inch.
Parts heavily plated. Jewel holder polished.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

1-INCH INDICATOR LIGHT WITH BAYONET CATCH SHELL



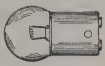
Single Contact



Uses Mazda No. 63—6-8 Volt
Uses Mazda No. 67—12-16 Volt
Uses Mazda No. 71—18-24 Volt
Uses Mazda No. 1251—24-48 Volt

Cat. No. Description
1006—Faceted Jewel
1007—Plain Jewel
1008—Frosted Jewel, Colored Disc

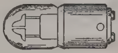
Double Contact



Uses Mazda No. 64—6-8 Volt
Uses Mazda No. 68—12-16 Volt
Uses Mazda No. 72—18-24 Volt
Uses Mazda No. 1252—24-28 Volt

1009—Faceted Jewel
1010—Plain Jewel
1011—Frosted Jewel, Colored Disc

Double Contact Neon



Uses Mazda NE-48—Requires external resistance 30,000 ohms for 115 Volts

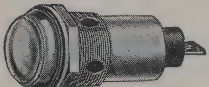
Cat. No. Description
1012—Faceted Jewel
1013—Plain Jewel
1014—Frosted Jewel, Colored Disc

SPECIFICATIONS

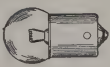
Prices do not include bulbs.
Recommended when vibration is heavy.
Lamps removable from front of panel.
1-inch mounting hole; 1-inch removable jewel.
Parts heavily plated. Jewel holder polished.
Faceted or plain glass jewel.
Colors: Red, Green, Amber, Blue, Opal, Clear.

BAYONET SOCKET INDICATOR LIGHTS

Outside Terminals
Bakelite Housing



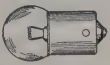
Single Contact



Uses Mazda No. 63—6-8 Volt
Uses Mazda No. 67—12-16 Volt
Uses Mazda No. 71—18-24 Volt
Uses Mazda No. 1251—24-28 Volt

Cat. No. Description
1050—Faceted Jewel
1051—Plain Jewel
1052—Frosted Jewel, Colored Disc

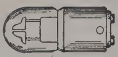
Double Contact



Uses Mazda No. 64—6-8 Volt
Uses Mazda No. 68—12-16 Volt
Uses Mazda No. 72—18-24 Volt
Uses Mazda No. 1252—24-28 Volt

1053—Faceted Jewel
1054—Plain Jewel
1055—Frosted Jewel, Colored Disc

Double Contact Neon



Uses Mazda NE-48—Requires external resistance 30,000 ohms for 115 Volts

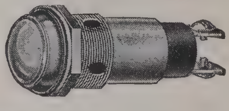
1056—Faceted Jewel
1057—Plain Jewel
1058—Frosted Jewel, Colored Disc

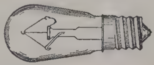
SPECIFICATIONS

Prices do not include bulbs.
Bakelite sockets, Navy Specification 17P5-FBG.
Lamp bulbs replaceable from front of panel.
1-inch Jewels. Holders snap in place.
1-inch mounting holes for panels up to ⅜ inch thick.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

1-INCH MOLDED BAKELITE SOCKET

Underwriters Listed





Uses Mazda 6S6—115 Volts

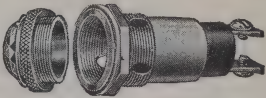
Cat. No. Description
1032—Faceted Jewel
1033—Plain Jewel
1034—Frosted Jewel, Colored Disc

For Mazda NE-45 Neon—Bulbs Not Included

1035—Faceted Jewel
1036—Plain Jewel
1037—Frosted Jewel, Colored Disc

WITH SCREW-IN JEWEL HOLDERS

Underwriters Listed



Cat. No. Description
1209—Faceted Jewel, uses Mazda 6S6 bulb
1210—Plain Jewel, uses Mazda 6S6 bulb
1211—Frosted Jewel, Colored Disc, uses Mazda 6S6 bulb
1212—Faceted Jewel, uses Mazda NE-45 Neon
1213—Plain Jewel, uses Mazda NE-45 Neon
1214—Frosted Jewel, Colored Disc, uses Mazda NE-45 Neon

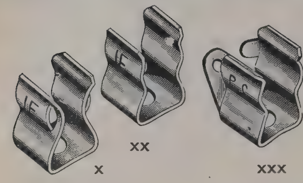
SPECIFICATIONS

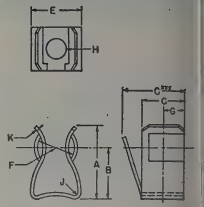
Prices do not include bulbs.
Molded bakelite sockets, Navy Specification 17P4-CFG.
1-inch mounting hole. Front lamp replacement.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

GOTHARD MANUFACTURING COMPANY
2130 Clear Lake Avenue Springfield, Illinois

LITTELFUSE "Quicker than a Short Circuit"

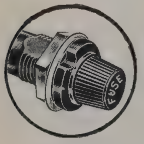
LITTLEFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS

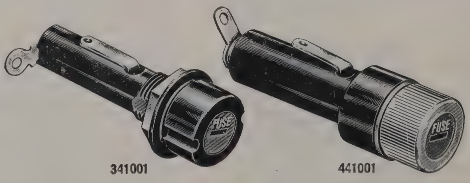




Littelfuse fuse clips are available in three standard styles: "X," with "ears" or fuse stops; "XX," earless; and "XXX," "Lug-Clips," a new **Littelfuse** clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.

Catalog Number	Former Number	Fuse Adaptation	Type	DIMENSIONS A	B	C	E	F	G	H	Unit Wt. grams	Std. Pkg. 100 Wt.—lbs.	List Price Each
BERYLLIUM COPPER CLIPS													
SILVER PLATED—WITH FUSE STOP "EARS"													
121001	1216B	SFE, 3AG & 8AG Fuses	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	$0.05
123001	1217B	4AG & 4AB Fuses	X	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.12
125001	1218B	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	15/32	13/32	7/32	.196	3	2	.16
127001	1219	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.21
129001	1221	Standard Hi-Voltage	X	1 7/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.26
SILVER PLATED—EARLESS TYPE													
121002	1417	SFE, 3AG & AB, & 8AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.06
123002	1437	4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.14
125002		5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	15/32	13/32	7/32	.196	3	2	.16
127002	1475	N.E.C.-30 Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.21
129002	1476	Standard Hi-Voltage	XX	1 7/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.26
SILVER PLATED—"LUG-CLIP"—SOLDER TERMINAL ATTACHED													
121004	New	SFE, 3AG, AB, & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.10
123004	New	4AG Fuses	XXX	9/16	3/8	19/32	.385	9/32	3/16	.171	1.7	1	.15
125004	New	5AG & Midget Fuse	XXX	3/4	1/2	5/8	15/32	13/32	7/32	.196	3.5	2	.20
PHOSPHOR BRONZE CLIPS													
BURNISHED NICKEL PLATE—WITH FUSE STOP "EARS"													
101001	1011B	SFE, 3AG & AB, & 8AG	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
103001	1319	4AG & 4AB	X	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.05
105001	2048	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	15/32	13/32	7/32	.196	3.2	2	.06
107001	5048	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
109001	1463	Standard Hi-Voltage	X	1 7/32	13/16	.750	7/8	13/16	5/16	.265	15.6	4	.10
BURNISHED NICKEL PLATE—EARLESS TYPE													
101002	125-2	1AG, 3AG & AB, 7AG & 8 AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
104002		4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.05
105002	2049B	5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	15/32	13/32	7/32	.196	3.2	2	.06
107002	SP-178	N.E.C. Bantam Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
BRIGHT-DIP PHOSPHOR BRONZE—"LUG CLIP" SOLDER TERMINAL ATTACHED													
101003		1AG, 3AG & AB, 7AG & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.06
103003		4AG & 4AB	XXX	9/16	3/8	19/32	.385	9/32	3/16	.171	1.7	1	.10
105003		5AG, Hi-Voltage-Midget	XXX	3/4	1/2	5/8	15/32	13/32	7/32	.196	3.5	2	.15


Finger Operated Knob



"LITTELFUSE" FUSE EXTRACTOR POSTS

Quicker, safer method for mounting an changing fuses. Held in end of removabl knob, fuse is easily replaced by unscrewin knob. Available with finger-operated knob screw driver slot knob, and finger operate with keep chain.

Catalog No.	Former No.	Descr.—Knob, How Operated	Mtg. Hole	Length Under Panel	Wt. Grams	List Price Each
341001	1075S	3AG—Screw Driver	.495″ dia.*	2 3/32	15.0	$0.45
342001	1075F	3AG—Finger	.495″ dia.*	2 7/32	14.3	.50
340013	1075FZ	3AG—Finger, with Keep Chain	.495″ dia.*	2 9/32	15.7	1.00
340014		3AG—Screw Driver—Anti-Fungus treated	.495″ dia.*	2 3/32	15.0	.75
371001	1087S	8AG—Screw Driver	.495″ dia.*	2 3/32	15.3	.45
372001	1087F	8AG—Finger	.495″ dia.*	2 7/32	14.3	.50
441002	1212C	4AG—Back of Panel Mtg.	5/8″ dia.—Rd.	2 7/16	25	.75
412002	1212D	4AG—Finger, Pressurized	5/8″ dia.—Rd.	2 7/8	45.3	3.50
442001	1212B	4AG—Finger	.623 dia.†	2 13/16	24	.75

*With flat .224″ from C.L.

†With flat .250″ from C.L.

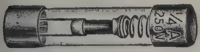
LITTELFUSE "Quicker than a Short Circuit"

8AG INSTRUMENT *high speed* LITTELFUSES

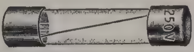
Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc. Glass-enclosed: 1 x ¼″ dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.

Catalog No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res. @ 5 m.a.	APPLICATIONS			List Price Ea.
					Volt-meters Ohms P.V.	All Magnetic Movement Milliammeters	Thermo-couples	
361.005	1000	1/200	250	480.	Over 1000	Galvanometers	Up to 0–5	$0.35
361.010	1001	1/100	250	160.0	1000	Up to 0–1	0–5 to 0–10	.25
361.031	1002	1/32	250	40.0	500–100	0–1 to 0–10	0–10 to 0–25	.25
361.062	1003	1/16	250	5.0	100–500	0–10 to 0–25	0–25 to 0–60	.17
361.125	1004	⅛	250	2.0	20–100	0–25 to 0–75	0–75 to 0–150	.15
361.250	1005	¼	250	3.5	10–20	0–75 to 0–150	0–115 to 0–200	.14
361.375	1006	⅜	250	3.0	5–10	0–150 to 0–250	0–200 to 0–300	.14
361.500	1007	½	250	2.0	3–5	0–250 to 0–350	0–300 to 0–400	.14
361.750	1007-A	¾	250	2.0		0–350 to 0–500	0–400 to 0–600	.14
361001.	1008	1	250	.24		0–500 to 0–750	0–600 to 0–1000	.10
36101.5	1008-A	1½	250	.13		0–750 to 0–1000	0–1000 to 0–1500	.10
361002.	1009	2	250	.10		0–1000 to 0–1500	0–1500 to 0–2000	.10
361003.		3	32	.043		0–1500 to 0–2000	0–2000 to 0–3000	.13
361005.		5	32	.030		0–2000 to 0–4000	0–3000 to 0–5000	.13

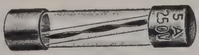
UNDERWRITERS' APPROVED 3 AG "LITTELFUSES"— 250 Volts



"SLO-BLO"—thru ¼ Amp.



STANDARD—½ to 3 Amp.



SLEEVE TYPE—4 to 8 Amp.

Littelfuse is the first manufacturer to receive Underwriters' approval of 3 AG fuses (1¼″ x ¼″ dia.) in current ratings over 3 amps. at 250 volts. Following list gives standard approved ratings carried in stock. **However, the Underwriters' approval to Littlefuse is a blanket approval from ⅛ to 6 amps. Intermediate ratings can be furnished without separate approval,** at a small extra charge. Littelfuse name, the amperage and voltage rating must appear on the fuse caps of approved-fuses. Many new fields are opened up by the extension of approval from 3 to 6 amps., where formerly bulky cartridges or plug fuses and their mountings were used. **This applies specially to electrical appliances, heavy duty power supplies, amplifiers, radios, communication equipment, electronic devices, motors, etc.**

Ratings thru ¼ Ampere—250 Volts

"Slo-Blo" fuses with high time lag—for circuits with equipment having high inductive or capacitative surges, heavy starting currents and intermittent-duty circuits. Anti-fatigue construction—compound element with spring and resistor.

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
313.010*	1259	1/100	33.50	$0.30
313.032*	1261	1/32	3.90	.30
313.062	1262	1/16	90	.50
313.125	1263	⅛	29	.30
313.187	1263-A	3/16	20	.30
313.250	1264	¼	9.6	.30

Ratings ½ thru 3 Amp.—250 Volts

Quick-acting Standard Littelfuses with low time lag. Protective-coated elements prevent oxidation, promote clean fusion break. Diagonal element for accurate alignment, calibration.

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
312.500	1046	½	3.1	$0.14
312.750	1047	¾	1.9	.14
312001.	1040	1	.24	.07
31201.5	1041	1½	.15	.07
312002.	1042	2	.10	.07
312003.	1043	3	.06	.07

Ratings 4 thru 8 Amp.—250 Volts

Standard, quick-acting Littelfuses with diagonal elements. Low time lag—quick-acting.

Std. Pkg. 100—wt., 1½ lbs.

*Not Und. Approved.

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
312004.	1357	4	.046	$0.10
312005.	1358	5	.034	.10
312006.	1359	6	0.30	.10
312008.	1360	8	.025	.15

Std. Pkg. 100, wt., 1½ lbs.

4 AG VACUUM "LITTELFUSES"

Ultra-high-speed action. For protection of extremely delicate instruments, television, X-ray, bolometer circuits, cathode ray equipment, galvanometers, delicate thermocouples, microammeters, milliammeters. These fuses break at much higher voltage than non-vacuum type. Also for electrical circuits with low current, high voltage (up to 1000V DC or 3000 V AC, with power supplies of less than 500 watts). Std. Pkg. 100—wt. 1 lb.

Catalog No.	Former No.	Amp. Rating	List Price, Each
461.001	1331	1/1000	Prices on Application
461.002	1332	1/500	
461.005	1333	1/200	
461.010	1334	1/100	
461.032	1335	1/32	
461.062	1336	1/16	
461.125	1337	⅛	
461.250	1470	¼	

St. Pkg. 100, wt., 1 lb.

3 AB "LITTELFUSES"—250 Volts

Littelfuse
Made in USA
UL
HY-MIGH
LITTELFUSE
15A

Smallest, highest rated Underwriters' Laboratory approved fuses made. Bakelite-enclosed, arc-quenching, powder-filled fuses. Medium time lag.

Catalog No.	Former No.	Amp. Rating	List Price, Each
314010	32155	10	$0.25
314012	32156	12	.25
314015	32159	15	.25

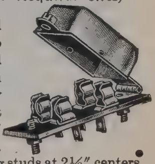
METER BACK MOUNTING

Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1″ x 1⅛″. Length over screw terminal, 1½″. Std. Pkg. 20. Wgt. ½ lb. **List Price Each**..........$0.20

FUSE MOUNTINGS (3AG)

Hinged Cover Type

(Meets Underwriters' Requirements)



Cover fibre-lined. Metal shielded cover hinged to bakelite base. Terminal mounting extends through insulated base. Nut lightly staked to cover to prevent loss. Requires 1⅝″ x 1⅛″ knockout hole in panel. Two 6-32″ x 5/16″ mounting studs at 2⅛″ centers. Base 2½″ x 1¼″. ¾″ high above panel. Std. Pkg. 20.

Cat. No.	List Price Each
351008 (1237A)—Double Pole	$0.60
351005 (1379)—Single Pole	.30

NEON TESTERS

Low Voltage tester (illustrated) for 5 to 50 V AC or DC. For automotive, heating and vent., telephone, aircraft, battery service, radio service (low volt. filament circuits, "A" batteries), for testing polarity. Ten-inch leads with alligator clips. Full directions.

No. **202002** Low Volt. Tattelite tester (5420).

List Price, Each $1.50

High Voltage "Tattelite" tester (not shown) 60–500V AC, 90–500V DC. Molded casings, insulated test prods—unusually sensitive. For testing live lines, polarity, for detecting blown fuses, open circuits, grounded wires, approximate voltage (110, 220, 440, etc.). Detailed instructions.

No. 201002 High Volt. Tattelite tester (5076)

List Price, Each $1.00

"FIRE DEVIL" NEONIZED SCREW DRIVERS

Dual-purpose screw drivers for mechanics, electricians, radio repair men, etc. Sensitive long-life neon tube in handle, glows when blade contacts voltage of 1000V or more. Tests spark plugs, ignition cables, high voltage lines—indicates RF fields, static electricity. Amber-colored plastic handle, hardened tool steel blades, chromium finish.

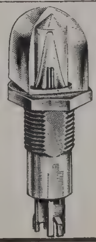
203001 (Former 5210) Baby "Fire Devil." Overall, 4¼ in. Range 1000V–5000V. Std. pkg. 12.

List Price, Each $0.40

203002 (Former 5220) Mama "Fire Devil." Overall length, 7 in. Range to 15,000V. Std. pkg. 12.

List Price, each $1.00

"POST-LITE"



Neon indicating light for radio, television, radar control panels and other electrical equipment. For 65–130V AC, 90–130V DC. For 230V, 100,000 Ohm resistor may be added. Molded, clear plastic—head, ⅝″ square, overall length 2¼″. Under panel length 1½″ — ½″ clearance hole. Wt. 11 gms. Std. pkg.—100.

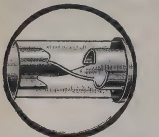
No. 201005 Post-Lite—

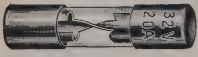
List Price, Each $1.00

LITTELFUSE *"Quicker than a Short Circuit"*

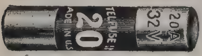
AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life





4 AG Aircraft Fuse showing reinforced twisted element



Bakelite-enclosed 4 AB Fuse

CONSTRUCTION: Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft Services for their strength and greater carrying capacity than 3 AG fuses.

BAKELITE-ENCLOSED: 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

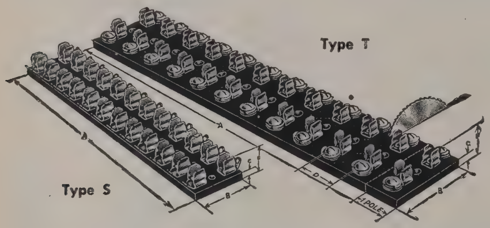
CURRENT RATING: Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

VOLTAGE RATING: Voltage at which fuses wil break without arcing over, or bursting under short circuit conditions.

VIBRATION FACTOR: Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

Vibration Factor	4AG "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.5 Gms.						4AB "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.75 Gms.						5AG "LITTELFUSES" 1½" x 13/32" Dia. Unit Wt.—8.5 Gms.					
	Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**	**Cat. No.**	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**	**Cat. No.**	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**
100+	**"Slo-Blo"**												**"Slo-Blo"**					
100+	413001.	1091C	1	250	.71	**$0.25**	414001.	1091B	1	250	.39	**$0.25**	513001.	1160C	1	250	.88	**$0.25**
100+	413002.	1092C	2	250	.094	**.25**	414002.	1092B	2	250	.16	**.25**	513002.	1161C	2	250	.24	**.25**
500+	413003.	1093C	3	250	.059	**.25**	414003.	1093B	3	250	.055	**.25**	513003.	1162C	3	250	.18	**.25**
500+	413005.	1094C	5	32	.023	**.25**	414005.	1094B	5	115*	.041	**.25**	513005.	1163C	5	32	.05	**.30**
500+	**Aircraft**						414010.	1095B	10	115*	.016	**.20**	**Aircraft**					
500+	411010.	1095	10	32	.016	**.13**	414015.	1096B	15	115*	.012	**.20**	511010.	1164	10	32	.039	**.20**
500+	411015.	1096	15	32	.010	**.13**	414020.	1097B	20	32	.008	**.20**	511015.	1165	15	32	.013	**.20**
500+	411020.	1097	20	32	.008	**.13**	414025.	1098B	25	32	.007	**.20**	511020.	1166	20	32	.013	**.20**
500+	411025.	1098	25	32	.007	**.13**	414030.	1099B	30	32	.007	**.20**	511025.	1442	25	32	.030	**.20**
500+	411030.	1099	30	32	.007	**.13**	414035.	—	35	32	.006	**.25**	511030.	1167	30	32	.013	**.20**
500+	411035.	—	35	32	.006	**.18**	414040.	1100B	40	32	.003	**.25**	511035.	14 2	35	32	.008	**.20**
500+	411040.	1100	40	32	.004	**.20**							511040.	1168	40	32	.010	**.20**
													511050.	1169	50	32	.009	**.30**
													511060.	1222	60	32	.010	**.30**

*Good for power supplies up to 25 KVA at 115V—400 cycles.



NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (⅛" allowance for saw cut).

Fuse Type	Mtg. Type	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
8AG	S	1⅜	3/16	⅝	21/32
3AG	S	1⅝	3/16	⅝	21/32
3AG	T	2⅜	7/32	29/32	11/16
4AG	T	2⅜	7/32	29/32	13/16
5AG	T	2¾	9/32	9/32	35/64

Mountings with Solder Terminals—Type "S". Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

Mountings with Screw Terminals—Type "T". Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 356 (3AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L. Type 456 (4AG) has lock washers or terminals.

FOR 3AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	**List Price, Each**
356001	1	25/32	**$0.40**
356002	2	1 11/16	**0.80**
356003	3	2 19/32	**1.20**
356004	4	3½	**1.60**
356005	5	4 13/32	**2.00**
356006	6	5 5/16	**2.40**
356007	7	6 7/32	**2.80**
356008	8	7⅛	**3.20**
356009	9	8 1/32	**3.60**
356010	10	8 15/16	**4.00**
356011	11	9 27/32	**4.40**
356012	12	10¾	**4.80**

FOR 4AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	**List Price, Each**
456001	1	25/32	**$0.60**
456002	2	1 11/16	**1.15**
456003	3	2 19/32	**1.70**
456004	4	3½	**2.25**
456005	5	4 13/32	**2.80**
456006	6	5 5/16	**3.35**
456007	7	6 7/32	**3.90**
456008	8	7⅛	**4.45**
456009	9	8 1/32	**5.00**
456010	10	8 15/32	**5.55**
456011	11	9 27/32	**6.10**
456012	12	10¾	**6.65**

FOR 5AG FUSES—TYPE "T"

556001	1	27/32	**$0.70**
556002	2	1 13/16	**1.35**
556003	3	2 25/32	**2.00**
556004	4	3¾	**2.65**
556005	5	4 23/32	**3.30**
556006	6	5 11/16	**3.95**
556007	7	6 21/32	**4.60**
556008	8	7⅝	**5.25**
556009	9	8 19/32	**5.90**
556010	10	9 9/16	**6.55**
556011	11	10 17/32	**7.20**
556012	12	11½	**7.85**

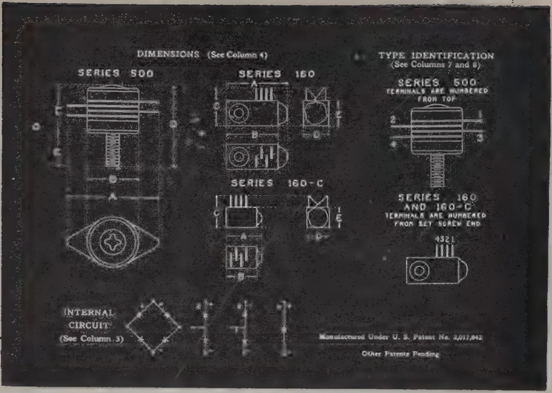
FOR 3AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	**List Price, Each**
357001	1	½	**$0.25**
357002	2	1⅛	**.50**
357003	3	1¾	**.75**
357004	4	2⅜	**1.00**
357005	5	3	**1.25**
357006	6	3⅝	**1.50**
357007	7	4¼	**1.75**
357008	8	4⅞	**2.00**
357009	9	5½	**2.25**
357010	10	6⅛	**2.50**
357011	11	6¾	**2.75**
357012	12	7⅜	**3.00**

FOR 8AG FUSES—TYPE "S"

387001	1	½	**$0.25**
387002	2	1⅛	**.50**
387003	3	1¾	**.75**
387004	4	2⅜	**1.00**
387005	5	3	**1.25**
387006	6	3⅝	**1.50**
387007	7	4¼	**1.75**
387008	8	4⅞	**2.00**
387009	9	5½	**2.25**
387010	10	6⅛	**2.50**
387011	11	6¾	**2.75**
387012	12	7⅜	**3.00**

Conant nstrument Rectifiers


DIMENSIONS (See Column 4)
SERIES 500
SERIES 160
SERIES 160-C
A
B
C
D
E
TYPE IDENTIFICATION (See Columns 7 and 8)
SERIES 500 TERMINALS ARE NUMBERED FROM TOP
1
2
3
4
SERIES 160 AND 160-C TERMINALS ARE NUMBERED FROM SET SCREW END
4321
INTERNAL CIRCUIT (See Column 3)
Manufactured Under U. S. Patent No. 2,017,842
Other Patents Pending

SPECIFICATIONS (STANDARD TYPES)

Column 1	2	3	4					5	6	7	8				9						10
		Internal	Dimensions (Inches)					Mounting Screw	Weight	Number of	Color, Terminal Number				PEAK ELECTRICAL RATINGS						*List
															Instantaneous		Intermittent		Continuous		
Type	Series	Circuit	A	B	C	D	E	Size	(Grams)	Terminals	1	2	3	4	Volts	Mils	Volts	Mils	Volts	Mils	Price
M	500	1	.890	.500	.485	.800	.328	6-32	13.012	4	RED	no	BLK	no	30	100	20	60	10	30	$3.50
HS	500	2	.890	.500	.445	.800	.360	6-32	9.158	3	RED	no	BLK	—	15	100	10	60	5	30	2.70
T	500	3	.890	.500	.445	.800	.360	6-32	9.158	3	no	RED	no	—	30	100	20	60	10	30	2.70
H	500	4	.890	.500	.400	.800	.392	6-32	7.730	2	RED	no	—	—	15	100	10	60	5	30	1.50
B	160	1	.595	.485	.375	.250	.250	2-56	3.400	4	RED	no	BLK	no	30	15	20	10	10	5	3.50
BHS	160	2	.625	.550	.375	.250	.250	2-56	2.880	3	RED	no	BLK	—	15	15	10	10	5	5	2.70
BT	160	3	.625	.550	.375	.250	.250	2-56	2.880	3	no	RED	no	—	30	15	20	10	10	5	2.70
BH	160	4	.625	.550	.375	.250	.250	2-56	2.700	2	RED	no	—	—	15	15	10	10	5	5	1.50
B-C	160-C	1	.345	.297	.310	.220	.200	none	1.743	4	RED	no	BLK	no	30	15	20	10	10	5	3.50
BHS-C	160-C	2	.345	.297	.310	.220	.200	none	1.385	3	RED	no	BLK	—	15	15	10	10	5	5	2.70
BT-C	160-C	3	.345	.297	.310	.220	.200	none	1.385	3	no	RED	no	—	30	15	20	10	10	5	2.70
BH-C	160-C	4	.345	.297	.310	.220	.200	none	1.293	2	RED	no	—	—	15	15	10	10	5	5	1.50

Over ninety per cent of all rectifier requirements are served by 12 types—4 basic assemblies in 3 series. These 3 series are the three primary units of Conant rectifiers. Special types, however, can be developed as needed, and you'll find Conant ready to cooperate.

SERIES 500 UNITS are for general applications requiring greater output current for meters, relays or other apparatus requiring more than 1 milliampere. Recommended for all such applications at commercial and the lower audio frequencies. Will also operate up to 50,000 c.p.s. in special applications wherein accuracy of readings is not essential.

SERIES 160 and 160-C are for applications requiring good frequency response over the entire commercial and audio range and especially when the meter, relay or other apparatus requires less than 1 milliampere for operation. In some special applications these units may be operated at frequencies up to 15,000,000 c.p.s. with special circuit treatment.

SPECIAL TYPES are available in both series 500 and 160-C. When requesting a quotation on a special type include a sketch of the rectifier required or a circuit diagram showing source and frequency of the input voltage, resistance and kind of load, required load current and the ambient temperatures.

SERIES 500 Disc diameter .500 inch. Area each disc .15 square inch. Furnished with 3" braided, tinned copper leads. Finished in clear lacquer. Nickel plated end plates.

SERIES 160 Disc diameter .160 inch. Area each disc .02 square inch. Furnished with 3" stranded, tinned double silk covered copper leads. Nickel plated case. Assembly sealed with specially developed moisture proof compound.

SERIES 160-C Disc diameter .160 inch. Disc area, lead wire and length and moisture proof seal are identical with Series 160. Dimensions of the nickel plated case have been reduced to the most compact size. These units may be mounted in a standard midget fuse clip.

Conant Instrument Rectifiers are available from leading radio jobbers everywhere—consult your local jobber.

CONANT

Instrument Rectifiers

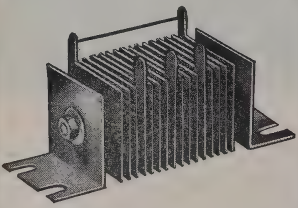
ELECTRICAL LABORATORIES

6500 O STREET, LINCOLN 5, NEBRASKA, U. S. A.

20 Vesey St., New York 7, New York
85 E. Gay St., Columbus 15, Ohio
600 S. Michigan Ave., Chicago 5, Ill.
1215 Harmon Pl., Minneapolis 3, Minn.
518 City Bk. Bldg., Kansas City 8, Mo.
1212 Camp St., Dallas 2, Texas
723 P. de Leon Ct., N.E., Atlanta, Ga.
4018 Greer Ave., St. Louis 7, Mo.
711 Colorado Bldg., Denver 7, Colo.
4214 Country Club Dr., L. Beach 7, Cal.
Export Div.,
75 West St., New York 6, New York
50 Yarmouth R[illegible] Toronto, Canada

THE BRADLEY LINE

SELENIUM RECTIFIERS



Bradley selenium rectifiers give good efficiency and stability for medium voltage power applications at D.C. ratings up to 24 volts and at current ratings up to 5 amperes per plate. Ratings are for continuous operation in naturally circulating air at 35°C. ambient.

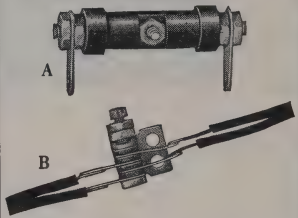
The current density of Bradley selenium rectifiers is conservatively listed at 0.333 amperes per square inch of plate. For power applications, square plate designs allow a maximum ratio of rating to space factor.

In high voltage electronics uses they are rated up to 37 volts peak inverse per plate. Current ratings as low as 500 microamperes are available. Special designs can be supplied for high frequency applications at even lower current ratings.

Bradley engineers will gladly assist you in any rectification problem involving instruments, electronic devices or power applications. Let them specify the proper selenium rectifier for your circuit, or design and produce a special unit for you.

● Above, Model Se-11U20-F9. Full-wave rectifier rated at 110 volts A.C., 80 volts D.C., and 1.15 amperes D.C.

COPPER OXIDE RECTIFIERS



"Coprox" rectifiers by Bradley feature gold-coated positive contact pellets to combat aging. Specially designed terminals and presoldering of lead wires prevent overheating during assembly.

High leakage resistance, low forward resistance make for efficient operation. To insure perfect sealing, standard units are sealed with waterproof lacquer and critical application units are potted in wax.

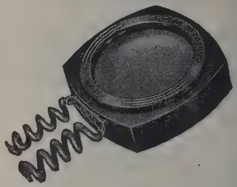
All ratings of Bradley rectifiers are conservative. Highly adaptable mountings provide a wide variety of installations that will stand up longer in service.

Let Bradley's application experience help you solve circuit design problems. Bradley engineers are leaders in the development and production of special rectifiers for special jobs.

● Above, A Coprox Model CX-1C2B1, a center tap, full-wave rectifier. Completely enclosed in Bakelite, low capacitance. Rectifies high frequency current. Conservatively rated up to 4.5 volts A.C., 3.0 volts D.C., 500 microamperes D.C.

● Above, B Coprox Model CX-2E4F2, a full-wave rectifier rated up to 4.5 volts A.C., 3.0 volts D.C., 5 milliamperes D.C.

PHOTO ELECTRIC CELLS



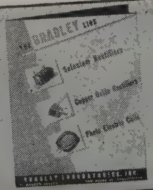
Bradley's Luxtron photocells efficiently convert light into electric energy sufficient to operate meters and meter relays without costly amplifiers. Lightweight, rugged and true to rating, they give long life under the most strenuous operating conditions.

Luxtron photocells are, so far as we have been able to determine, the very finest on the market although priced with inferior grades.

Shapes of Luxtron photocells vary from circles to squares, with every in-between shape desired. In size they range from the diminutive to the largest sizes required.

For precision control of light into electric energy, specify Luxtron photocells. Write Bradley today for samples and engineering assistance on any photocell problem you have in mind.

● Above, the pigtail contact model shown here is only one of a series of standard mountings. Others include housed models with plug-in contacts, tube socket and nut-and-bolt types.



Write for your copy of "The Bradley Line", booklet showing many additional rectifier and photocell models.

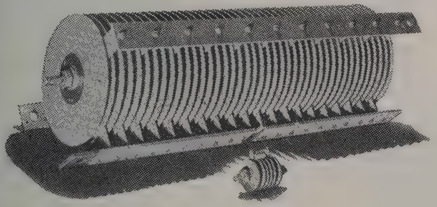
BRADLEY
LABORATORIES, INC.
82 MEADOW STREET, NEW HAVEN 10, CONN.

Specify Seletron

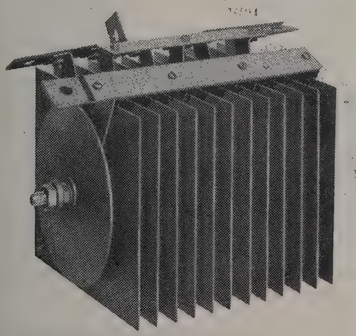
SELENIUM RECTIFIERS

Made on Aluminum

When preparing details for circuits that require rectifiers of minimum weight and size plus continuous, trouble-free service...write SELETRON into your specifications right at the start!



These advanced-type selenium rectifiers (built on aluminum) are specially engineered for long life span, minimum weight; compactness, and maximum heat-dissipating value. No load is too big or too small for Seletron. Seven standard sizes of discs provide outputs ranging from milliamperes to thousands of amperes. Arrangement of discs in an infinite number of series and parallel combinations makes possible stacks to meet your individual needs.



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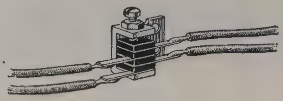

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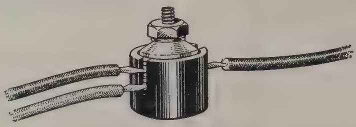

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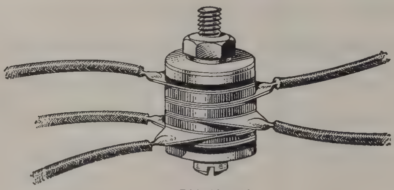

TYPE C-4
CAT. No. 5017

Type C-1, Cat. No. 5011—A half wave rectifier unit with single 3/4″ diameter copper oxide rectifying element provided with two terminal lugs. Continuous service output of 32 MA, DC and 3 volts AC in the reverse or high resistance direction.

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Type C-2, Cat. No. 5010—Two half wave rectifier units, each with single 3/4″ diameter copper oxide rectifying element, mounted on one bolt, and insulated from one another. Two terminal lugs provided for each section. Each unit rated to supply an output of 32 MA, DC, with maximum of 3 volts AC in the reverse or high resistance direction.

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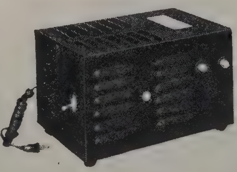

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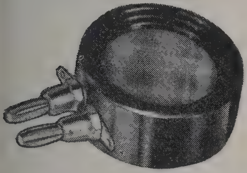

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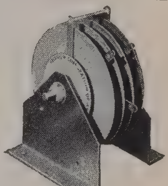

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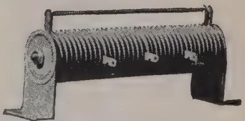

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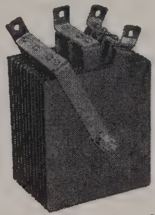

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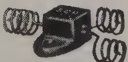

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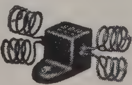

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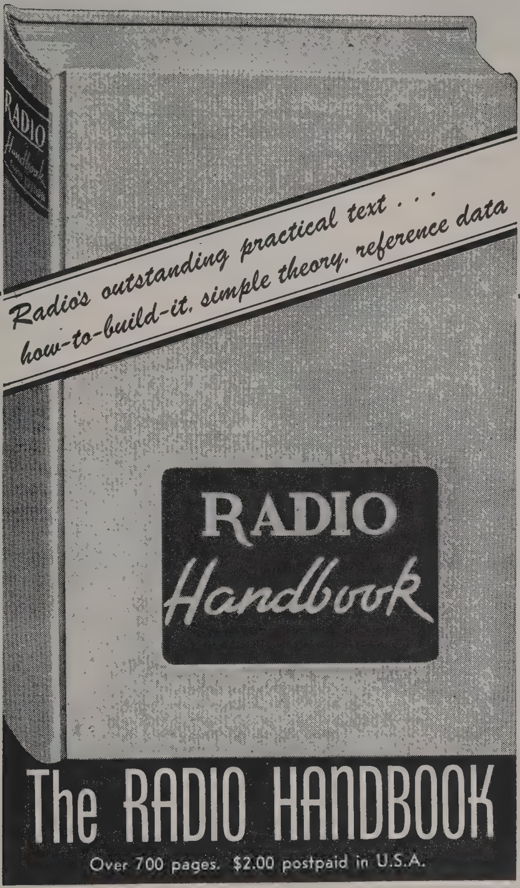
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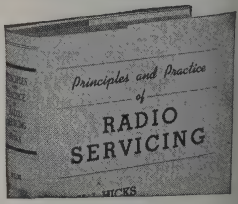

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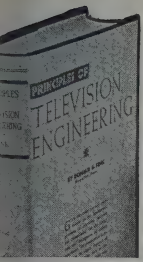

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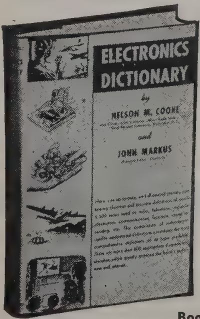

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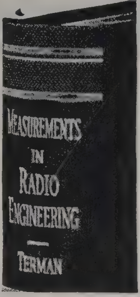

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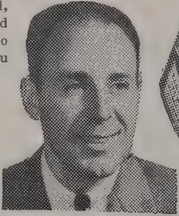

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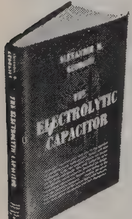

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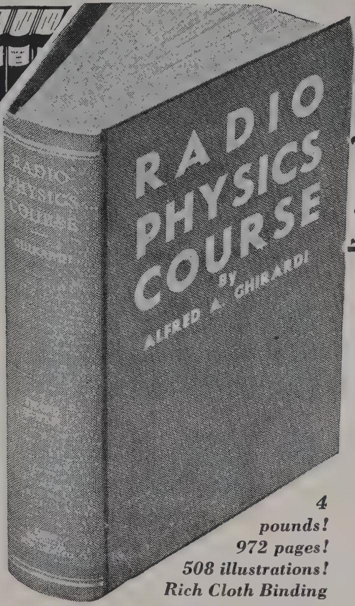

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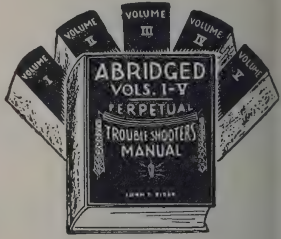

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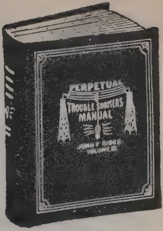

RADAR: What It Is—*Easy-to-grasp Explanation for only $1*

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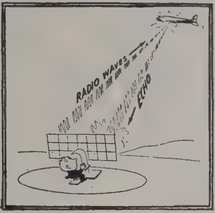
Lt. Colonel, Signal Corps (Retired)
and G. C. BAXTER ROWE
Formerly Senior Editor, War Dept., Signal Service at Large



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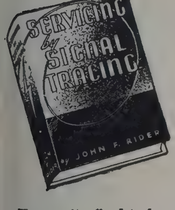

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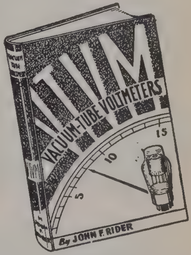

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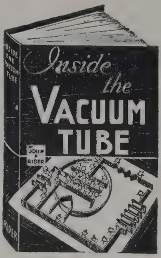

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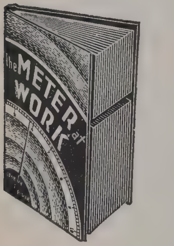

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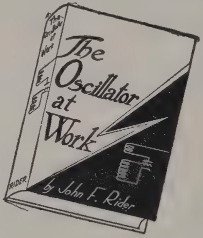

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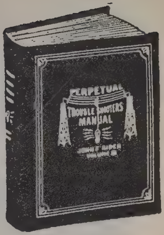

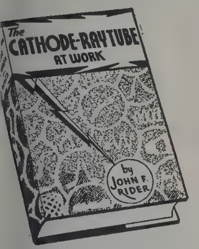
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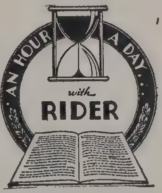

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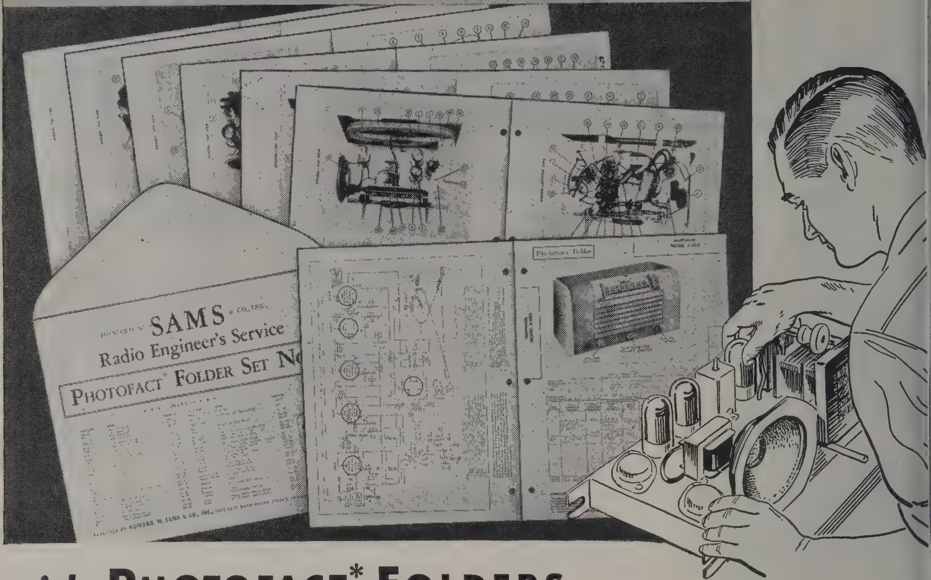

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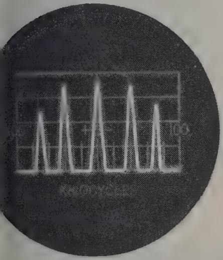
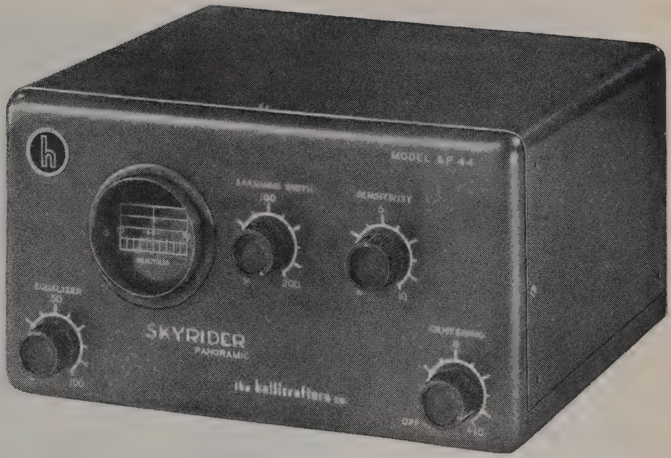


eup of Skyrider Panoramic Scope
/s graphic visualization of the spectrum.



Radio spectrum made visible . . . see what you hear . . . with the new SKYRIDER PANORAMIC

licrafters new Skyrider Panoramic adaptor, Model 44, offers all the advantages of panoramic recep- i in an unusually compact and inexpensive unit. h this adaptor connected to a Hallicrafters receiver s possible to monitor up to 200 kilocycles of the io spectrum visually and to analyze the character- cs of radio signals from your own or other trans- ters.

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CONTROLS

QUALIZER, SWEEPWIDTH, GAIN, CENTER FRE- ENCY (all on front panel), HORIZONTAL POSI- N, VERTICAL POSITION, SWEEP PAD, IN- NSITY, FOCUS (on rear of chassis). RF input cable ninated in small loop to fit over plate pin of con- ter tube. Alligator clip for ground connection. AC l and plug. Note: In permanent installations the RF input cable may be terminated in a coaxial connector instead of the loop and alligator clip and the receiver may be equipped with a coaxial terminal.

PHYSICAL CHARACTERISTICS

The Model SP-44 is housed in a steel cabinet finished to match the new Hallicrafters line. Operating components are mounted on a cadmium plated steel chassis. The cathode ray tube is provided with a light shade for greatest visibility.

TEN TUBES

1—6SG7 RF amplifier; 1—6SA7 converter; 1—6SG7 IF amplifier; 1—6SQ7 detertor, video amplifier; 1—6AC7 reactor; 1—VR105 voltage regulator; 1—6SN7 sawtooth generator and amplifier; 1—902A cathode ray tube; 1—6X5 low voltage rectifier; 1—6X5 high voltage rectifier.

OPERATING DATA

The Model SP-44 panoramic adaptor is designed to operate on 105-125 volts, 50/60 cycle alternating current. Power consumption is approximately 55 watts.

DIMENSIONS

Model SP-44. Cabinet only, 11 inches wide by 6 inches high by 10 inches deep. Overall, 11 inches wide by 6-3/16 inches high by 10-7/8 inches deep.

WEIGHT

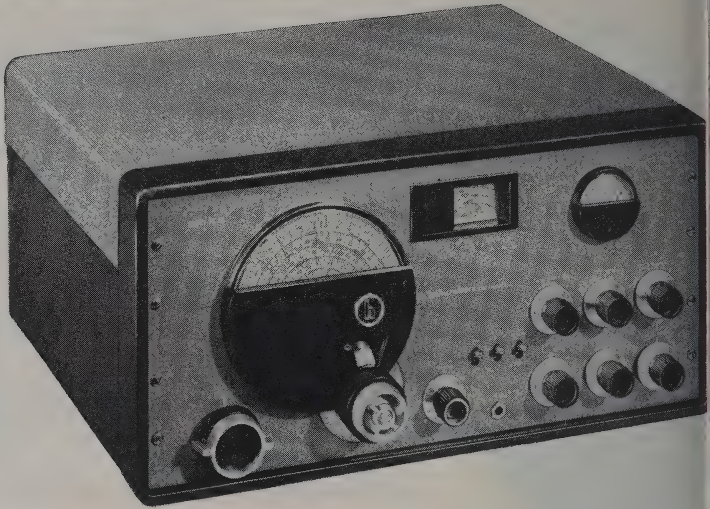
Model SP-44. Adaptor only 13 pounds. Packed for shipment 15½ pounds.

hallicrafters RADIO

AM • FM • CW

MODEL

SX-42



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The controls of the SX-42 are arranged for maximum convenience and simplicity of operation. MAIN TUNING and BANDSPREAD knobs are mounted coaxially, focusing the tuning functions in a single precision-built unit. BANDSWITCH and VOLUME are located at either side of the main dial. Auxiliary controls such as CRYSTAL PHASING, SENSITIVITY, etc., are logically placed so that those most frequently used are in the most accessible positions. Hallicrafters new system of color coding makes it possible for the entire family to enjoy this f
receiver. The normal control positions for standa
broadcast reception are indicated by tiny red dots wh
FM adjustments are in green.

The main tuning knob is provided with a precisi
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The main tuning dial is calibrated in megacycles and
marked with the numbers in the new FM band of 88
108 megacycles. The bandspread dial is calibrated
the amateur 3.5, 7, 14, 28, and 50 megacycle bands.
additional logging scale is provided on this dial for
in other ranges. The small locking knob mounted
axially with the main and bandspread tuning kno
permits either to be rotated freely while holding
other firmly in position.

The many new and ingenious circuit features wh
make possible the amazing versatility of the SX-42 st
directly from Hallicrafters' long experience in the desi
and production of VHF and UHF communications equ
ment. The newly developed "split-stator" tuning syst
used on the three higher bands provides a far grea
gain per stage than is possible with older methods. Ea
I-F transformer contains windings for both 455 ki
cycles and 10.7 megacycles and the changeover is
complished automatically between bands 4 and 5.
band 4 runs to 30 megacycles and band 5 starts at
megacycles, it is possible to use either narrow-ba
standard communications receiver performance or wi
band FM performance on the amateur frequencies fr

(SX-42 continued)

8 to 29.7 megacycles. A type 7A4 tube functions as a eat frequency oscillator for CW reception. When the eceiver is switched to FM, however, this tube becomes direct-current amplifier to operate the FM tuning neter. This meter performs as a normal carrier level inlicator for AM reception. A four-position switch on the anel selects the desired mode of operation—PHONO, M, AM or CW.

In addition to its many new features, the SX-42 coninues all of the time-tried advantages characteristic of Hallicrafters top models. Freedom from "drift" and naximum stability are provided by temperature comensation and the use of a type VR-150 voltage regulaor tube. A crystal filter circuit combined with variable ntermediate-frequency channel width offers six different legrees of selectivity on the four lower bands (to 30 negacycles). CRYSTAL PHASING, CW PITCH, SENSITIVITY and four-position TONE control for LOW, MED, HI FI, and BASS, are all conveniently placed on the ront panel, as are RECEIVE/STANDBY, NOISE LIMTER, and AVC switches.

FEATURES

1. Continuous frequency range—540 kilocycles to 110 megacycles in six bands.
   - Band 1—540 to 1620 kilocycles.
   - Band 2—1.62 to 5 megacycles.
   - Band 3—5 to 15 megacycles.
   - Band 4—15 to 30 megacycles.
   - Band 5—27 to 55 megacycles.
   - Band 6—55 to 110 megacycles.

   Adequate overlap is provided at the ends of all bands.
2. Wide vision main tuning dial accurately calibrated.
3. Separate electrical bandspread dial calibrated for amateur 3.5, 7, 14, 28, and 50 megacycle bands.
4. Beat frequency oscillator functions throughout entire range of receiver. CW pitch adjustable from panel.
5. Four-position switch selects mode of operation, PHONO, FM, AM, or CW.
6. RECEIVE/STANDBY switch.
7. Series type automatic noise limiter.
8. Push-pull final audio stage delivers over 8 watts with less than 8% harmonic distortion.
9. Audio amplifier response curve is essentially flat from 60 to 15,000 cycles.
0. Red markings for broadcast reception and green markings for FM reception simplify operation for general use.
1. Connections for coordinated operation with Hallicrafters transmitters.
2. Separate SENSITIVITY (RF) and VOLUME (AF) controls.
3. Four-position tone control provides LOW, MED, HI FI, and BASS.
4. Special socket for use of external power supply.
5. High frequency oscillator temperature-compensated to reduce drift.
6. "Micro-set" permeability-adjusted coils in RF section.
7. AVC switch.
8. "Airodized" steel top provides full ventilation and swings open on full length piano hinge for greatest accessibility.
9. Wide band FM, AM or CW available from 27 to 110 megacycles.
0. Six-position selectivity switch with crystal filter operates on frequencies between 540 kilocycles and 30 megacycles.
1. Combination carrier level meter and FM tuning indicator. BFO tube performs dual function as FM tuning indicator amplifier.
2. New FM band marked with channel numbers in addition to megacycle calibration.
3. Dual intermediate frequency transformers; 455 kilocycle IF for standard operation, 10.7 megacycle IF for VHF and FM operation.
4. "Split-stator" tuning makes possible superior performance in VHF range.
5. Chassis and panel can be removed as a unit for rack mounting.
6. Crystal phasing control.
7. Antenna input impedance matches 300 ohm line.
8. New Hallicrafters Type HA-6 crystal used in crystal filter circuit. Holder of Mycalex, non-hygroscopic and unaffected by temperature.
9. Two limiter stages for maximum quieting on FM.
0. Two tuned RF stages using miniature tubes for superior VHF performance.
1. Phonograph input connections on rear of chassis.
2. Type VR-150 voltage regulator tube provides maximum stability in high frequency oscillator, converter, BFO, and FM tuning meter circuits.
33. MAIN and BANDSPREAD tuning controls and dial lock are mounted coaxially as a single precision-built unit.
34. Main tuning knob provided with precision vernier scale, separately nated through small window in one-piece Lucite dial housing.

CONTROLS

BAND SELECTOR, MAIN TUNING, BAND SPREAD, and selective DIAL LOCK, VOLUME and POWER OFF, AVC, NOISE LIMITER, RECEIVE/STANDBY, SELECTIVITY, TONE, SENSITIVITY, CRYSTAL PHASING, RECEPTION, CW PITCH. "S" meter adjustment on rear of chassis.

EXTERNAL CONNECTIONS

Antenna connections for doublet or single wire antenna. Input impedance matches 300-ohm line except on broadcast band which is designed for use with ordinary single wire antenna. Output terminals to match 500 or 5000 ohm speaker. Phone jack on front panel. Phonograph input connector on rear of chassis. Socket for use of external power supply. Remote standby switch connections provided for in power socket. Power cord and plug.

PHYSICAL CHARACTERISTICS

The Model SX-42 is housed in a steel cabinet of true functional design. Panel and chassis are assembled as a unit and may be removed for servicing or for mounting in a relay rack. Panel is finished in deep gray, top of cabinet is of "airodized" steel finished in satin chrome and swings open on a full length piano hinge for maximum accessibility. Main dial housing is a single piece of Lucite fabricated by an injection molding process. Panel lettering is in light gray with incidental red and green markings for standard AM and FM reception. Dials are a light translucent green and are indirectly illuminated.

FIFTEEN TUBES

1—6AG5 1st RF amplifier; 1—6AG5 2nd RF amplifier; 1—7F8 converter; 1—6SK7, 1st IF amplifier; 1—6SG7, 2nd IF amplifier; 1—6H6 AM rectifier and noise limiter; 1—7H7 1st FM limiter amplifier; 1—7H7 2nd FM limiter; 1—6H6 FM discriminator; 1—6SL7 audio inverter; 2—6V6 Audio output tubes; 1—7A4 beat frequency oscillator and FM tuning meter amplifier; 1—VR-150 voltage regulator; 1—5U4G high voltage rectifier.

OPERATING DATA

The standard Model SX-42 is designed for operation on 105-125 volts 50/60 cycle alternating current. The universal Model SX-42U may be operated on 110, 130, 150, 220 or 250 volts, 25 to 60 cycle, alternating current. The standard model draws 0.93 amperes at 117 volts. When operated from batteries through the auxiliary power supply socket it requires 5 amperes at 6 volts DC for heater current and 150 milliamperes at 270 volts DC for plate current. Total battery current when operating from a 6 volt battery and using a Vibrapack as a source of plate power is 16 amperes. Listed by Underwriters Laboratories.

DIMENSIONS

Model SX-42. Cabinet only, 20 inches wide by 9¾ inches high by 16 inches deep. Overall, 20 inches wide by 10¼ inches high by 18 inches deep.

WEIGHT

Model SX-42. Receiver only, approximately 52 pounds. Packed for shipment, approximately 65 pounds. Model B-42. Adjustable base, packed for shipment, approximately 5 pounds.

Net

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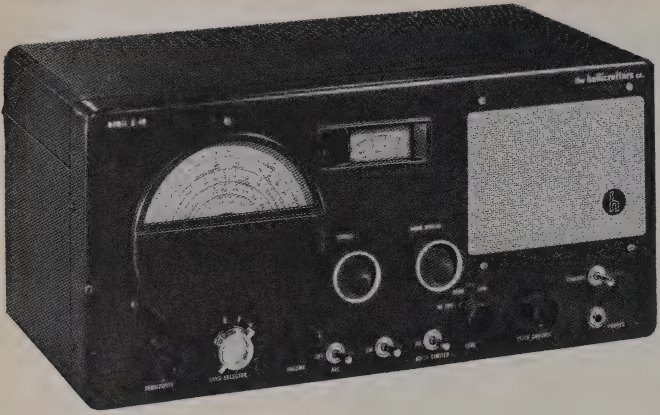


MODEL S-40

$79.50
AMATEUR NET

Function, beauty combined in an outstanding value

540 kc to 43 Mc

The sensational new S-40 with the finest performance ever presented in the popular price field is housed in a cabinet of true functional design—a completely new conception of receiver beauty and styling. Full use is made of newly developed materials and techniques. Maximum ventilation is assured by a multitude of tiny openings in the upper section of the cabinet which also imparts a smart and pleasing appearance. The entire top of the cabinet opens on a full length piano hinge for complete accessibility. Panel and chassis may be removed from the cabinet as a unit without disturbing any controls or connections. All controls are clearly identified and the normal positions for standard broadcast reception are marked in red, making it easy for the whole family to use this fine receiver.

The Model S-40 incorporates many circuit refinements and features never before available in this price class.

FEATURES

1. Overall frequency range—540 kilocycles to 43 megacycles in 4 bands.
   Band 1—540 to 1700 kilocycles.
   Band 2—1.7 to 5.35 megacycles.
   Band 3—5.35 to 15.7 megacycles.
   Band 4—15.7 to 43 megacycles.
   Adequate overlap is provided at the ends of all bands.
2. Wide vision main tuning dial accurately calibrated.
3. Separate electrical bandspread dial, inertia flywheel tuning.
4. Beat frequency oscillator, pitch adjustable from front panel.
5. CW/AM switch.
6. Standby/receive switch.
7. Automatic noise limiter.
8. Maximum audio output—2½ watts.
9. Internal PM dynamic speaker held in rubber shock mounts.
10. Red markings for broadcast reception simplify operation for general use.
11. Connections for co-ordinated operation with Hallicrafters transmitters.
12. Separate SENSITIVITY (RF) and VOLUME (AF) gain controls.
13. Three-position tone control.
14. Special socket permits use of external auxiliary power supply.
15. High frequency oscillator temperature compensated to reduce dri
16. "Micro-set" permeability adjusted coils in RF section.
17. AVC switch.
18. Exceptional accessibility of all parts due to new cabinet design.
19. Socket for connection of Model SM-40 "S" meter.

NINE TUBES: 1—6SG7 RF amplifier; 1—6SA7 converter; 1—6S 1st IF amplifier; 1—6SK7 2nd IF amplifier; 1—6SQ7 2nd detector a 1st audio amplifier; 1—6F6G output audio amplifier; 1—6H6 aut matic noise limiter and gas gate; 1—6J5GT beat frequency oscillato 1—80 rectifier.

DIMENSIONS: Model S-40. Cabinet only, 18½ inches wide by 8 inches high by 9⅝ inches deep. Overall, 18½ inches wide by 9 inch high by 11 inches deep.

WEIGHT: Model S-40. Receiver only, approximately 28 pounds. Pack for shipment, approximately 33 pounds.

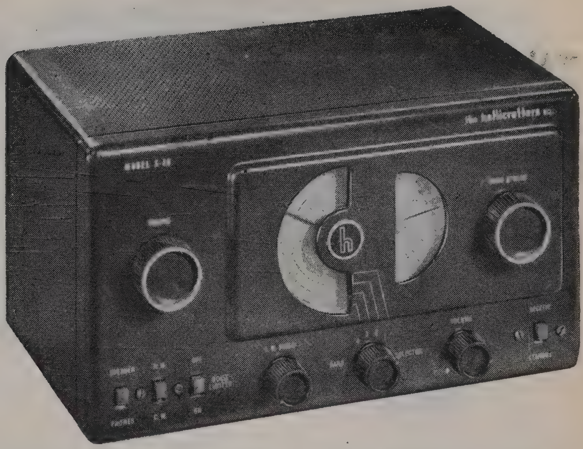
Model SM-40 "S" Meter

This new external "S" meter is available as an accessory and can be easily connected through a special socket on the rear of the receiver chassis. May also be used with other Hallicrafters models such as the S-20R, S-18, etc.

Model SM-40 Meter—Overall 5¾ inches wide by 4 inches high by 4½ inches deep. Weight approximately 1¾ pounds. Packed for shipment approximately 3 pounds.

hallicrafters RADIO

MODEL
S-38



$39.50
AMATEUR NET

For hams, beginning hams and all who want the finest receiver available at a low price . . . .

he Model S-38 meets the demand for a truly competent
ommunications receiver in the low price field. Styled
the post-war Hallicrafters pattern and incorporating
any of the features found in its more expensive
rothers, the S-38 offers performance and appearance
r above anything heretofore available in its class. Four
ning bands, CW pitch control adjustable from the
ont panel, automatic noise limiter, self-contained PM
ynamic speaker and "Airodized" steel grille, all mark
e S-38 as the new leader among inexpensive com-
unications receivers.

The S-38 is an especially fine receiver for younger people just beginning to find the unending fascination offered by radio as a hobby. In addition to being a good standby receiver for any amateur, the S-38 has unlimited uses. Its compact functional design, its high performance on both short waves and standard broadcast reception makes it an ideal receiver for use in den or library, in college dormitory, at camp or cottage or in any room around the house wherever a good extra receiver at a low cost is desired.

FEATURES

- Overall frequency range—540 kilocycles to 32 megacycles in 4 bands.
  - Band 1—540 to 1650 kc.
  - Band 2—1.65 to 5 mc.
  - Band 3—5 to 14.5 mc.
  - Band 4—13.5 to 32 mc.

  Adequate overlap is provided at the ends of all bands.
- Main tuning dial accurately calibrated.
- Separate electrical band spread dial.
- Beat frequency oscillator, pitch adjustable from front panel.
- AM/CW switch. Also turns on automatic volume control in AM position.
- Standby/receive switch.
- Automatic noise limiter.
- Maximum audio output—1.6 watts.
- Internal PM dynamic speaker mounted in top.
- Controls arranged for maximum ease of operation.
- 105-125 volt AC/DC operation. Resistor line cord for 210-250 volt operation available.
- Speaker/phones switch.

CONTROLS

SPEAKER/PHONES, AM/CW, NOISE LIMITER, TUNING, CW
TCH, BAND SELECTOR, VOLUME, BANDSPREAD, RECEIVE/
ANDBY.

EXTERNAL CONNECTIONS

Antenna terminals for doublet or single wire antenna. Ground terminal. Tip jacks for headphones. Line cord and plug.

PHYSICAL CHARACTERISTICS

The Model S-38 is housed in a sturdy steel cabinet finished in rich satin black. Speaker grille in top is of airodized steel. Chassis is cadmium plated. Lettering is in light gray and switch knobs are red.

SIX TUBES

1—12SA7 converter; 1—12SK7 IF amplifier; 1—12SQ7 second detector, AVC, first audio amplifier; 1—12SQ7 beat frequency oscillator, automatic noise limiter; 1—35L6GT second audio amplifier; 1—35Z5GT rectifier.

OPERATING DATA

The Model S-38 is designed to operate on 105-125 volts AC or DC. A special external resistance line cord can be supplied for operation on 210 to 250 volts AC or DC. Power consumption on 117 volts is 29 watts.

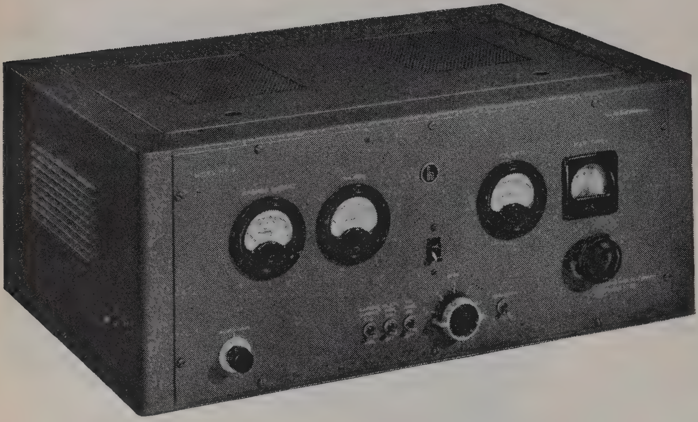
DIMENSIONS

Model S-38, Cabinet only, 12 7/8 inches wide by 6 7/8 inches high by 7 7/8 inches deep. Overall, 12 7/8 inches wide by 7 3/8 inches high by 8 5/8 inches deep.

WEIGHT

Model S-38. Receiver only, 11 pounds. Packed for shipment, 13 1/2 pounds.

hallicrafters RADIO



MODEL

HT-9

$250.00

(LessCoils and Crystals)

AMATEUR NET

A real ham rig • Medium power • Maximum flexibilit

Hallicrafters Model HT-9 is an ideal medium power transmitter. Designed for maximum flexibility and convenience, it is completely self-contained, requiring only a microphone or key, antenna, and source of AC power to go on the air, in addition to coils and crystals.

Five individual plug-in tuning units and crystals may be accommodated in the exciter section simultaneously. Band switching is easily accomplished by changing one coil in the final amplifier and selecting the desired exciter frequency by means of a panel switch. Exciter units are pre-tuned and the only additional operati needed is a slight adjustment of the final tank tuni capacitor.

Separate meters are provided for the power amp fier plate and grid circuits and a third meter may switched into either the exciter or modulator catho circuits. All controls are conveniently arranged on t panel and a safety interlock switch is provided for pr tection against accidental shock when the cabinet opened.

FEATURES

1. Frequency range 1500 kilocycles to 18 megacycles and amateur 28 megacycle band.
2. Power output 100 watts on CW, 75 watts on phone.
3. Antenna coil will match any resistive load from 10 to 600 ohms.
4. Maximum ventilation provided by louvers on sides, cutouts at rear.
5. Hinged top permits access to interior for changing coils and crystals.
6. All operating controls on front panel.
7. Self-contained power supply for 105-125 volts, 50/60 cycle AC operation.
8. Input for any medium level, high impedance microphone.
9. Metering of cathode current of exciter or modulator, power a plifier grid and power amplifier plate.
10. 100 per cent modulation with low distortion.
11. Carrier hum more than 40 db below 100% modulation.
12. Frequency response flat within 3 db from 100 to 500 cycles.
13. Five operating frequencies may be pre-set in the oscillator a buffer-doubler stages and selected at will by means of the ba switch.
14. Line fuses mounted on rear of chassis.
15. Convenient table mounting.
16. Rugged construction and oversize components assure dependa operation.

FOURTEEN TUBES

1—6L6 crystal oscillator (used above 8 Mc only); 1—6L6 crystal oscillator or doubler; 1—814 final RF amplifier; 1—6SJ7 1st speech amplifier; 1—6J5 2nd speech amplifier; 4—6L6 push-pull parallel modulator stage; 2—5Z3 rectifiers; 1—80 rectifier; 2—866 rectifiers.

DIMENSIONS

Model HT-9 overall clearance: 29⅛ inches wide 12½ inches high by 20½ inches deep.

WEIGHT

Model HT-9 transmitter, 120 pounds. Packed for shi ment, 125 pounds.

hallicrafters RADIO

DEL S-37 • $591.75 Amateur Net

cision instrument for very high frequency work

odel S-37 has been designed to fill the need for
high frequency equipment with the performance
cteristics of Hallicrafters top communications re-
s, and a frequency range extending above 200 Mc.
ally similar to the Model S-36A this new receiver
porates the latest developments in VHF circuit
a and provides sensitivity and selectivity in the
from 130 to 210 Mc that is in every way com-
le to the performance of fine communications re-
s on the standard frequencies.

FEATURES

equency range continuous from 130 Mc to 210 Mc.
in tuning dial accurately calibrated in megacycles.
chanical bandspread.
I/AM switch.
nd/Receive switch.
tomatic noise limiter.
ovision for break-in operation.
parate RF and AF gain controls.
riable tone control.
cket for external power connections.
cillator compensated for frequency drift.
'C switch.
al purpose "S" and tuning meter with adjustment from front
nel.
' assembly easily removed for servicing.
tenna compensator mounted on panel.
o RF stages with acorn tubes.
0 or 5000 ohm output.
ltage regulator tube for maximum stability.
rmetically sealed transformers and reactors.
paper condensers oil impregnated and hermetically sealed.
isture-proofed wiring.
itch on chassis permits operation on 105-125 or 210-250 volts
/60 cycle AC.
rtia fly wheel tuning.

EXTERNAL CONNECTIONS

terminals for single wire and doublet antenna. 500 ohm and
m terminals.

FOURTEEN TUBES

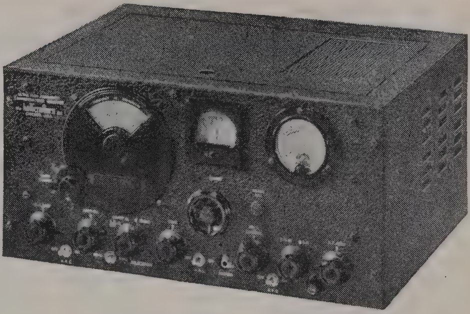
54 (Acorn) Radio Frequency Amplifiers; 1—954 (Acorn)
er-Mixer; 1—6AC7 1st IF Amplifier; 1—6AB7 2nd IF
r; 1—6SK7 3rd IF Amplifier; 1—6H6 AM Detector
tomatic Noise Limiter; 1—6AC7 FM Limiter; 1—6H6 FM
inator; 1—6SC7 Audio Amplifier; 1—VR150 Voltage Regu-
—6V6GT Power Audio Amplifier; 1—5U4G Rectifier; 1—955
High Frequency Oscillator.

DIMENSIONS

S-37: 19¼ inches wide by 9½ inches high by 14¾ inches

WEIGHT

S-37. Receiver only, 90 pounds. Packed for shipment, 100



MODEL S-36A • $307.50 Amateur Net

Outstanding on 4 counts... sensitivity, stability, high fidelity, VHF versatility

The Hallicrafters AM/FM/CW receiver, Model S-36A, is designed for maximum performance on the very high frequencies. Using acorn tubes in the RF amplifier, first detector, and high frequency oscillator circuits, the S-36A provides continuous frequency coverage from 27.8 to 143 megacycles. Either a limiter and discriminator for FM or a third IF amplifier, diode detector and noise limiter for AM may be switched into the circuit from the front panel. A beat frequency oscillator is provided for the reception of CW telegraph signals. The S-36A incorporates a new five-watt audio system with a response curve which is essentially flat from 40 to 15,000 cycles. All components are of the highest quality and the entire receiver is designd for service in any climate. Combining FM, AM, and CW telegraph reception in one superbly engineered unit, the S-36A provides the utmost in very high frequency reception.

FEATURES

1. Frequency range 27.8 to 143 Mc continuous in 3 bands.
   Band 1—27.8 to 46 Mc.
   Band 2—46 to 82 Mc.
   Band 3—82 to 143 Mc.
   Adequate overlap is provided at ends of all bands.
2. Main tuning dial accurately calibrated on all bands.
3. Mechanical bandspread.
4. Beat frequency oscillator, pitch variable from the front panel.
5. BFO switch.
6. FM/AM switch.
7. Send-receive switch.
8. Automatic noise limiter.
9. Push-pull high fidelity output stage.
10. Provision for break-in operation.
11. Separate RF and AF gain controls.
12. Four-position tone control with bass boost.
13. Socket for external DC power connections.
14. Oscillator compensated for frequency drift.
15. AVC switch.
16. Sharp-broad selectivity switch.
17. Dual purpose "S" and tuning meter.
18. RF assembly easily removed for servicing.
19. Antenna compensator mounted on panel.
20. RF stage with acorn tube.
21. 500 or 5000 ohm output plus special balanced 600 ohm line with jack.
22. Voltage regulator tube for maximum stability.
23. Hermetically sealed transformers and reactors.
24. All paper condensers oil impregnated.
25. Moisture-proofed wiring.
26. Switch on chassis permits operation on 105-125 or 210-250 volts 50/60 cycle AC.
27. Line fuse on front panel.
28. Inertia flywheel tuning.
29. Improved gear drive, in dust proof housing.

FIFTEEN TUBES

1—956 (Acorn) radio frequency amplifier; 1—954 (Acorn) converter; 1—955 (Acorn) high frequency oscillator; 1—6AC7 1st IF amplifier; 1—6AB7 2nd IF amplifier; 1—6SK7 3rd IF amplifier; 1—6H6 AM detector and automatic noise limiter; 1—6AC7 FM limiter; 1—6H6 FM discriminator; 1—6SL7GT audio amplifier and phase inverter; 1—VR-150 voltage regulator; 2—6V6GT power audio amplifier; 1—5U4G rectifier; 1—6J5 beat frequency oscillator.

DIMENSIONS

Model S-36A: 19¼ inches wide by 9½ inches high by 15¾ inches deep.

WEIGHT

Model S-36A. Receiver only, 90 pounds. Packed for shipment, 100 pounds.

hallicrafters RADIO

ANTENNAS • *A size, design and price to fit every operation .*

A-100. An under the rug 88-108 Mc FM antenna complete with lead-in for quick installation. Suitable for average metropolitan area reception on new FM band......................**$2.50 Amateur Net**

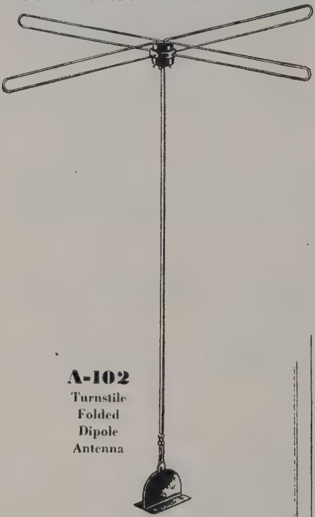
A-101. A new universal broad band dipole FM antenna for window frame or roof mounting. Supplied with mounting hardware and 12 feet of 300 ohm flat transmission line. Shipped with complete instructions for quick, easy assembly and installatoin. **$6.75 Amateur Net**

A-102. This antenna consists of two folded broad band dipoles mounted at right angles to each other supported by a special insulator assembly. This assembly encloses the necessary phasing networks for proper matching of the two antennas for non-directional characteristics. The adjustable base is for roof mounting and the support rod supplied is 4 feet 10 inches high. Sturdy eye bolts are a part of the head assembly for attachment of guy wires or low frequency doublet when desired. Supplied with complete instructions for assembly and installation. **$14.50 Amateur Net**

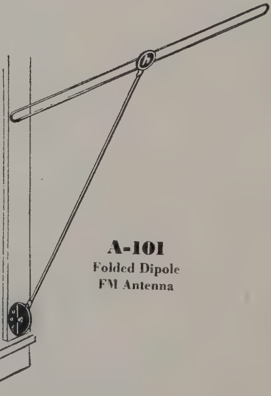
A-103. A high frequency ground plane antenna for commercial or amateur transmitting and receiving purposes. Suitable for use from 50 Mc and 300 Mc. Five extra rods are supplied so if the antenna is cut for a high frequency it later may be changed to lower frequency operation. Coaxial plug supplied with unit. The head has four points for guy wire attachments when required. A four-foot support mast is supplied with unit. The mounting base is of the universal roof type. Designed for 50 to 72 ohm concentric line cable..................................**$14.50 Amateur Net**

A-104. This inexpensive doublet antenna comes as a complete package for quick, easy installation and will provide better AM reception on the frequencies from 540 kc to 30 Mc. t is designed as a non-symmetrical doublet and covers a wide range of frequencies through proper matching of the two unequal sections to the 150 ohm two-wire transmission line. Kit consists of antenna assembly with 35 feet of 150 ohm line attached, center insulator, three end insulators, detailed instructions. This doublet, used with the A-102 turnstile, provides complete all-wave coverage from 540 kc to 110 Mc..........**$3.50 Amateur Net**

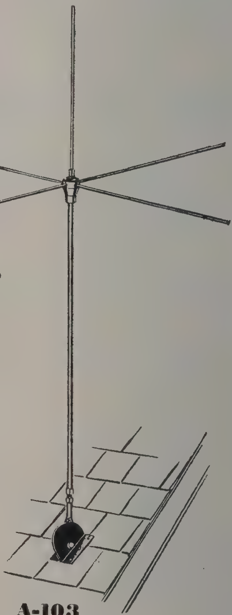
A-105. This antenna is an adjustable vertical with universal roof mounting base. It can be used as a ¼ wave vertical on 28 Mc and with additional elements simple and effective fixed arrays may be constructed. Extends to 16 feet. Supplied knocked down with base insulator, mounting, guy fitting and adjustable rods...................... .... **Price furnished on reque**



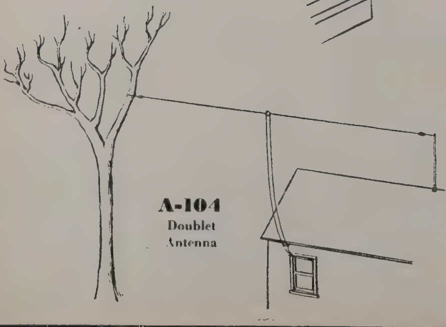
A-102
Turnstile
Folded
Dipole
Antenna



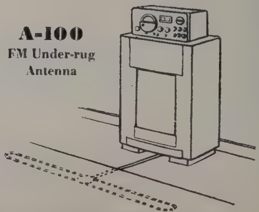
A-101
Folded Dipole
FM Antenna



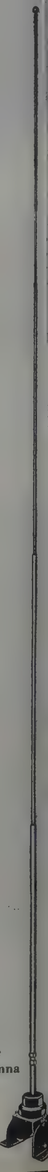
A-103
Ground Plane
Antenna



A-104
Doublet
Antenna



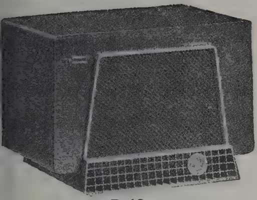
A-100
FM Under-rug
Antenna

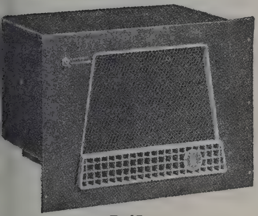


A-105
Adjustable
Vertical Antenna

hallicrafters RADIO

NEW SPEAKERS


R-42


R-45

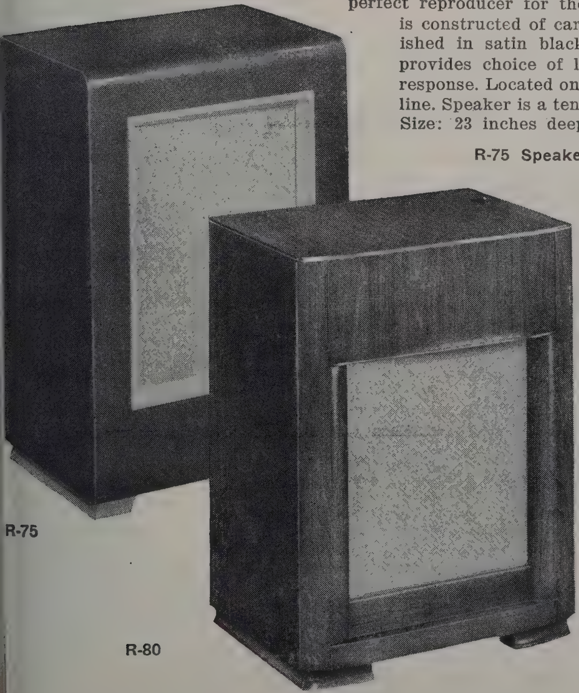
The R-42 and the R-45 (the rack mounting version of the R-42) represent one of the greatest innovations in speaker design in recent years. This is the first speaker of its size to offer the splendid advantages of the bass reflex principle. Heretofore the famous Jensen-originated bass reflex reproduction has been available only in large cabinet speakers. Now in this sleek, highly functional design, matching the new line of Hallicrafters receivers, the bass reflex feature is available in a compact speaker that offers a new high quality of reproduction. The R-42 was designed as a companion piece to the SX-42 receiver. The R-45, rack mounted, makes an ideal piece of equipment to use with the SX-42 when mounted in a standard rack. The speaker size is 8 inches, with extra heavy magnet. Two-position switch on front panel for communications or high fidelity reception. Terminals on rear for 500/600 ohm line. R-42, size: 12½ inches deep, 11¾ inches high, 17 inches wide. R-45, size: 12½ inches deep, 12¾ inches high, 19 inches wide.

R-42 Speaker. Amateur Net $25.00

R-45 Speaker. Amateur Net 27.50

The R-75 is a strictly professional model specifically designed for use in radio studio, den or ham shack or any place where an above average reproducer is desired. It is carefully designed around the bass reflex principle. Sturdy, business-like and smartly designed, the R-75 makes a perfect reproducer for the new Hallicrafters models. The R-75 cabinet is constructed of carefully selected woods, totally enclosed and finished in satin black with contrasting gray lacquer trim. Switch provides choice of low and high frequency cut-off or high-fidelity response. Located on rear panel are input terminals for 500/600 ohm line. Speaker is a ten-inch permanent magnet unit of highest quality. Size: 23 inches deep, 30 inches high, 21½ inches wide.

R-75 Speaker. Amateur Net $50.00 (approximate)


R-75

R-80

The R-80 offers a 10-inch, high quality, bass reflex reproducer in a handsome walnut cabinet that will prove a worthy addition to any living room, library or den. Beautifully designed to express its modern functionalism, it matches the new line of Hallicrafters receivers and will blend perfectly with almost any type of home decoration. Proportioned so that receivers like the SX-42 can be placed on top to form a unit. Can be used with any other receivers, phonographs or sound systems where a good looking, high-fidelity reproducer is required. Control switch permits choice of low and high frequency cut-off or high fidelity. Input terminals for 500/600 ohm line located on rear panel. Cabinet size: 23 inches deep, 30 inches high, 21½ inches wide.

R-80 Speaker. Amateur Net $65.00

HAMMARLUND

"HQ-129-X" AMATEUR RECEIVER

The Hammarlund "HQ-129-X" amateur communications receiver is designed to meet the demands of the most critical amateurs. Its design includes every feature essential to finest performance.

The "HQ-129-X" has a continuous range from .54 to 31 megacycles in six separately calibrated bands with continuous bandspread throughout the entire range. In addition, the bandspread dial is calibrated for each of the four most important amateur bands—3.5 - 4 mc, 7 - 7.3 mc, 14 - 14.4 mc and 28 - 30 mc.

The "HQ-129-X" has the Hammarlund patented variable wide-band crystal filter which works exceptionally well on phone or short wave broadcast signals. There are many other features: Variable antenna compensator, beat oscillator, voltage regulator, series noise limiter, send-receive switch, automatic volume control, calibrated "S" meter, audio gain control, sensitivity control—plus all that goes into a receiver built by engineers who have spent a lifetime designing commercial communication equipment.

The "HQ-129-X" is available complete in a two-tone gray finish including tubes and a 10 inch P. M. dynamic speaker.

"HQ-129-X"	**Amateur Net Price $168.00**
SC-10—Speaker cabinet finished to match	**Amateur Net Price $ 5.25**

Send for twenty-page technical booklet

SERIES 400 "SUPER-PRO"

	Net Price
SPC-400-X Receiver (Table Model) with P.M. speaker unit only	$ 342.00
SPR-400-X Receiver (Rack Model) less speaker	344.55
SC-46 Speaker Cabinet only	5.25

The Series 400 Commercial "Super-Pro" receiver covers a new and wider range of frequencies. The SP-400-X model covers from .54 to 30 megacycles taking in all of the standard and short wave broadcast bands as well as amateur bands down to 30 megacycles. The "Super-Pro" has become standard equipment with many engineers in the radio press and broadcast fields. During the recent war, "Super-Pros" were standard equipment in practically every Army Airways Communications System installation throughout the world. Many letters from the men who operated them attest to the soundness of design and ability to withstand the most gruelling operating conditions.

The "Super-Pro" has continuous variable selectivity from razor-sharp "single-signal" to wide band high fidelity for broadcast reception. This feature together with the high power high fidelity 8 watt audio amplifier makes this an ideal receiver for use in entertainment installations as well as for home use. In addition the SP-400-X has AVC, continuous bandspread, calibrated "S" meter, BFO, noise limiter, send-receive switch, ear phone terminals, phono-input and separate heavy duty power supply.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ISLIP RADIO

MANUFACTURERS OF MARINE RADIO TELEPHONES, RADIO DIRECTION FINDERS, ANTENNAS AND COMPONENTS

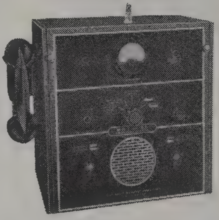
5-CHANNEL, CRYSTAL-CONTROLLED SHIP-TO-SHORE RADIO TELEPHONE

Pretuned and ready to operate on 3 channels—ship to ship, Coast Guard and land station specified. Crystals available for the additional channels if desired. 6, 12 or 32 volt operation.

10 WATTS MRT 10-1 Complete $275

5-CHANNEL, CRYSTAL-CONTROLLED SHIP-TO-SHORE RADIO TELEPHONE

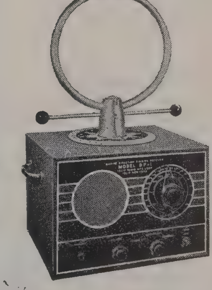
Pretuned and ready to operate on 5 channels—ship to ship, Coast Guard and land stations specified. Supplied complete with 10 crystals. 12 or 32 volt operation.



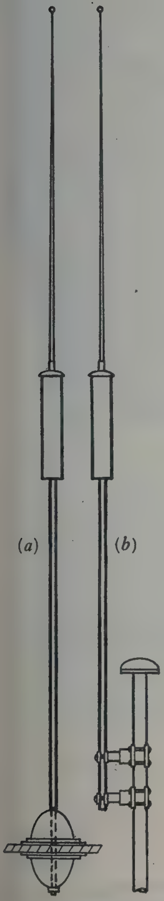
25 WATTS MRT-25 Complete $525

MARINE RADIO DIRECTION FINDER

Simplicity of operation — no installation costs. Self-contained long life batteries operate this 6-tube instrument for 100 hours and upwards. Built-in loudspeaker. Band switching for marine radio beacons, aircraft radio beacons and standard broadcast for entertainment. Beat frequency oscillator to help receive weak signals.



DF-1 Complete $200

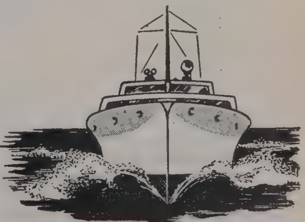


MARINE ANTENNA MRA-1 Complete $45

with (a) deck mounting or (b) side mounting brackets

All Islip equipment treated against corrosion and moisture.

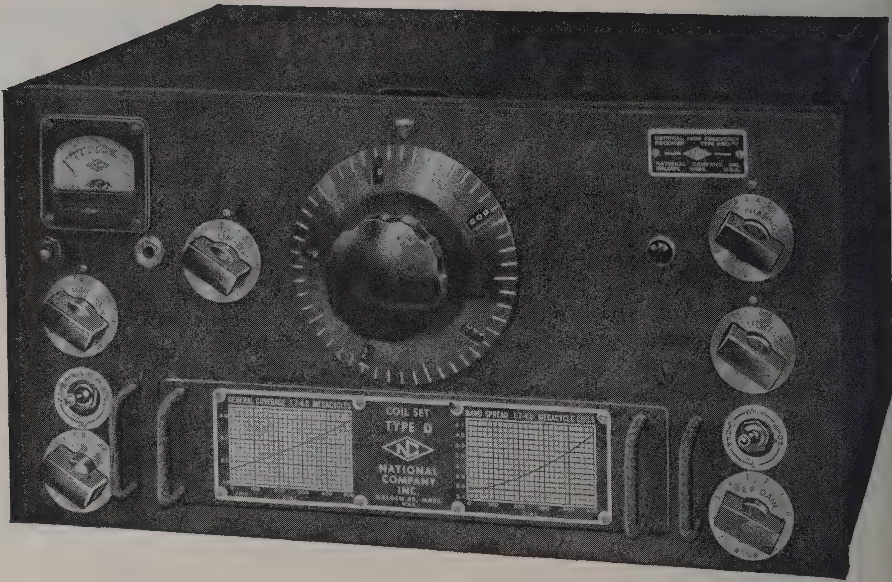
See your dealer or write us.



Export Dept.,
PIONRAD INT'L LTD.
107 William St.
New York
Cable: PIONRAD

ISLIP RADIO MANUFACTURING CORP.
ISLIP, LONG ISLAND, N. Y.

NATIONAL HRO-5A1



DESCRIPTION

The development of the National HRO-5A1 Radio Receiver brings the famous HRO series to a new high in receiver performance.

Items characterizing the HRO-5A1 Receiver are as follows: Two R.F. preselector stages; separate mixer and local oscillator tubes; two I.F. stages with a crystal filter employing phasing and selectivity controls; combined second detector AVC and second audio stage; first audio stage; double action limiter stage; audio output stage; C.W. oscillator with pitch control; and a signal strength meter Metal tubes, first used in the HRO-5, are also employed in the HRO-5A1. The Loud Speaker and Power Unit are separate units. The data listed below indicates the versatility and the extremely high standards of performance to be found in the HRO-5A1.

CONTROLS

Main Tuning Dial: AVC Switch: B+ ON-OFF; Audio Gain; R.F. Gain; C.W. Oscillator Pitch Control; Selectivity Control; Phasing Control; S-Meter Switch; Limiter Control.

SPECIFICATIONS

Frequency Range:

The Frequency Range of the HRO-5A1 with the 4 Coil Sets normally supplied is 1.7 — 30.0 MC. Each Coil Set covers the frequencies listed below:

Coil Set	General Coverage	Bandspread
D	1.7 — 4.0	3.5 — 4.0
C	3.5 — 7.3	7.0 — 7.3
B	7.0 — 14.4	14.0 — 14.4
A	14.0 — 30.0	28.0 — 30.0

NATIONAL Coil Sets to cover the low frequency range of the receiver are available as follows:

Type J 50 — 100 KC.
Type H 100 — 200 KC.
Type G 180 — 430 KC.
Type F 480 — 960 KC.
Type E 900 — 2050 KC.

SELECTIVITY:

Voltage Ratio	Nominal Bandwidth
Crystal Filter Out	
6 DB.	3.0 KC.
60 DB.	21.5 KC.
Crystal Filter In	
Max. Selectivity 20 DB.	200 Cycles
Min. Selectivity 20 DB.	6.0 KC.

SENSITIVITY:

The sensitivity of the HRO-5A1 is 1. microvolt or better throughout the normal frequency range.

POWER INPUT:

Using Type 697 Power Pack; 75 watts at 115 volts, 50/60 cycles, 1 phase AC.

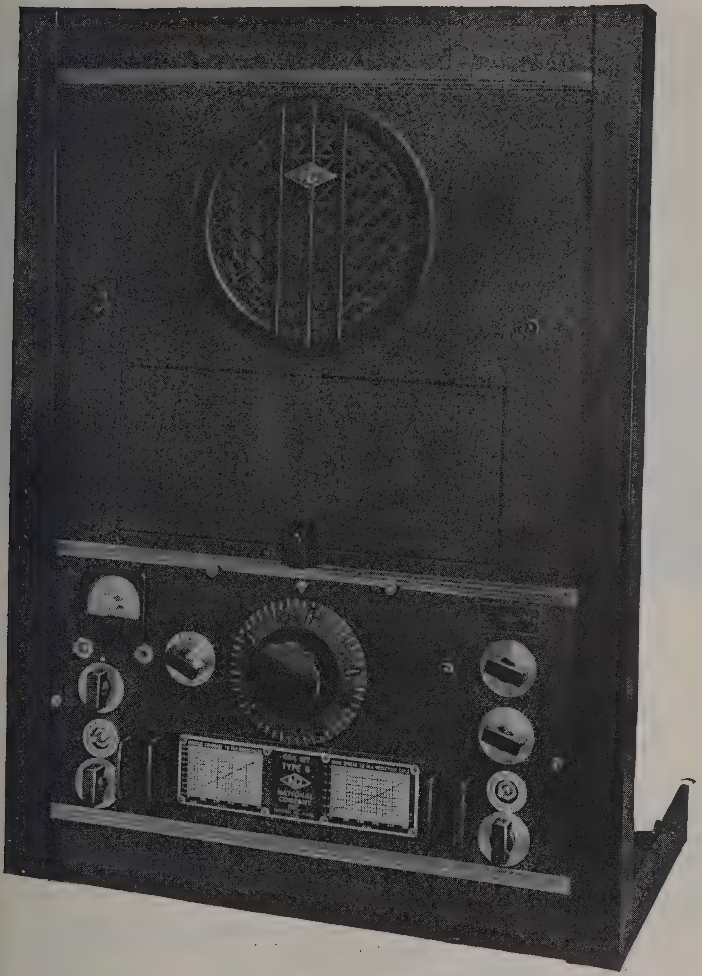
POWER OUTPUT:

Maximum output 3 watts. Output with negligible distortion 1.5 watts.

PRICES

Table Model (with tubes & A,B,C,D coils)	List $
Rack Model (with tubes & A,B,C,D coils)	List $
Table Model MCS Loud Speaker	List $
Rack Model RFSH Loud Speaker	List $
Table Model 697 Power Unit	List $
Rack Model SPU-697 Power Unit	List $

NATIONAL HRO-5C



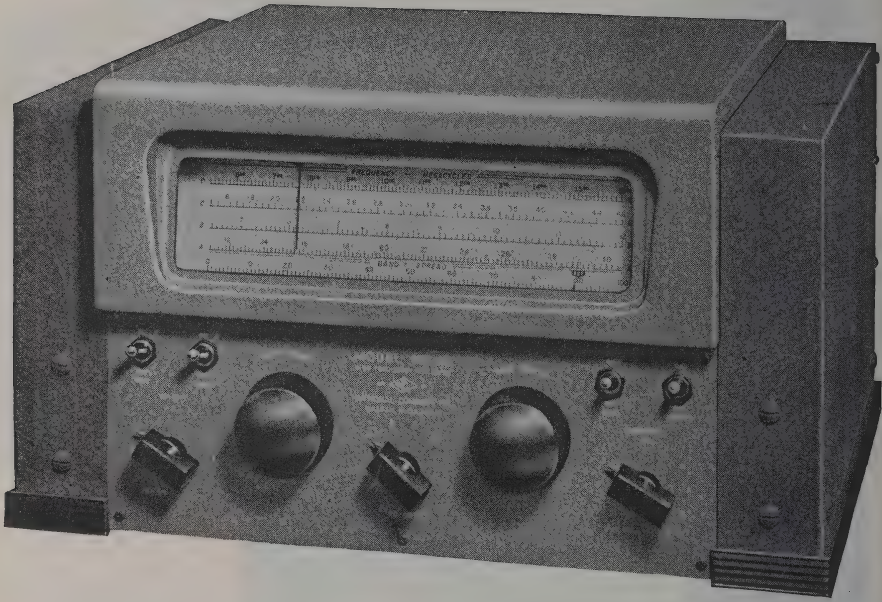
Description

The HRO-5C is a Deluxe Receiver Installation consisting of an HRO-5A1 Receiver with SPC Unit (power unit, coil container and loud-speaker) in a MRR Table Rack. Chromium-plated appearance strips and side trim strips are included.

The HRO series of receivers is an honored product of the National Company. The HRO-5A1, newest and finest of these receivers, features a number of additional refinements among which are a new highly efficient noise limiter and a redesigned flexible crystal filter. Circuit revisions have been made to further improve the performance standards of this outstanding Receiver. For a detailed description of the HRO-5A1 Receiver supplied on the HRO-5C Deluxe Installation, see page 18 in this catalog.

HRO-5A1 Receiver, with tubes and A, B, C, D Coils	**List $**
SPC Unit Combination	**List $**
MRR Table Rack 24½" Panel Capacity	**List $**
HRO-5C Deluxe Receiver Combination	**List $**

NATIONAL NC-46



DESCRIPTION

The National NC-46 is a 105 to 130 Volt AC-DC receiver which provides 3 watts of audio output. The Receiver tunes the Broadcast and Short Wave bands and employs 10 tubes. Electrical bandspread is provided for vernier tuning. The circuit consists of a 6K8 converter-oscillator stage, two 6SG7 IF stages, 6H6 detector-limiter stage, 6SF7 AVC Amplifier, 6SJ7 CW Oscillator, 6SC7 Audio-Inverter, push-pull audio output stage with two 25L6GT tubes, and a 25Z5 Rectifier.

CONTROLS

Main Tuning Dial; Bandspread Tuning Dial; Sensitivity Control; Volume Control; Tone Switch; C. W. Oscillator Switch; AVC Switch; Limiter Switch; Band Selector Switch; B+ Switch and Power Switch.

TERMINALS

On Rear Panel; Phone Jack; B+ Terminals; 8 Ohm Spkr. terminals; Ant. Terminal; Fuse extractor post.

SPECIFICATIONS

Frequency Range:

The Frequency Range of the NC-46 Receiver is 540. Kc. to 30. Mc. covered in four bands.

Band	General Coverage	Band Spread
A	11.5 -30.0 Mc.	28.0-30.0 Mc; 40 dial div.
		14.0-14.4 Mc; 56 dial div.
B	4.4 -12.0 Mc.	7.0- 7.3 Mc; 50 dial div.
C	1.55 - 4.6 Mc.	3.5- 4.0 Mc; 70 dial div.
D	0.540- 1.6 Mc.	

Sensitivity:

Approximately 5 microvolts input provides a 50 Milliwatt output over the entire range.

Selectivity:

The total bandwidth is approximately 4.5 Kc. at 6 db. down and approximately 70 db. attenuation 10 Kc. off resonance is obtained.

Automatic Volume Control:

The Receiver output with AVC operating varies less than ±4 db. with inputs ranging from 10 to 100,000 microvolts.

DIMENSIONS

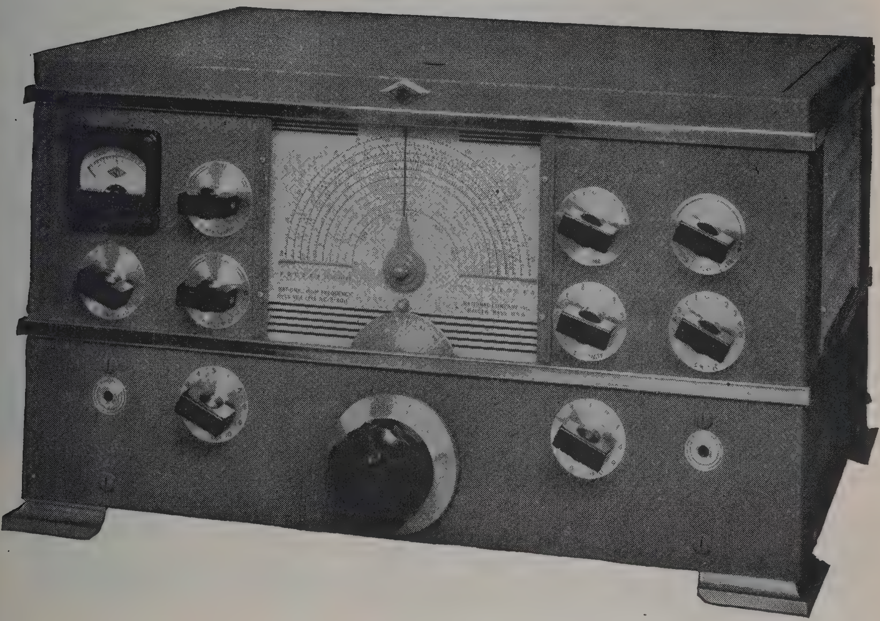
NC-46 Receiver: 9 7/16″ high by 17 3/8″ wide by 12 3/8″ deep.
Weight 32 lbs.
NC-46TS Speaker: 8 7/8″ high x 10 7/16″ wide x 7 1/2″ deep.
Weight 8 lbs.

PRICES

NC-46 Table Model Complete with Tubes **List $**

NC-46TS Table Model Speaker- **List $**

NATIONAL NC-2-40D



DESCRIPTION

Designed for the radio amateur, the NC-2-40D series of superheterodyne receivers are also suitable for general communications service in the 490 to 30,000 KC. range. Calibrated electrical bandspread tuning is provided for the 80, 40, 20, 11-10 meter radio amateur bands. Features included are a full vision, easy to read, calibrated dial with 6 general coverage and 4 bandspread scales, a single tuning and band switching control knob, a stable high frequency oscillator circuit, a flexible crystal filter, a series valve noise limiter and an auxiliary numerical logging dial. These outstanding features plus conventional items such as a signal strength meter, phonograph or high level microphone pick-up jack, an automatic volume control circuit, a beat frequency oscillator for CW reception, a tone control, a phones jack, and a 115-230 volt A.C. change-over switch provide the operator with a means for coping with a wide variety of receiving conditions and requirements.

CONTROLS

Band Tuning and Band Switching; R.F. Gain Control and Signal Strength Meter Switch; Audio Gain; B+ ON/OFF; Selectivity; Limiter; Tone; C.W. Oscillator; A.V.C.; Phasing.

SPECIFICATIONS

Frequency Range:

General Coverage:

490 KC. to 30 MC.

Band Spread:

27 to 30 MC.
14 to 14.4 MC.
7 to 7.3 MC.
3.5 to 4 MC.

Selectivity:

Crystal Filter OFF

Voltage Ratio	**Nominal Bandwidth**
6 DB	4.0 KC
60 DB	22.0 KC

Crystal Filter In — 20 DB Voltage Ratio

Position 1	6.0 KC
2	4.0 KC
3	2.0 KC
4	1.0 KC

5. Max. Selectivity 200. Cycles

SENSITIVITY

Less than 1 microvolt input produces a 6 DB signal to noise ratio.

POWER INPUT

Approximately 70 watts; either 110- 120 or 220-240 volts 50/60 cycle, 1 Phase A.C. A plug and socket is provided for convenient external battery connection as necessary for battery operation.

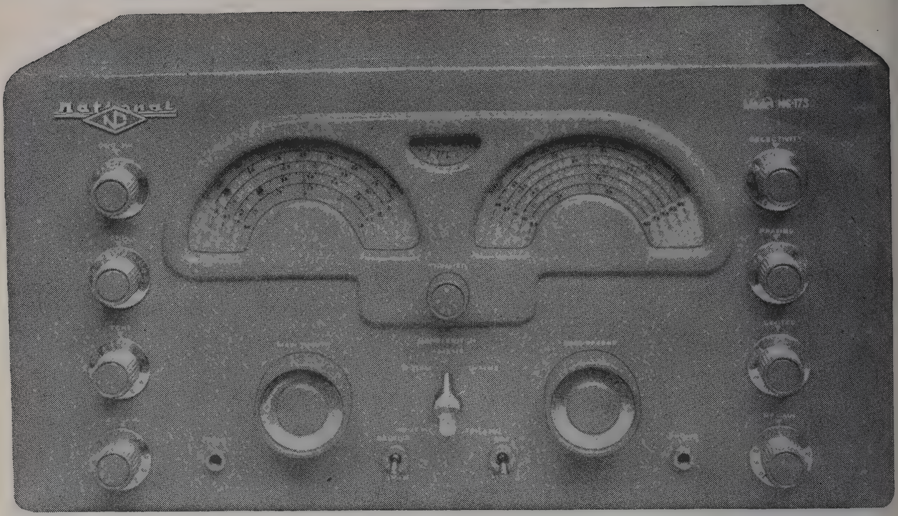
POWER OUTPUT

A 10,000 ohm output circuit delivers 8 watts with negligible distortion.

PRICES

Rack or Table Model (with tubes)	**List $**
Rack or Table Model Speaker	**List $**

NATIONAL NC-173



DESCRIPTION

The new NC-173 is a truly versatile Receiver engineered to fulfill a wide variety of applications The Amateur will find this Receiver chock-full of features which greatly widen his scope of activity. Commercial installations will realize in this Receiver a dependable performer under the most adverse receiving conditions. Short Wave Listeners can enjoy world-wide reception as well as the standard broadcast band with a minimum of tuning adjustments and a maximum of life-like reproduction. The distinctive appearance of the NC-173 exterior will add attractiveness to any type of installation.

The frequency scope of the NC-173 is exceptional in that it includes the conventional 540 kc. to 31 mc. range plus the 48 to 56 mc. portion of the spectrum which covers the Amateur six meter band. The tuning system employs separate directly-calibrated dial scales with associated control knobs for General Coverage and Bandspread tuning. Both dials are well-illuminated and have auxiliary linear scales for logging purposes. Calibrated bandspread tuning is provided for the main Amateur bands, i.e., 6, 10-11, 20, 40 and 80 meters. Band changing is accomplished by means of a highly efficient band-switch system.

A complement of 13 tubes in a superheterodyne circuit is used to provide such features as an RF Amplifier stage, a separate AVC Amplifier, a voltage regulator for circuit stabilization and a double-diode noise limiter. Essentially the circuit consists of one stage of radio frequency amplification, a first detector and a separate stabilized high frequency oscillator, two intermediate frequency amplifier stages, a diode type second detector, an audio limiter, a high gain type audio stage and an audio output stage plus an automatic volume control, a stabilized beat frequency oscillator, a voltage regulator and rectifier stages. A crystal filter is connected between the first detector and first IF stage. Highlighted in the above line-up are:

Crystal Filter — A new highly flexible crystal filter providing an adjustable selectivity characteristic with a wide range from broad-band broadcast requirements to sharp Amateur single-signal CW reception. A phasing control gives phasing action for the attenuation of interfering singals.

Noise Limiter — A new concept in noise limiter design is introduced in the NC-173 Receiver. This new limiter could be termed "double action plus" and the noise limiting action is equally effective on either phone or CW reception. A panel-mounted threshold control permits adjustment of the level at which limiting action starts.

Voltage Regulator — A voltage regulator tube efficiently minimizes frequency drift in the high frequency oscillator and also in the beat frequency oscillator. Frequency stability is thereby assured for both phone and CW reception.

Additional refinements include an S-Meter with adjustable sensitivity, a continuously variable tone control and a phono input jack for connection to external apparatus such as a phonograph.

Controls —

Main Tuning; Bandspread Tuning; Band Switch; RF Gain-AC Off; AF Gain; Send-Receive; AVC-MVC; Tone; CWO; CWO Switch; Limiter; Phasing; Selectivity; RF Trimmer.

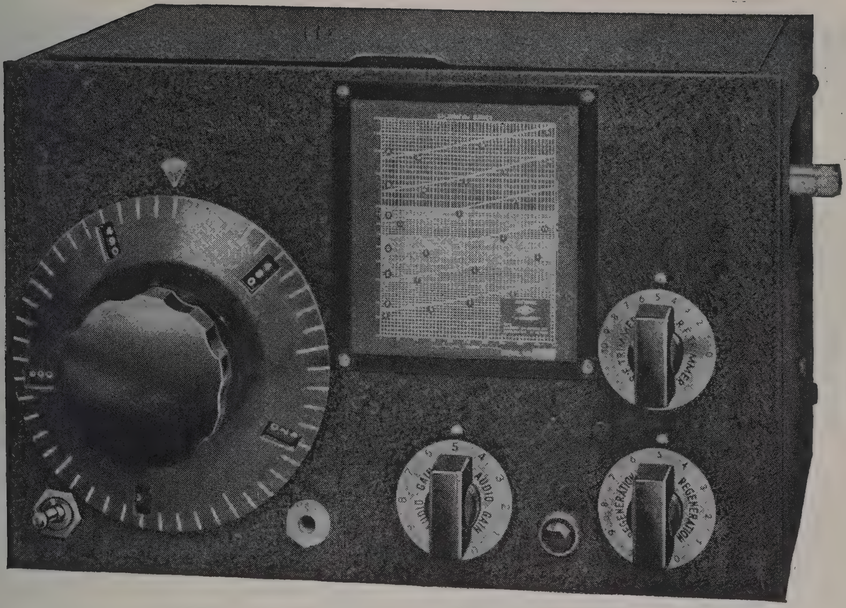
Power Input —

Approximately 83 volt-amps; 110/120 volt, 50/60 cycle, single-phase AC (adaptable to 220/240 volt operation as well as operation from batteries).

Prices —

NC-173T Table model Receiver....**List $**
NC-173R Rack model Receiver......**List $**
NC-173TS Table model Speaker....**List $**
NC-173RS Rack model Speaker....**List $**

NATIONAL 1-10A RECEIVER



The 1-10A is an improved superregenerative Receiver covering all wave lengths from 1 to 11 meters. The 1-10A is designed for use in both Amateur and Commercial services and the natural advantages inherent in a superregenerative receiver make this one of the simplest and most reliable receivers for use on these wave lengths. This Receiver is suitable for the reception of voice and tone modulated code signals. The 1-10A is supplied in a table mounting model which through virtue of its compact size can be handily used for portable operations.

The circuit of the 1-10A Receiver employs 4 tubes and consists of one stage of tuned RF, a self-quenching superregenerative detector transformer coupled to a first stage of audio which, in turn, is resistance coupled to a power output stage. Receiver controls are held to a minimum and include Audio Gain, Regeneration, RF Trimmer and Main Tuning Controls. Plug-in type coils are used to tune the frequency range of the Receiver in six tuning bands. The location of these coils in the receiver make them readily accessible for interchanging. Tuning is accomplished by a two-gang variable capacitor geared to a micrometer dial which reads directly from 0 to 500 and has a linear scale length of approximately 12 feet, requiring ten revolutions to cover any one band. The scale length plus the vernier action of the Main Dial gives the operator the equivalent of continuous bandspread tuning on all bands.

The 1-10A Receiver is designed for operation from National type 5886 Power Unit, all voltage dividers, etc., being built in so that but one B voltage lead is necessary. The 5886 Power Unit operates on 105-120 volts, 50-60 cps. This Power Unit furnishes 6.3 volts at 1.6 amperes to the heater circuit and 180 volts at 35 milliamperes to the plate and screen circuits. A 3 volt C battery, mounted in the receiver, is used to supply bias to the RF tube. The 1-10A Receiver may be operated from batteries by connecting suitable batteries to the pins of the 4 prong power plug.

Tubes

RF Amplifier	954
Detector	955
First Audio	6J5
Second Audio	6V6

Price List

1-10A Receiver, table model, complete with tubes and 6 sets of plug-in coils. **List $**

5886 Power Unit, 105-120 volt, 50-60 cps. **List $**

MCS 8" PM loud-speaker with impedance matching transformer. **List $**

SINCE
1933

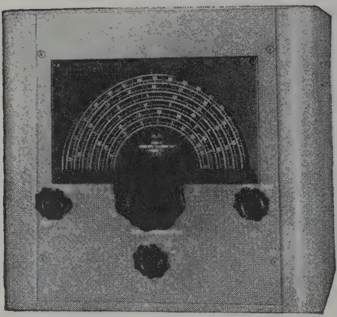
TIME ★ WILL ★ TELL

RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

Peoria 6, Illinois U. S. A.



RME DB-20 6 BAND PRE-SELECTOR

With the addition of a DB-20 preselector the operating characteristics of any standard communications receiver will be improved enormously. At least 20 DB additional gain and a great improvement in signal to image ratio on the high frequencies are just two of the advantages derived by the addition of two stages of radio frequency amplification with the 3 tuned circuits built into this instrument.

Built and designed for an optimum amount of radio frequency amplification with a high degree of signal to noise ratio, signals take on a new meaning when the DB-20 is inserted between antenna and receiver.

The input circuit is of the typical matched doublet as well as single wire to ground arrangement, permitting high gain matching to any antenna array. The output circuit is of low impedance, 150 to 350 ohms, equipped with an output plug and line for direct connection to the input circuit of the receiver. The output line is connected to the receiver's antenna posts. With this complete matching the use of the preselector between the antenna and the receiver causes no mismatch in coupling.

An antenna change-over switch on the DB-20 permits easy switchover of antenna connections direct to the receiver.

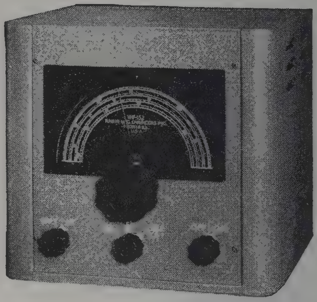
The DB-20 has its own power supply with cord. Two 6K7 tubes are used in the rf circuit and an 80 rectifier completes the tube line up. Being remarkably stable the preselector offers an overall gain of from 20 to 25 DBs uniformly throughout its range of 550 kc. to 33,000 kc., covered in six bands.

At 14 megacycles the signal to image ratio is brought up to 50,000 to 1 with a good communications receiver following.

The 1946 model unit comes with a large 7″ diameter dial scale, dull black background with raised numerals, indirectly illuminated, a red pointer operated through planetary drive mechanism, assuring ease of control operation and plenty of drive ratio.

Now built into a matching cabinet to the famous RME-45 receiver, two tone finish, 11″ high, 12″ wide, 11″ deep, this instrument is the last word in preselection.

Complete with tubes with interconnecting plug and cord, 115 volt 50-60 cycle operation. **CODE: MUNCY f.o.b. Peoria, Illinois, Net Selling Price $68.20**



RME VHF-152 3 BAND CONVERTER

Reception on the new high frequencies, 50 to 5
mc. and 144 to 148 mc. bands, and bettter receptio
on the 28 to 29.7 mc. band, using the double detectio
system, image free, at a cost which any amateur ca
afford—that is what the new VHF-152 is designed
give. . . . Every owner of a communications receive
can, with the acquisition of this new converter, do
much better job of working high frequency signa
than is possible with most any higher priced, sp
cially designed receiver.

This converter provides an order of stability
50 mc. much higher than most communications r
ceivers have when operating at 5 mc. New enginee
ing design and construction make this possible.

Miniature tubes are used, a 6AK5 rf amplifier-
a 6AK5 detector and a 6J6 oscillator comple
ing the converter proper. The built-in power suppl
uses a 5Y3GT rectifier tube and a VR150 voltag
regulator. The three bands are calibrated to cove
the full sweep of a seven-inch diameter scale, i
directly illuminated. . . . The tuning mechanism
of the same sturdy, positive construction characte
istic of all RME units. Smooth, velvety operation
the large knob makes operation a pleasure.

The sensitivity of the VHF-152 is of the order
2 microvolts. Its output frequency is 7000 kc.

Separate connections are provided for the 10,
and 2 meter antennas and for the antenna used wit
the receiver. Each band has its own especially d
signed antenna input circuit of approximately 3
ohms impedance. The input of the receiver is change
from the VHF-152 output to the receiver antenna
a front panel switch. Another front panel switch s
lects the 10, 6 or 2 meter band for VHF-152 operatio

Interconnecting plug and cord are also furnishe
which permanently connect the VHF-152 direct
the input terminals of the receiver.

The cabinet is designed to match the RME-
communications receiver, both in streamlined appea
ance and in two tone gray and black crinkle finis

Dimensions are as follows: 11″ high, 12″ wid
11″ deep, with hinged lid. Standard operation is f
115 volt, 50-60 cycle power source.

Complete with tubes, interconnecting plug a
cord. **CODE: HAMPY, f.o.b. Peoria, Illinois, N
Selling Price $86.6**

SINCE
1933

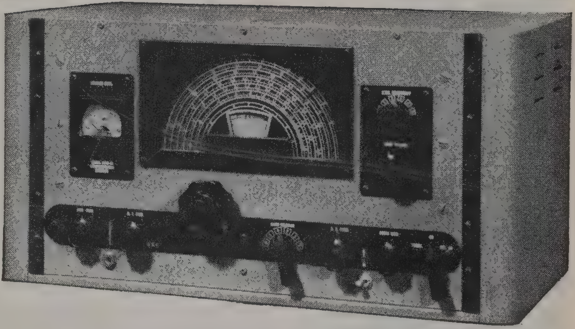
TIME WILL TELL

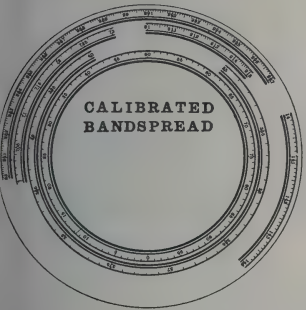
RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.
Peoria 6, Illinois U. S. A.

1. 550 kc. to 33,000 kc. coverage in 6 bands.
2. Two speed tuning control mechanism.
3. Band spread dial an integral part of main dial, giving constant calibration.
4. 5 amateur bands calibrated on band spread dial: 3.5m.,7mc.,14m.,21mc.,28mc.
5. 0-100 added scale on bandspread dial to facilitate logging on all bands.
6. 5 position variable crystal selectivity with phasing control.
7. Decibel meter calibrated from 0 to R9—and past R9 to 96 decibels.
3. Automatic noise suppression.
). High signal to noise ratio.
1. VR-150 voltage regulator tube.
2. 455 kc. intermediate frequency.
3. Antenna input terminals for single wire or transmission line.
. Uniform audio response with headset of any impedance from 50 to 30,000 ohms.
. Four watts of audio output.





RME-45 RECEIVER WITH
CAL-O-MATIC TWO SPEED TUNING

The new RME-45 is a sensitive communications receiver which employs the new Cal-O-Matic two speed tuning mechanism to give continuous coverage from 550 kc. to 33,000 kc.

Cal-O-Matic tuning has won unqualified approval ever since it was introduced in the first RME receiver. This RME development gives to the user of a 45 the ability to log all stations accurately, since the bandspread dial and the main tuning dial operate from one control shaft.

There are two tuning knobs, concentrically mounted. The smaller knob turns approximately five times while the larger knob is turning once. A frequency band is quickly covered by using the large knob, and the critical adjustment necessary for finding a particular station is made with the smaller one.

ive amateur bands are calibrated on the band spread al, with plenty of spread on each band. A station ice logged can be quickly found again as there is) separated dial to adjust. . . . An additional scale 0-100 is also incorporated on the band spread dial that stations on any frequency within the tuning nge of the receiver can be accurately logged.

Automatically calibrated over the entire tuning nge—that's what Cal-O-Matic means.

Because of their high frequency tuning characteristics, loctal tubes were chosen to perform each rf, , and af function in the critically balanced superterodyne circuit used.

Very high stability is obtained in the 45, and one the reasons is the use of a double spaced rf oscillat- condenser and temperature compensated padders.

RME was the first to introduce a crystal filter cirit into a communications receiver many years ago. variable selectivity crystal filter is a **must** in a ceiver of the quality of the 45 and so is the DB eter, also introduced first in a communications ceiver by RME.

Because of its overall sensitivity, its appearance and s ease of accurate tuning and logging, the RME-45, though designed for communications, is neverthess also an excellent receiver for the home listener.

ube line-up:

B7—rf. ampl.	7B7—2nd if	7C7—af. ampl.
37—det. & osc.	7B6—det. & BFO	7C5—beam power
37—1st if	7A6—limiter	80—rectifier

VR-150—Voltage Regulator

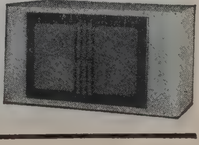
The receiver is mounted on a relay rack panel measuring 19″ wide by 10½″ high with four correctly spaced mounting slots on each side. The unit can easily be taken out of the cabinet and is then ready for relay rack mounting.

Gray crinkle finish with black trim gives receiver and speaker a fine appearance.

Controls, from left to right across bottom of panel are: Off-on switch with tone control, headset jack, rf gain control and AVC, tuning control, band-switch, BFO pitch control, BFO off-on switch, audio gain control, transmit-on-standby switch.

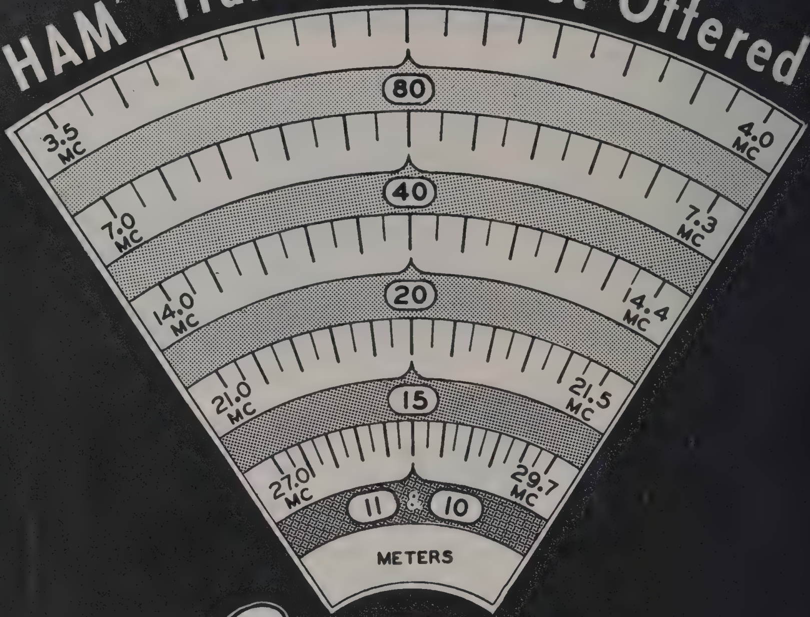
RME-45 communications receiver in crinkle gray with black trim cabinet measuring 22¼″ wide by 10⅜″ deep by 11″ high overall, complete with ten matched tubes, including 8″ PM speaker in crinkle gray, black trim cabinet, 19⅛″ wide by 9⅜″ deep by 10⅛″ high overall, for 115 volt 50-60 cycle operation. **CODE: PINES, Net Selling Price, f.o.b. Peoria, Ill. $198.70**

Speaker, 8″ PM, mounted in two tone crinkle finish housing. **CODE: LACER. Net Selling Price, f.o.b. Peoria, Illinois $13.50**



Special transformer, other than 115 volt 50-60 cycle, for conversion to 230 volt and/or 25 cycle operation. **CODE: FOURS. Additional net selling price, f.o.b. Peoria, Illinois $5.10**

One of the Most Versatile "HAM" Transmitters Yet Offered


80
3.5 MC
4.0 MC
40
7.0 MC
7.3 MC
20
14.0 MC
14.4 MC
15
21.0 MC
21.5 MC
27.0 MC
29.7 MC
11 & 10
METERS

Supreme

Built for
the Present - - -
and the
Future

Price
$450.00
Complete
with Tubes
and Coils

MODEL AF-100

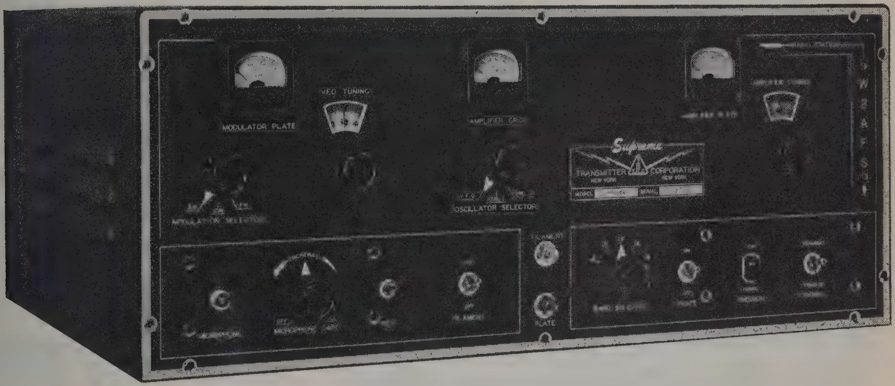
6—BAND AMATEUR TRANSMITTER
100 WATTS — AM, FM, CW AND ICW

Write for detailed information and Catalog

DESIGNERS & BUILDERS OF BROADCAST STATION EQUIPMENT,
250 WATTS to 50 KW — AM and FM

SUPREME TRANSMITTER CORPORATION
280 NINTH AVENUE, NEW YORK 1, N. Y.

COMPLETE COMPACT and INEXPENSIVE!



SUPREME TRANSMITTER Model AF-100, 6-Band, 100 Watt (output) Desk Type Transmitter. Embodies ALL the features most desired by the majority of the amateurs. Designed to cover the amateur bands most frequently used: 10, 11, 15, 20, 40 and 80 meters for CW, ICW, AM and FM Phone transmission. This is the very first transmitter offered to the amateur which has the new feature of Frequency Modulation in the band of frequencies assigned for this purpose, namely 27.185 to 27.455 and 29 to 29.7 megacycles. Model AF-100 is continuously tunable throughout the range of each of the amateur bands. A highly stable variable oscillator followed by slug-tuned buffer and doubler stages which are ganged to the oscillator dial simplifies the problem of working through severe QRM and further enhances the pleasures of easily establishing and retaining QSOs. Band changing is easily accomplished in the exciter by a band selector switch and in the final by the plugging in of a coil for the particular band selected. This unit is one of the simplest to operate—and highly efficient on all bands, for all types of emission.

Front Panel Controls: Oscillator Dial; Final Amplifier Dial; Oscillator Selector Dial; Modulation Selector Dial; Microphone Gain Control; Band Selector Switch; Filament Power Switch; Plate Power Switch; Emission Selector Switch; Standby Control.

Metering: PA Plate Current; PA Grid Current; Modulator Plate Current.

TUBE COMPLEMENT

Type	Function
1—6AC7	Reactance Tube Modulator
1—6J5	Variable Frequency Oscillator
1—6AC7	Class "A" Amplifier or Crystal Oscillator
1—6L6	80 meter Buffer or 40 meter Doubler or 30 meter Tripler
1—6L6	20 meter Doubler
1—6L6	15 meter Doubler
1—6L6	10 meter Doubler
1—3D23	Final Amplifier
2—807	Class AB_2 Modulators
1—6J5	Modulator Driver
1—6SJ7	Speech Amplifier
2—866A	High Voltage Rectifiers
1—5R4GY	Low Voltage Rectifier
1—5R4GY	Modulator Rectifier
1—80	Speech Rectifier
1—6X5GT	Bias Rectifier
1—VR 150	Voltage Regulator
1—6SN7GT	Audio Oscillator

ELECTRICAL CHARACTERISTICS

Frequency Range:	Amateur Bands—10, 11, 15, 20, 40, 80 meters
Output Power:	100 watts on CW, ICW and Frequency Modulation 100 watts Amplitude Modulation
Method of Modulation:	AM—High Level Class AB_2 FM—Reactance Tube Modulation
Modulation Capabilities:	AM—100% FM—100% = ±75 kilocycles (variable from 0 to 75 kilocycles)
Input Audio Source:	High Impedance Crystal or Dynamic Microphone. Level 60 DB down
Audio Frequency Response:	AM—±2DB, 200 to 6000 cps FM—±1DB, 100 to 7500 cps
Noise Level:	AM—Minus 45DB below 100% modulation FM—Minus 60DB below 100% modulation (± 75 kilocycles)
Audio Frequency Distortion:	AM—5% at 85% modulation for 100 watt output FM—1.5% at 100% modulation
Frequency Control Elements:	Stabilized Variable Frequency Oscillator or two (2) crystal controlled positions.

COMPACT: 29 3/8" long, 11 3/4" wide, 18 3/8" deep. **Power Source:** 110-117 volts 50/60 cycles AC.

Economical — Power Consumption: 325 watts. **Approximate Weight:** 125 lbs.

COMPLETE: The only items needed to get "on the air" are a key, a mike and two crystals.

INEXPENSIVE: ***A WONDERFUL VALUE!***

Announcing—TWO New Amateur Units

by GROSS COMMUNICATIONS, Inc.

Model UPR-Preselector

The Model UPR preselector will provide as high as 30 db. signal gain on communications receivers operating on the following amateur bands: 20, 10, 5 and 2½ meters.

Using two of the latest UHF miniature r-f amplifier tubes (either 6AK5 or 6BA6 types), the Model UPR preselector features excellent signal to noise ratio, separately shielded compartments to increase overall sensitivity and has individual plug-in coils for each band.

Receives its power from final audio tube of main receiver by means of suitable octal or loctal adapter. (Please indicate type desired.)

May be used on either single or doublet antenna.

Price on Request.

Model UPC-Converter

The Model UPC high frequency converter will convert any standard broadcast receiver to reception on the 10 or 20 meter bands with good bandspread.

Using 4 latest UHF miniature type receiving tubes, the Model UPC may be operated on either a-c or d-c.

Here is truly a compact, finely engineered converter adjusted for maximum signal output. May be used on either single or doublet antennas. Model is available for auto radio use.

Price on Request.

GROSS COMMUNICATIONS, Inc.

1865-71 Prospect Ave. Cleveland 15, Ohio

ngineered for the Radio Amateur—

Ultraphone MODEL UHP-2

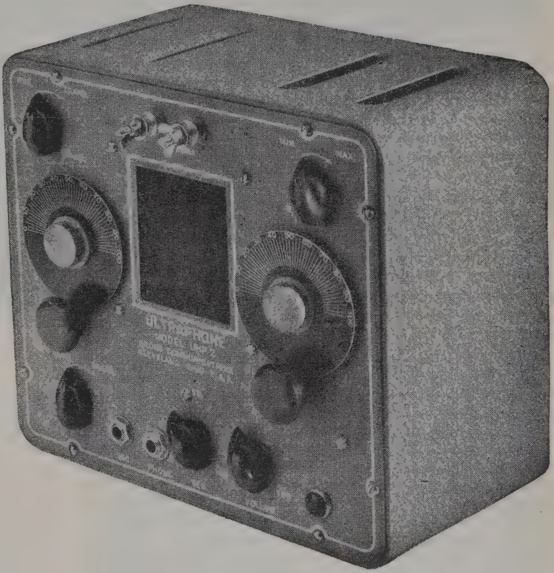
(OTHER MODELS UP TO 460 MC)

Here is a truly HIGH QUALITY

144-148 m c

ansmitter-Receiver designed for amateur
eration as a:

PORTABLE
MOBILE or
FIXED STATION



ommercial in appearance as well as per-
rmance, the Ultraphone Model UHP-2
atures:

ewly designed 6AK-5 detector circuit . . .
ylor TUF-20 transmitting tube capable of
ndling up to 30 watts input.
ovisions for crystal or magnetic head-
ones and metering.
omes complete with matched set of tubes, but less
ower supply. Will operate from 6-volt vibrator power
ck, genemotor or a-c power supply.

Price on Request.

★

Specially designed Amphenol Hi-Q antenna kit optional. Kit includes dipole, mounting mast, insulators, hardware and 75 ft. of Amphenol Twin-lead 300 ohm polyethylene transmission line. Ultraphone UHP-2 Antenna Kit Complete ....**PRICE ON REQUEST.**

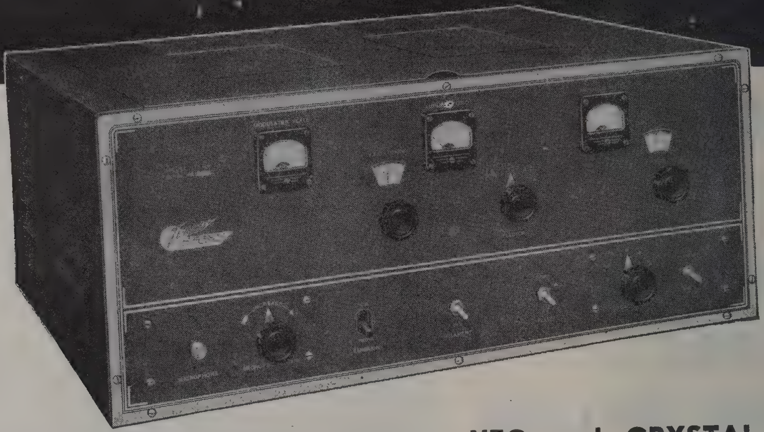
★

Write for Latest Literature

GROSS COMMUNICATIONS, Inc.

365-71 Prospect Ave. **Cleveland 15, Ohio**

THE NEW *Temco's* PUT . . .

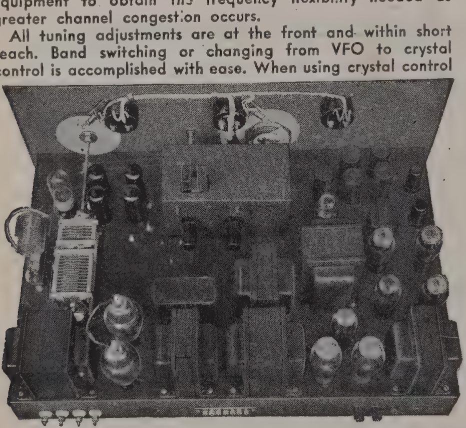


TEMCO 75GA *Multi-Frequency* VFO and CRYSTAL 75 WATT PHONE — 100 WATT CW TRANSMITTER

This new Temco 75/100 watt phone and cw transmitter with multi-frequency VFO and crystal control is causing a sensation, for here at last is the complete rig that puts everything at your fingertips.

It's a typical Temco masterpiece that leads the field in operational simplicity, maximum frequency flexibility and superlative craftsmanship. It covers all 5 amateur bands from 3.5 to 28 megacycles and doesn't require any external equipment to obtain the frequency flexibility needed as greater channel congestion occurs.

All tuning adjustments are at the front and within short reach. Band switching or changing from VFO to crystal control is accomplished with ease. When using crystal control (The 75 GA accommodates two crystal holders) the tran mitter becomes a one-dial unit. For telegraph operatio break-in by the grid block method is employed to assu clear-cut, clickless keying. On phone a high impedanc crystal or dynamic mike is used and a built-in relay transfe antenna from transmitter to receiver.



The 75 GA is compact, yet every component is very a cessible for easy servicing and it is as excellent in its eng neering design as it is handsome in appearance and constru tion. The only accessories needed to go on the air are mik key and antenna.

A most striking feature of the 75 GA is the fact that is also the exciter unit for a 500 watt output power amplifi (500 GA.) Never before has a complete transmitter been engineered that it can be utilized in its entirety as an integr unit of an enlarged rig. This means that your initial inves ment in the 75 GA is good forever and represents a substa tial saving when stepping up to higher power. Once ar for all, Temco engineers have designed equipment th practically eliminates the factor of obsolescence.

Tube Complement:

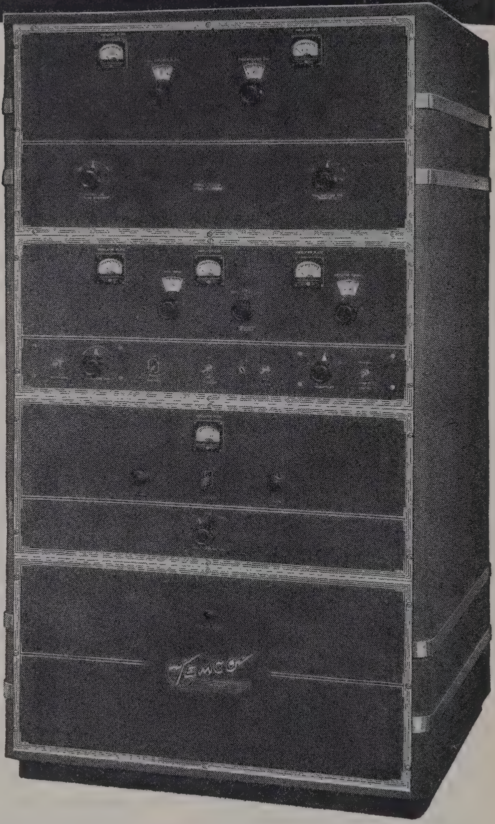
Type	Function
1—6J5	VFO
1—6AG7	Class A amplifier or crystal oscillator
1—6L6	3.5 m.c. buffer or 7 m.c. doubler
1—6L6	14 m.c. doubler
1—6L6	21 m.c. tripler
1—6L6	28 m.c. doubler

Type	Function
1—TB35	Final amplifier
4—6L6s	Class AB_2 modulat
1—6J5	Modulator driver
1—6SJ7	Speech input
2—866	High voltage rectif
2—5R4GY	Low voltage rectif
1—5R4GY	Low voltage rectif
1—VR150	Oscillator voltage regulator

Power Consumption: Approximately 500 watts.
Power Factor: Approximately 90%.
Measurements: Approximately 29" wide, 20" deep, 13" hig
Power Source: 110-115 volts 50/60 cycles AC.

WITH KEY—MIKE AND ANTENNA
YOU'RE ON THE AIR

everything at your fingertips and everything in one cabinet



TEMCO 500 GA

500 Watts Output

Telephone & Telegraph

TRANSMITTER

Rated Output: 500 watts on both radio telephone and telegraph.

Frequency Range: 3.5—7—14—21—28 m.c. amateur bands (other harmonically related bands within 2 to 30 m.c. can be supplied on special order).

Type of Modulation: High Level Class B.

Modulation Capabilities: 100%.

Emission: A1—A3.

Input Level: From high impedance crystal or dynamic microphone, level of approximately —60 db.

Audio Frequency Response: ±2 db from 100 to 6000 c.p.s.

Noise Level: —50 db below 100% modulation

Audio Distortion: Less than 5% at 90% modulation.

Custom Built Quality Throughout

Frequency Control: Variable frequency oscillator or crystal control with positions for two crystals.

Front of Panel Control: VFO dial—IPA tuning dial—PA grid selector switch—PA grid tuning—PA plate tuning—PA variable link control—VFO or crystal selector switch—Exciter band switch—transmit standby switch—Phone CW switch—Line Switch—Overload relay reset button.

Metering: IPA grid—IPA plate—PA plate—PA grid—Modulator plate current—Class A driver plate current.

Tube Complement: In addition to the tubes contained in the 75 GA exciter, the tube line-up of the 500 GA is as follows:

Final amplifier and Modulator Section

Type	Function
2-100TH	Push-pull final amplifier
2-100TH	Class B Modulator
2-872A	Final amplifier and modulator power supply
1-5R4GY	Final amplifier and modulator bias supply

Handsome Enough for the Library

Power Consumption: Approximately 2 KW.

Power Factor: Approximately 90%

Power Source: 110-115 V, 50/60 cycles AC.

Measurements: Approximately 55" high x 31" wide x 24" deep.

Ask Your Dealer for a Demonstration

TEMCO
RADIO COMMUNICATION EQUIPMENT

everything at your fingertips
and everything in one cabinet

TRANSMITTER EQUIPMENT MFG. CO., INC.
345 HUDSON STREET • NEW YORK 14, N. Y.

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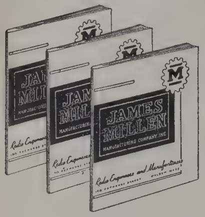

MILLEN RADIO PRODUCTS are divided, for cataloging purposes, into three groups, covered by three separate catalogs:

- I Component Parts
- II Communication Receivers and Transmitters
- III Laboratory and Measurement Equipment

THIS CONDENSED CONSOLIDATED CATALOG describes and lists a representative group of our standard components, instruments and special products. Our distributors carry in stock our complete line of component parts and amateur receivers and transmitters, but due to the engineering correspondence generally required in connection with the merchandising of the laboratory equipment (described in detail in Catalog III) these instruments are normally sold through our district offices or from the main sales office at the factory. Any of our distributors, however, will, upon request, be happy to place your order on the factory and thus secure for you any of the items they do not normally carry in stock.

MILLEN RADIO COMPONENTS are well designed Modern Parts for Modern Circuits, attractively packaged, moderately priced, and fully guaranteed. They have been designed with a view toward easy and practical application as well as efficient performance. For instance, the terminals are located so as to provide shortest possible leads, mounting feet are designed for easy insertion of screws and socket contacts, so that the solder won't run down inside them and make impossible the insertion of the tube, etc. Thus our slogan "Designed for Application."

THE PRICES IN THIS CATALOG are strictly net for the eastern part of Continental U. S. A. (Prices on some items are slightly higher west of the Rockies and approximately 60% higher, because of customs duties, etc., in Canada.) All discounts have already been deducted for your convenience. The code numbers used are all that is necessary to give in placing an order. They fully describe each item and also are selected so as to count as only "one word" when sent by telegraph. Most combinations of letters and numerals generally used for this purpose normally count as three words. All prices are subject to change without notice.

OUR DOMESTIC DISTRICT SALES OFFICES are maintained in all principal cities where full information about our products and policies may be promptly obtained by telephone or mail.

OUR EXPORT SALES OFFICE is located in New York City at 9 Rockefeller Plaza, under the direction of Mr. C. Lohman Janik, whose many years of experience in handling export sales and the shipment of radio and electrical apparatus enables us to handle export shipments quickly and efficiently, with a minimum of expense and delay to our customers, in all parts of the world. The central location of our export office in New York City enables us not only to give quick replies to our foreign correspondents, but also to offer the facilities of our office and the services of its staff to our many friends and customers from other countries who normally visit this country through the great port of New York.

GOVERNMENT AND COMMERCIAL APPARATUS. In addition to our standard line of catalog items distributed through our foreign and domestic dealers, we operate a special design and contract manufacturing department where we specialize in the development and manufacture of component parts and complete Transmitters, Receivers, Amplifiers, Control units, etc., for the different government departments and such commercial communication equipment manufacturers as the General Electric Company, the Western Electric Company, the Radio Corporation of America, the Federal Telegraph Company, and many others. We are very much interested in receiving inquiries from commercial equipment manufacturers for this department.

OUR PRODUCTS ARE GUARANTEED in accordance with the terms of the standard uniform guarantee of the Radio Manufacturers Association, in which organization we hold membership.

PATENTS. Our products are manufactured under many patents and patent applications of our own as well as licenses from the principal pools. See special labels attached to products. Trademarks Reg. U. S. Pat. Office.

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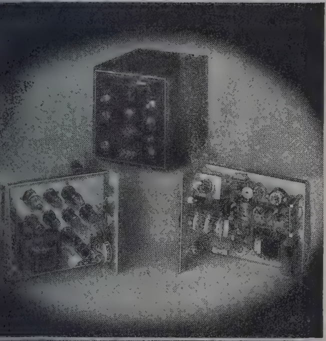
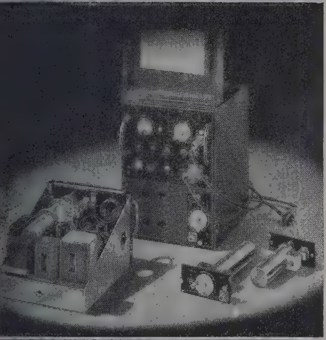
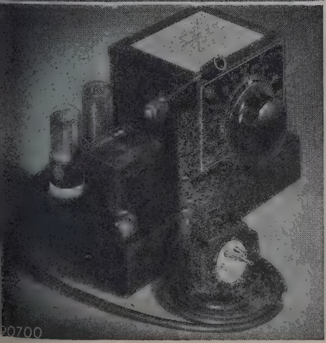






SECONDARY FREQUENCY STANDARD

A precision frequency standard for both laboratory and production uses, adjustable output, provided at intervals of 10, 25, 100 and 1000 kc, with magnitude useful to 50 mc. Harmonic amplifier with tuned plate circuit and panel range switch. 800 cycle modulator with panel control switch. In addition to oscillators, multivibrators, modulators and amplifiers, a built-in detector with phone jack and gain control is incorporated. Self-contained power supply.

Model 90505, with tubes.......	$135.00

ABSORPTION WAVEMETERS

The 90600 series of absorption wavemeters are available in several styles and many different ranges. Most popular is kit of four units, covering range of 3.0 to 140 mc.

Model 90600...............	$18.00

FREQUENCY CALIBRATORS

The cavity type frequency calibrator covers a range of 200 to 700 mc., with a maximum error of not over 0.25%. This range is covered by two plug-in cavity type tuning units, which may be easily interchanged. The calibrator consists of an accurately calibrated cavity-type tuning unit, a crystal detector, a two-stage video amplifier and a peak reading VT voltmeter.

Model 90630, with tubes.......	$375.00

SYNCHROSCOPES

The 5″ synchroscopes are available with and without detector-video strips.

Model P-4, with tubes..........	$300.00
Model P-4E, with tubes.........	395.00

OSCILLOSCOPES

The basic type 2″ oscilloscope is complete with power supply, focusing and centering controls and 60 cycle sweep, for use in normal form for transmitter monitoring or as basic unit for addition of specially designed external sweeps, amplifiers, etc., for specialized applications.

Model 90902, less tubes.......	$42.50

REGULATED POWER SUPPLIES

A compact uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipments. 50 watts, with regulated voltage from 0 to 200 volts.

Model 90201, less tubes.......	$100.00

FREQUENCY SHIFTER

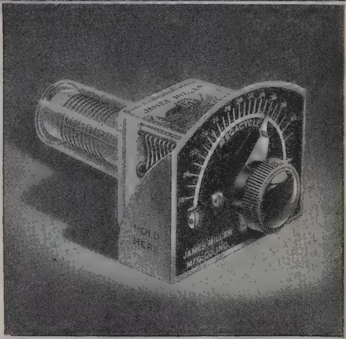
A favorite frequency shifter, plugs in, in place of crystal, for instant finger-tip control of carrier frequency. Low drift, chirpless keying, vibration immune, big band spread, accurate calibration.

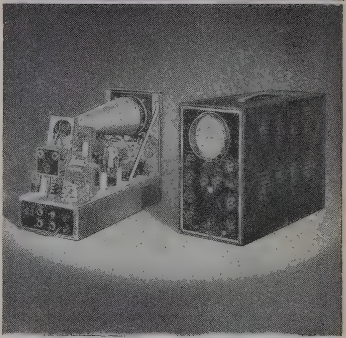
Model 90700, with tubes.......	$42.50

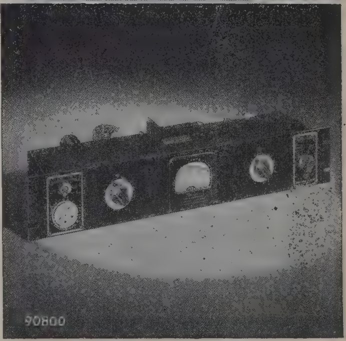
50 WATT TRANSMITTER

Based on an original Handbook design, this flexible unit is ideal for either low power amateur band transmitter use or as an exciter for high power PA stages.

Model 90800, less tubes.......	$37.50







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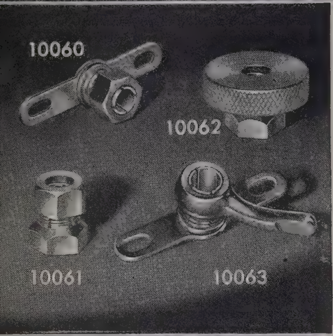
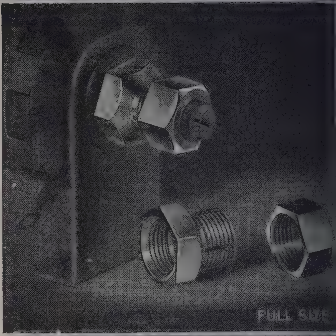
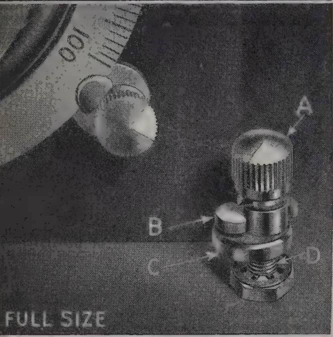


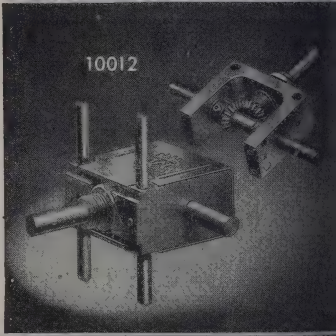


SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain "¼ shaft" volume control, condenser, etc. from "plain" to "shaft locked" type. Eash to mount in place of regular mounting nut.

No. 10060	$.36
No. 10061	.36
No. 10062	.45
No. 10063	.45





DIAL LOCK

Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

No. 10050	$.45

RIGHT ANGLE DRIVE

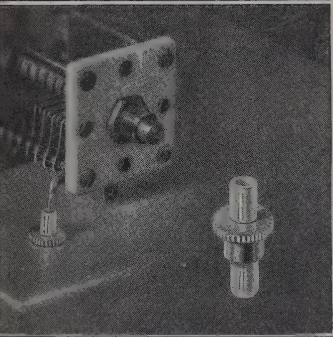
Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

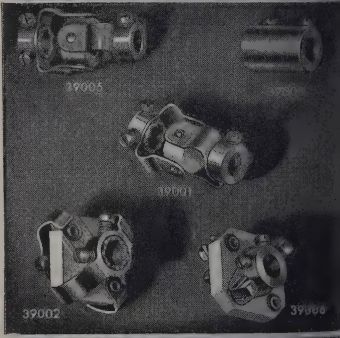
No. 10012	$3.75

THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits ¼" hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

No. 32150	$.05





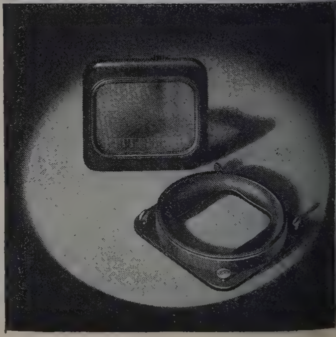
FLEXIBLE COUPLINGS

The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 is similar to the No. 39001, but is not insulated and is designed for applications where relatively high torque is required. The steatite insulated No. 39001 has a special anti-backlash ball and socket grip feature, which, however, limits its serviceable operation to torques of six inch-pounds, or less. All of the above illustrated units are for ¼" shaft and are standard production type units.

No. 39001	$.36
No. 39002	.36
No. 39003	.21
No. 39005	.36
No. 39006	.36



CATHODE RAY TUBE SHIELDS

For many years we have specialized in the design and manufacture of magnetic metal shields of nicoloi and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.

BEZELS FOR CATHODE RAY TUBES

Bezel of cast aluminum with black wrinkle finish. Complete with neoprene cushion, green lucite filter scale and four "behind the panel" thumb screws for quick detachment from panel when inserting tube.

No. 80075—5"	$7.50
No. 80073—3"	4.50
No. 80072—2"	3.50

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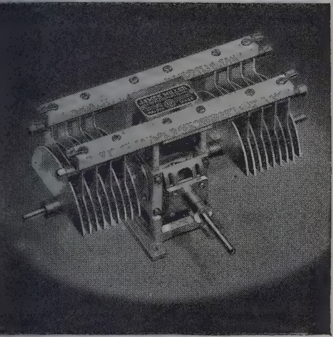
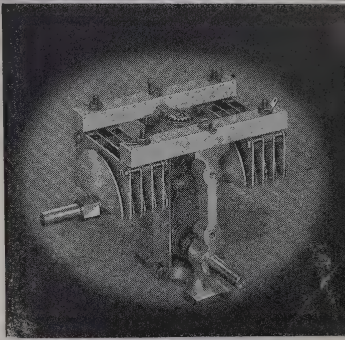


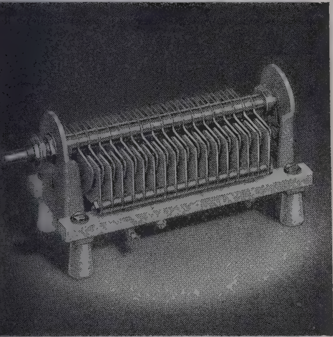


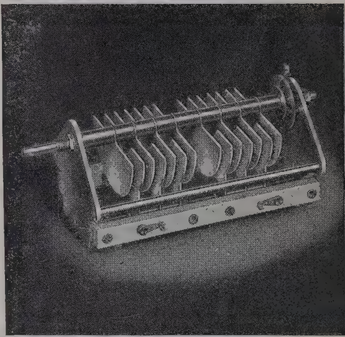
04000 and 11000 SERIES TRANSMITTING CONDENSERS

A new member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1–1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, round-edged, polished aluminum plates with 1¾″ radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16/1 ratio center drive and fixed angle drive shaft.

Code	*Volts*	*Capacity*	*Price*
11035	3000	35	$ 6.90
11050	3000	50	7.14
11070	3000	70	7.80
04050	6000	50	16.00
04060	9000	60	18.00
04100	6000	90	18.00
04200	3000	205	20.00

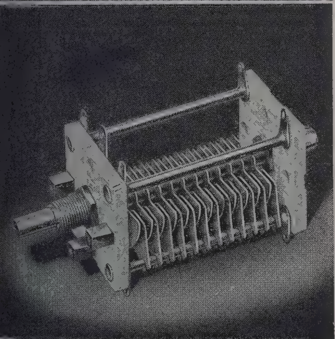


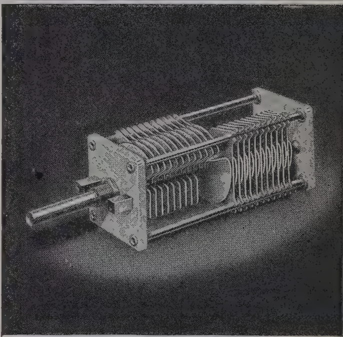


12000 and 16000 SERIES TRANSMITTING CONDENSERS

Rigid heavy channeled aluminum endplates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

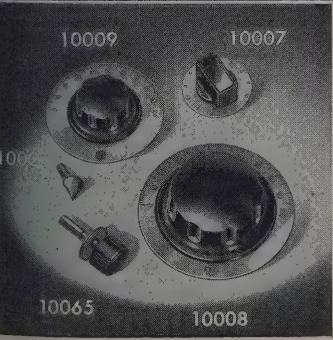
The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.





THE 28000–29000 SERIES VARIABLE AIR CAPACITORS

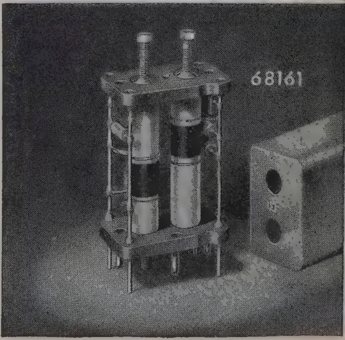
"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022″ or .066″ air gap. End plate size: 1 9/16″x1 11/16″. Rotor plate radius: ¾″. Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 2900 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.



DIALS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is 1⅝″ diameter, 10009 is 2½″ and 10008 is 3½″.

No. 10007	$ .60
No. 10008	1.00
No. 10009	.85
No. 10021	.15
No. 10065	.36



I.F. TRANSFORMERS

The Millen "Designed for Application" line of I.F. transformers includes air condenser tuned, mica condenser tuned and permeability tuned types for all applications. Standard stock units are for 465, 1600 and 5000 kc. B.F.O. and Crystal Filter units also available.

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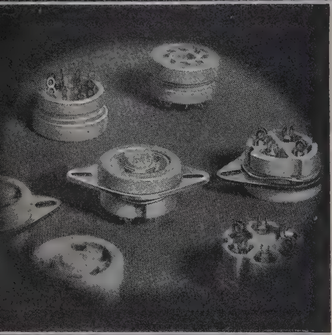
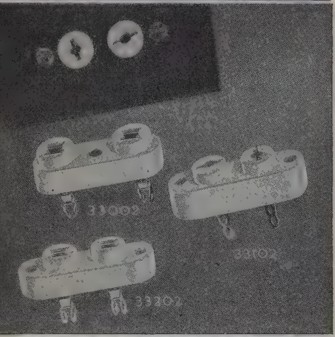
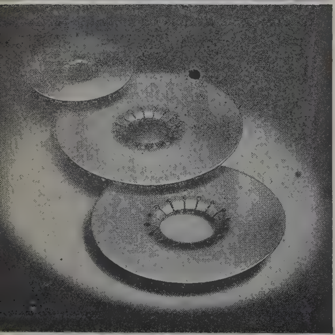
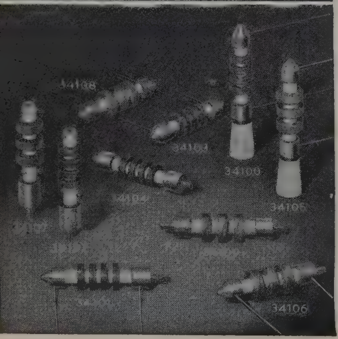








TUBE SOCKETS DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.

The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multi-finger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

Voltage regulator dual contact bayonet socket, 33991 black Bakelite insulation and 33992 with low loss high leakage mica filled Bakelite insulation.

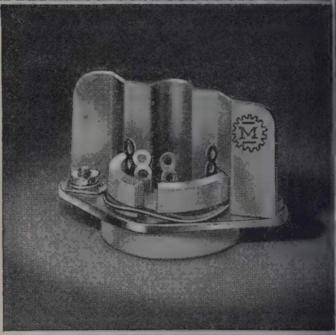
No. 33004	$.27
No. 33005	.27
No. 33006	.27
No. 33007	.34
No. 33008	27
No. 33888	.18
No. 33087	.30
No. 33002	.25
No. 33102	.25
No. 33202	.25
No. 33446	5.00
No. 33991	.45
No. 33992	.55

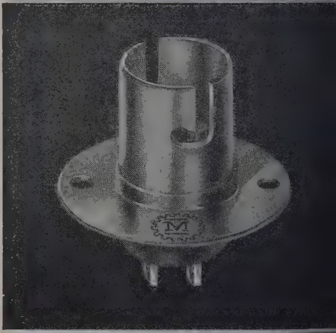
RF CHOKES

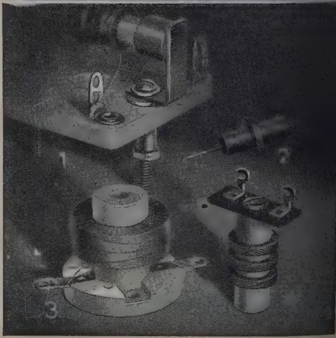
Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished on high priority.

General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104, and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

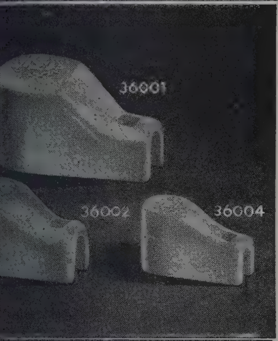
No. 34100	$.36
No. 34101	.30
No. 34102	.36
No. 34103	.30
No. 34104	.36

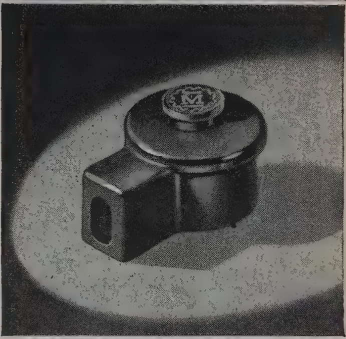






JAMES MILLEN





CERAMIC PLATE OR GRID CAPS

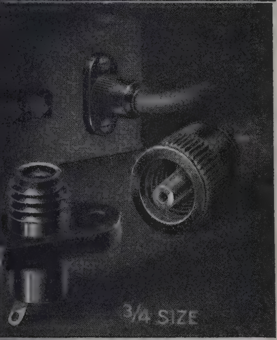
Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate easy combination "mechanical plus soldered" connection of cable.

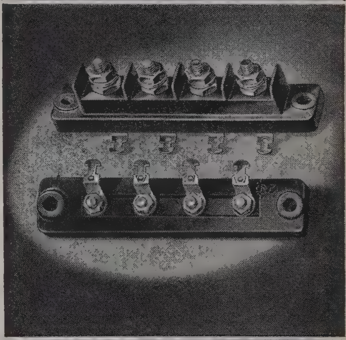
No. 36001 — 9/16″	$.21
No. 36002 — ⅜″	.21
No. 36004 — ¼″	.21

SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

No. 36011 — 9/16″	$.60





SAFETY TERMINAL

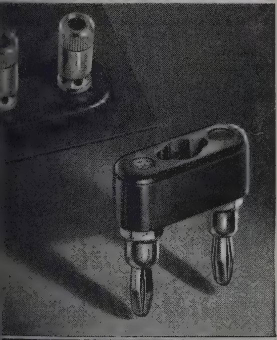
Combination high voltage terminal and thru-bushing. Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

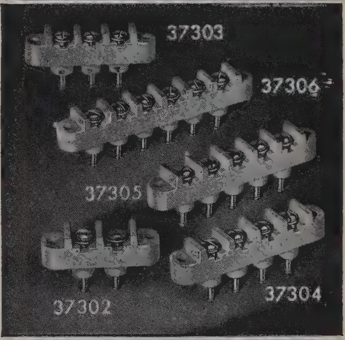
No. 37001, Black or Red	$.40
No. 37501, Low loss	.55

TERMINAL STRIP

A sturdy four-terminal strip of molded black Textolite. Barriers between contacts. "Non turning" studs, threaded 8/32 each end.

No. 37104	$.60





POSTS, PLATES and PLUGS

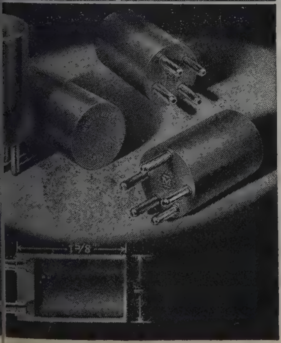
Designed for Application! Compact, easy to use. Made in black and red regular bakelite as well as low loss brown mica filled bakelite for R.F. uses. Posts have captive head.

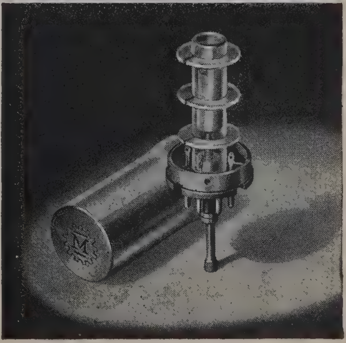
No. 37202 Plates	$.30
No. 37212 Plugs	.70
No. 37222 Posts	.40

STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.

No. 37302	$.60
No. 37303	.70
No. 37304	.80
No. 37305	.90
No. 37306	1.00





MIDGET COIL FORMS

Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

No. 45000	$.35
No. 45004	.45
No. 45005	.45

TUNABLE COIL FORM

Standard octal base of low loss mica-filled Bakelite, polystyrene ½″ diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

No. 74001, with iron core	$1.85
No. 74002, less iron core	1.50

McMurdo Silver Company

1249 MAIN STREET, HARTFORD 3, CONNECTICUT, U. S. A.
IN CANADA—McMURDO SILVER DIVISION, GENERAL RADIONICS, LTD.
465 CHURCH STREET — TORONTO, ONTARIO, CANADA.

A NEW PHILOSOPHY — THE EXPERIENCE BEHIND IT

In amateur radio two groups seem to be slighted — the beginner and the "ham" less than a relative millionaire. Little consideration seems given by manufacturers to amateurs short on money, knowledge, or space for their ham "shacks".

Born out of over thirty-five years of radio engineering and production experience, the new products herein catalogued are a sincere effort to go beyond usual high cost and non-essential complexity. Any sane, realistic philosophy seems to demand maximum results for minimum dollar expenditure. We believe that we can best serve all radio amateurs by striving to eliminate features representing costs disproportionate to results. We might do this by cheapening parts . . . by shoddy construction. This is not the SILVER way. It is not the way which has earned honor throughout the world for McMurdo Silver as an engineer as technically honest as he is competent.

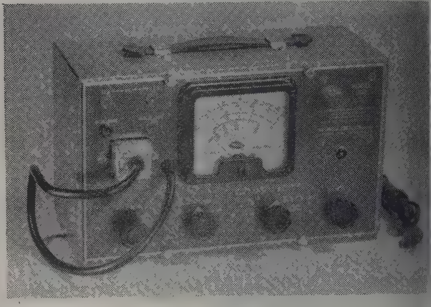
Behind each "ATOM-X" equipment are positive thoughts: how to give to amateurs the maximum of results for the minimum of cost and complexity. How to strip the communication problems involved right down to **amateur** needs. How to cut out costly frills helpful to the oft-times busy military or commercial operator . . . who does not bring fond skill to the worlds grandest hobby. This is the SILVER philosophy — to give actual **communication performance** streamlined to amateur essentials. Gained is both desirable money-saving and real growth of technical knowledge through home assembly.

For example, we've tested and retested to try to find just one u.h.f. receiver better than MODEL 800 — quite regardless of price. MODEL 801 is the time-proven standby of amateur communication — stands up to far more costly receivers in giving sensitive, dependable results. MODEL 802 provides the extremes of "single signal" CW selectivity and band spread — to give you big-receiver results dependably and economically. MODEL 700 has no commercial comparative today — it is low in cost only because of low SILVER overhead and that simplicity deriving almost from genius. MODEL 701 carries on this touch of genius — possibly only another word for extraordinarily broad and thorough experience — to give you a basic amateur transmitter of top-flight design . . . compact . . . yet easy to build at home . . . of finished, commercial appearance . . . plenty of punch and power for mighty little money.

These models stem from those special skills which won for McMurdo Silver the Grand Prize awarded for receiver design at the 1937 Paris International Exposition for a 20-tube set with plenty of convenience "frills". This became the communication receiver of the Bowdoin-Kents Island Arctic expedition . . . as a predecessor served Admiral Byrd in the Antarctic. "Mac" was responsible for production of the first Navy Sonobuoy submarine detectors . . . for the first Loran receivers of Navy and Army Air Forces . . . for design and production of C.A.A. u.h.f. receivers . . . of F.C.C. portable heterodyne frequency meter . . . in 1932 Class AB amplification came out of "Mac's" Silver-Marshall laboratories.

We may build conventionalized equipment at usual high costs. Or, we may employ experience unusual in being so wide and so extensive in time and scope as not to be bound to the obvious, to create the modern, streamlined maximum of amateur communication for the minimum of cost. Being amateurs ourselves, we feel that some manufacturer should so serve by giving to amateurs equipments yielding performance well in excess of their cost by all comparative standards.

Our philosophy is almost identical upon measuring equipment — to produce accuracy, range, utility closely approaching costly laboratory instruments . . . but at the low prices which volume production of any superior product insures. We are told we have been almost phenomenally successful in this aim during the first year of our activity. It is our single regret that we cannot "kit" measuring instruments — because their final calibration requires costly instrument standards not available to the home builder.



MODEL 900 "VOMAX" V.T.V.M. AN VISUAL DYNAMIC SIGNAL TRACER

Acceptance of, demand for, and satisfaction with 'VOMA
has been so overwhelming that we are told "it is the stand
of comparison". Of new and original design exhaustively
scribed in July and August, 1945 QST, in February, 1946 RAD
NEWS, it today receives that sincerest flattery, imitation.

"VOMAX" is a universal multi-meter plus new
exclusive techniques and inventions giving it a frequency range
20 cycles to over 100 megacycles. It is the new, post-war combi
tion of the service technicians basic tool, the volt-ohm-milli
meter, **plus** the accurate r.f. vacuum tube voltmeter seldom fo
outside the research laboratory able to ignore cost. Thi
proved by the roster of its users, headed by the U. S. Bureau
Standards in Washington, D.C. and including atomic resea
laboratories and other supremely competent organizations. I
factory recommended to all BENDIX RADIO distributors
dealers.

"VOMAX" is a stabilized v.t.v.m. from which usual error-prod
ing grid and gas current effects have been eliminated by a n
invention. Its d.c. input resistance may be made as high as desire
is 51 and 126 megohms for different voltage ranges. "VOMA
may be used on circuits so sensitive to even light loading as to
other instruments. The balanced circuits of three dual tubes w
out usual variations due to difference in aging of separate tu
and mains voltage fluctuations.

"VOMAX" has been purchased overwhelmingly by seri
laboratory workers accepting only the best, and by serious ser
technicians here and abroad by the thousands. Every week
write " 'VOMAX' is my most essential instrument . . . it's
better than I even hoped . . . wouldn't part with it for any p
if I couldn't get another". The features below prove why.

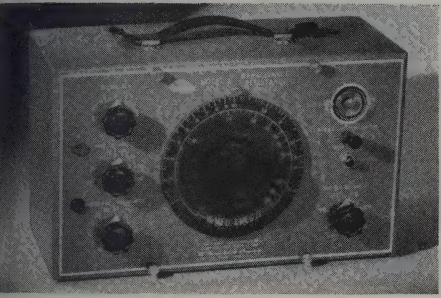
1. New post-war design. Not a "warmed-over" pre-war model.
2. More than an "electronic" voltmeter. "VOMAX" is a true v.t.v.m. in e
   voltage, resistance, db. function.
3. Complete visual dynamic signal-tracing from 20 cycles through over
   megacycles by withdrawable r.f. probe.
4. 3, 12, 30, 120, 300 and 1200 volts d.c. at 51 megohms.
   7.5, 30, 75, 300, 750 and 3000 volts d.c. at 126 megohms.
5. Polarity reversing switch doubles number of d.c. ranges.
6. 3, 12, 30, 120, 300 and 1200 volts a.c. and r.f. at honest, effective ci
   loading of 6.6 megohms, 8 mmfd.
7. 2/10Ω through 2K, 20K, 200K, and 2, 20 and 2000 megohms.
8. −10 through +50 d.b. (0 db. =1 mw. in 600Ω)
9. 1.2, 30, 120, 300, 1200 MA and 12 Amperes d.c.
10. Absolutely stable. One zero adjustment sets zero for all ranges.
11. Honest, factual accuracy: ±3% on d.c.; ±5% on a.c. 20∽ through
    mcs.; ±2% of full scale ±1% of measured resistance value. (Voltage
    curacy is % of full scale.)
12. Non-confusing meter scale. Only 5 color-differentiated scales on o
    face 4⅝" D'Arsonval meter for 51 ranges.
13. Meter 100% protected against overload burnout on V, Ω, Db.
14. "Portably" convenient. Leather handle atop 12⅜" x 7⅜" x 5" steel cab
    Total weight only 11 lbs.

MODEL 900 "VOMAX". Complete as above with tubes, permanently ca
removable r.f. diode prove, 1 red and 1 black 48" lead test prods. C
size 15" x 11" x 9"; weight 14 lbs. Code VOMAX. NET. PRICE $5

SILVER

McMurdo Silver Company

1249 MAIN STREET, HARTFORD 3, CONNECTICUT, U. S. A.
IN CANADA—McMURDO SILVER DIVISION, GENERAL RADIONICS, LTD.
465 CHURCH STREET — TORONTO, ONTARIO, CANADA.



MODEL 904
CAPACITANCE — RESISTANCE BRIDGE

ccurate measurement of capacitors . . . air, ceramic, mica, paper, il, electrolytic, etc. . . . and resistors, is a prerequisite to successful design and servicing of radio and electronic apparatus. reated for use in our own and other serious design laboratories s was "VOMAX", the high accuracy, tremendous range and xtraordinary flexibility of MODEL 904 place it in the class of ostly laboratory equipment heretofore beyond the reach of all ut a few.

ODEL 904 is direct reading in capacitance and resistance upon 5" diameter "logarithmic" dial of substantially constant percentge accuracy. A total of eight 100:1 ranges, four for resistance nd four for capacitance, cover 10 ohms through 1000 megohms nd 10 mmfd. through 1000 mfd. Capacitances down to ¼ mmfd. nd resistances to ¼ ohm are directly and accurately measurable s the increments they add to any convenient small value of C or simultaneously connected to MODEL 904 Bridge. The open dial cale makes measurement of low values easy and accurate. Acuracy is to ±3% or better up to 100 megohms./mfd., diminishing ightly between 100 and 1000 meg./mfd. The two high C and R anges employ special "expanding" circuits to reach 1000 meghms/mfd. accurately. Sensitivity control permits optimum null inication over the great range of MODEL 904.

ODEL 904 enables direct measurement of all types of capacirs with from 0 up to 500 volts internal d.c. potential applied **uring** measurement. This same continuously variable built-in d.c. otential is applicable to electrolytic capcitors, and to specimens insulation resistance testing. One terminal of the unit being easured may be grounded . . . capacitors may be measured ithout removing them from apparatus in most instances.

he power factor control is calibrated directly in % powerctor, 0-50% for .1 through 1000 mfd., and 0-.5% for .001 through mfd. Power factor accuracy is 5%. A 3-position lever switch ntrols the electron ray tube. Position 1 gives bridge balance dication. Positions No. 2 and No. 3 switch the "electron eye" ccessively into an 0-10 and 0-100 ma. milliammeter for direct dication of capacitor leakage currents.

yle, size, weight and convenience are identical with "VOMAX". uality of parts and construction parallel "VOMAX" . . . to ring to the serious technician heretofore unable to afford them e accuracy and range of costly laboratory equipment.

ODEL 904 CR BRIDGE draws 35 watts from any 105/125 olt, 50/60 cycle a.c. line. Complete with 1 — 6SN7GT bridge mplifier, 1 — 6E5 electron ray indicator and 1 — 5Y3GT rectifier bes. A.C. input cord and plug and one pair of 30" test leads ith alligator clips are included. Size and weight identical to VOMAX". Code CABRI. NET PRICE $49.90

MODEL 905 "SPARX"
DYNAMIC SIGNAL TRACER

In the design laboratory "VOMAX" provides the direct r.f. voltage measurements essential to design of radio receivers and other equipment. So providing, it is a visual dynamic signal tracer. Because the service technician pressed for time often prefers to follow a signal from antenna to speaker audibly, MODEL 905 "SPARX" has been developed. "SPARX" **also** provides visual indication of signal strengths upon its electron-ray indicator, and so is a gain-measuring set. Gain or loss may be taken as the difference between its linear potentiometer readings required to produce identical electron-ray deflection at input and output of an amplifier or any other usual electrical transmission element.

"SPARX" is a money and time-saving tool. With it the service technician can audibly trace a signal, stage by stage, grid to plate and successively throughout an entire receiver. Gain or loss is indicated by changes in signal volume; and by electron-ray tube for all except the weakest antenna input signals. Signal quality is automatically tested at every circuit point, as are hum, noise, open and short circuits. Even the presence of grid and plate supply voltages is indicated visually! It is so sensitive as to make audible neaby broadcasting stations when its prod is contacted to the loop of usual small a.c.-d.c. set. It may substitute for inoperative stages in PA amplifiers in emergency.

The red test prod contains isolating capacitor, resistor, and one of the new radar u.h.f. crystal diodes. This new SILVER combination loads a circuit being tested with only 3 mmfd. and higher than .5 megohm — so little as not to disturb usual receiver r.f., i.f. or a.f. circuits. In the cabinet are a three stage, 65 db. gain a.f. amplifier using 2 — 6C4 and 1 — 6AK6 tubes, gain control, 5Y3GT transformer power supply, PM loud speaker and switching circuits. Useful frequency range is from 20 cycles to over 200 megacycles.

One panel switch permits 6E5 electron-ray tube to indicate signal input; super-heterodyne oscillator or other voltages (with the gain control giving a wide range indeed as a voltmeter) or output voltage. A second lever switch connects the "SPARX" amplifier to its built-in speaker; to the output jacks; or connects speaker to output jacks. "SPARX" is a detector and audio amplifier; an audio amplifier alone; a test speaker. Such flexibility makes easy the dynamic testing of all radio receiver circuits, phonograph pick-ups, loud speakers, microphones, etc. Power supply transformer isolates a.c. mains from a.c.-d.c. or other set grounds.

MODEL 905 "SPARX". Complete as above, factory built and tested, with tubes, 48" shielded red prod and 48" black alligator clip lead. Input 105/125 volts, 50/60 cycles a.c. Size and weight identical to "VOMAX". Code SPARX. NET PRICE $39.90

SILVER

McMurdo Silver Company

1249 MAIN STREET, HARTFORD 3, CONNECTICUT, U. S. A.
IN CANADA — McMURDO SILVER DIVISION, GENERAL RADIONICS, LTD.
465 CHURCH STREET — TORONTO, ONTARIO, CANADA.

ILLUSTRATION NOT READY AT TIME OF PRINTING. SIZE, STYLE AND APPEARANCE SUBSTANTIALLY EQUAL TO MODEL 904 BRIDGE, BUT WITH MICROVOLT METER REPLACING 6E5 INDICATOR TUBE.

MODEL 906 FM/AM SIGNAL GENERATOR

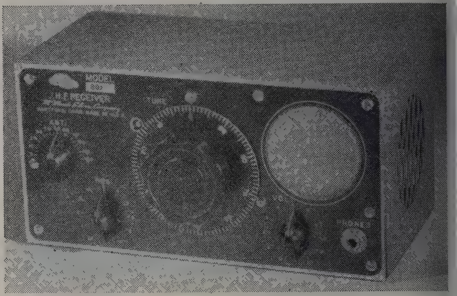
MODEL 906 is the first signal generator to provide fundamental frequency coverage of all usual AM bands . . . **plus** built-in frequency modulation and total range including the new FM bands up through 170 megacycles. As such it is an essential "must" for receiver design laboratories and for any service technician who expects to cope with post-war servicing of both AM and FM receivers . . . not to mention television sets.

MODEL 906 covers the frequency range of 90 kilocycles up through 170 megacycles in a total of eight ranges, each using individual, rotary-turret mounted, inductors wound upon Steatite forms, each trimmed by TYPE 619 air-dielectric capacitors. Conventional wave-change switches are eliminated in favor of plug-in coils successively rotated to bring their short contact pins into contact with short phospher-bronze contact springs. This reduces lead inductance and capacitance and provides excellent operation at all frequencies. This construction is typical of instruments costing around $400.00 . . . is basic laboratory design for fine high-frequency signal generators.

MODEL 906 circuit is MO-PA, using one triode of a 6J6 miniature dual u.h.f. tube as oscillator and the second section as buffer amplifier. This buffer amplifier feeds a two-section, individually shielded resistive attenuator patterned after the best laboratory instrument designs. Output voltage is indicated by a u.h.f. radar-type crystal diode and panel meter, calibrated directly in microvolts. One attenuator knob controls output in microvolts as indicated by the meter; the second attenuator knob multiplies the basic range of 0-10 microvolts by factors of 10, 100, 1000, 10,000 and 100,000 . . . to yield output continuously variable and directly metered from 0 to 1 volts. Through careful design and discrete location of grounds . . . through precise design and skillful multiple shielding . . . strays are held to a minimum.

One 6SN7GT dual triode functions as a Wein Bridge, 400∽ R-C oscillator of variable amplitude. This may be cut out, used to amplitude modulate the signal generator, or to provide frequency modulation **at any output frequency.** Thus variable frequency sweep is provided for 455 kcs. i.f. amplifier alignment, etc., plus frequency modulation with swing variable up to 400 kilocycles at police, communication and broadcast FM frequencies. Amplitude modulation percentage is also variable 0 to 50%. An 0B2 miniature voltage regular eliminates frequency shift due to a.c. mains fluctuations.

MODEL 906 AM/FM SIGNAL GENERATOR. Complete as above with 105/125 volt, 50/60 cycle built-in-mains isolated a.c. power supply, tubes and 50 ohm shielded output cable and connector. Size and style identical to "VOMAX"; weight in carton 18 lbs. Code SIGEN. NET PRICE ONLY $89.90



MODEL 800 "ATOM-X" U.H.F. RECEIVER 144-240 MCS.

MODEL 800 Receiver is the first of a line of amateur/commercial communication equipment christened "ATOM-X" to describe super power and performance in a "package" small enough for crowded apartments and portable/mobile work, yet giving eX-tra value and punch worthy of the most serious home station.

Starting out to be a super-heterodyne, MODEL 800 was found to be too selective for present-day operation in the 144/148 and 235/240 megacycle amateur bands. Comparison with the new non-radiating super-regenerative receiver described by E. P. Tilton, W1HDQ, in February, 1946 QST revealed the latter to be the best u.h.f. communication receiver our engineers had ever seen. So we reduced W1HDQ'S superb receiver to form capable of easy home construction and finished, commercial appearance.

Inductive tuning a la Byron Goodman (see Nov., 1945 QST) gives MODEL 800 unusually high LC ratio for optimum sensitivity in the 6AK5 high-gain tuned r.f. stage and in the 6C4 super-regenerative detéctor circuit, which is followed by a 6AU6 pentode first audio stage driving a 6AK6 power amplifier to produce a receiver having low internal noise, excellent usable selectivity, practically zero radiation and plenty of punch and power to bring in those weak signals. A built-in PM loud speaker completes what is confidently believed to be a supremely outstanding performer — a receiver better for present-day u.h.f. operation than the most expensive superhets we've tested.

Tuning is by the antenna knob, so non-critical as to require only setting to middle of band in ordinary operation, and by the main dial which spreads each band out over most of its eight revolutions and 7 feet-plus of effective dial length — band spread sufficient even for stable crystal-controlled transmitters like MODEL 700 which should soon be the standard even up to 240 megacycles.

Power supply can be anything from batteries to vibropack or simple a.c. power supply unit. Power consumption is but 1.05 amperes at 6.3 volts, a.c. or d.c., and 40 ma. at 135 volts d.c.

MODEL 800 "ATOM-X" U.H.F. RECEIVER. As above, less power supply, 1 — 6AK5, 1 — 6C4, 1 — 6AU6, 1 — 6AK6 tubes and coils. Size 10" x 5" x 5¼" in gray enamel steel cabinet with etched white-on-gun-metal aluminum panel. Factory wired and tested. Packed in carton 13½" x 9" x 8⅜"; weight 7 lbs. Code UHFER. NET PRICE $36.95

MODEL 800K "ATOM-X" U.H.F. RECEIVER KIT. Complete as above, but unassembled kit containing all necessary parts and instructions for home construction. Less No. 1051 cabinet, tubes and power supply. Packed in carton 10½" x 5½" x 5½"; weight 5 lbs. Code UHKIT. NET PRICE $24.95

PLUG-IN COIL PAIRS. Specify TYPE 125-A1 for 144/148 mcs., and TYPE 125-A2 for 235/240 mcs. Sold in pairs of one antenna and one super-regenerative detector coil, with built-in fixed ceramic band-set capacitors. Carton size 1½" x 1½" x 3¾"; weight 3 oz. NET PRICE PER PAIR $1.40

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MODEL 801 "ATOM-X" HIGH FREQUENCY RECEIVER

wing to the principle of maximum receiver performance for the r minimum cost, MODEL 801 is the basic design which has en the bed-rock of amateur operation for nearly thirty years, v modernized and streamlined to new performance. A 6BA6 ed r.f. stage precedes a 6AU6 regenerative detector which ves a 6C4 a.f. amplifier feeding 6AK6 power amplifier pentode. generation control is extraordinarily smooth, entirely free from ge-howl and stickiness. The r.f. stage reduces radiation to gligable proportions when the detector is oscillating for CW eption. Sensitivity is such that European short-wave broadcast ions can be "played" on the built-in PM loud speaker on a rt indoor antenna in Hartford quite regularly—W6s' likewise. g-in coils wound upon TYPE 125 "Micanol" forms make for rt leads and maximum efficiency in combination with Series) Steatite insulated tuning capacitors. The relatively non-ical antenna tuning capacitor is directly controlled. The very ective detector circuit is driven through the 16:1 spring-loaded ar train of MODEL 800 U.H.F. receiver to give 800 dial divi-ns spread out over more than 7 linear feet of effective dial scale gth. The 0-8 revolution-counting dial is visible through panel ndow to upper left of main 3½" diameter dial.

oth regeneration control permitting easy adjustment to maximum sensitivity, plus io volume control and headphone jack give completeness of control which makes powerful "atom" of sensitivity stand up beside big super-heterodyne receivers en it comes to bringing in weak DX signals clearly and easily. Dry battery opera- is feasible with either 6.3 or 1.4 volt tube models.

DEL 801 is a necessity to every amateur, beginner or oldtimer, not only as a fine eiver, but as a piece of test equipment which will enable him to check frequencies e accurately than can an absorption wavemeter and to determine presence and uency of weak signals in construction of his own transmitters and receivers. monics of MODEL 801 are useful up to 250 megacycles and beyond. MODEL will give an excellent account of itself up through the 50/54 megacycle band ere frequency-stable transmitters are now mandatory.

DEL 801 RECEIVER. Complete as above, less 1 each 6BA6, 6AU6, 6C4, 6AK6 tubes and power supply. Size 10" x 5" x 5¼" Style and finish identical to MODEL 800. Packed in carton 13½" x 9" x 8⅜"; weight 7 lbs. Code REGRE. NET PRICE $29.95

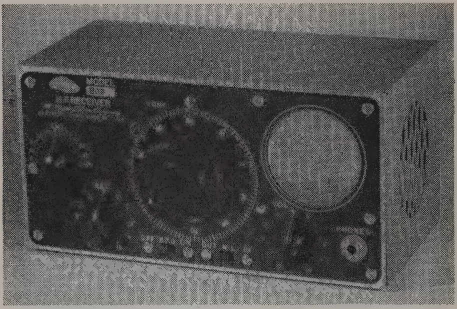
DEL 801K RECEIVER KIT. Complete as above but unassembled kit containing all necessary parts and instructions for home construction. Less cabinet, tubes and power supply. Packed in carton 10½" x 5½" x 5½"; weight 5 lbs. Code REGKI. NET PRICE $19.95

G-IN COIL PAIRS. Specify TYPE 125-B1 for 450 — 850 kcs.; TYPE 125-B2 for 845 — 1560 kcs.; TYPE 125-B3 for 3.45 — 6.55 mcs.; TYPE 125-B4 for 6.4 — 12 mcs.; TYPE 125-B5 for 11.95 — 21.9 mcs.; TYPE 125-B6 for 20.7 — 37.3 mcs.; 125-B7 for 35 — 60 mcs. Sold in pairs of one antenna and one regenerative detector coil. Carton size 1½" x 1½" x 3¾"; weight 3 oz. NET PRICE PER PAIR $1.00

DEL 801B RECEIVER. Same as MODEL 801 but for dry battery operation. Complete less 1-1T4, 2-1S5, 1-3S4 tubes and batteries. Same size and weight. Code REGBA. NET PRICE $28.95

DEL 801BK RECEIVER KIT. Same as MODEL 801B, but kit. Same size and weight as MODEL 801K. Less tubes and batteries. Code REGDY. NET PRICE $18.95

G-IN COIL PAIRS. Specify TYPE 125-B8 for 450 — 850 kcs.; TYPE 125-B9 for 845 — 1560 kcs.; TYPE 125-B10 for 3.45 — 6.55 mcs.; TYPE 125-B11 for 6.4 — 12 mcs.: TYPE 125-B12 for 11.95 — 21.9 mcs.; TYPE 125-B13 for 20.7 — 37.3 mcs.; 125-B14 for 35-60 mcs. Sold in pairs of one antenna and one detector coil. Carton size 1½" x 1½" x 3¾"; weight 3 oz. NET PRICE PER AIR. $1.00



MODEL 802 HIGH FREQUENCY "SIGNLE SIGNAL" SUPER-HETERODYNE

MODEL 802 is a full-performance, 6-band, super-het receiver designed especially for amateur communication. Streamlined and modernized through new circuit elements and new tubes, it carries forward the A.R.R.L. Handbook teaching that one may escape costly crystal filters to get single signal CW selectivity, and obtain nicely variable selectivity for phone reception too, by using one regenerative i.f. amplifier. That this is unquestionably the way to get the most for the least, thousands of amateurs who have built the QST designs have learned to their profit.

In addition to such extreme and variable selectivity usually found only in many times more costly receivers. MODEL 802 gives other features of tremendous value. Covering the 3.5-4.0, 7-7.3, 14-14.4, 21-21.5, and 27-30 megacycle bands, it also includes the new 6-meter, 50-54 mcs. band. It does this with each band spread over most of an effective dial length of over seven **feet.** Eight revolutions of the 3½" main tuning dial give that extreme of band-spread so essential for getting through on amateur bands soon to be more crowded than ever before and to give precise relogging. Antenna tuning is separate for precise circuit tracking, yet not so critical as to require constant resetting. I.f. transformers are air-tuned; low-loss insulation is Steatite and mica-bakelite; tubes all new; beat frequency oscillator is variable; two audio amplifier stages give volume to spare; complete r.f. and i.f. gain control, headphone jack, built-in PM loud speaker and series-valve noise limiter. Antenna and oscillator-tuning is new, inductive, as in MODEL 800, for maximum gain.

MODEL 802 employs a 6BE6 first detector/electron coupled oscillator, 6BA6 regenerative single-signal variable-selectivity 455 kcs. i.f. amplifier, 6J6 dual u.h.f. triode infinite impedance second detector and beat oscillator, 6J6 noise limiter and 1st a.f. amplifier, and 6AK6 power pentode 2nd a.f. amplifier. Power supply can be a.c. pack, vibropack or batteries—anything capable of supplying 1.65 amperes at 6 volts a.c. or d.c. and 135 volts at 50 ma. on up to 250 volts d.c. at 60 ma.

MODEL 802 SINGLE SIGNAL RECEIVER. Complete as above, less power supply, 1-6BA6, 1-6BE6, 2-6J6 and 1-6AK6 tubes (8-tube performance plus) and coils. Size and style same as MODEL 800. Factory wired and tested. Packed in carton 13½" x 9" x 8⅜"; weight 7 lbs. Code RECFA. NET PRICE $38.95

MODEL 802K SINGLE SIGNAL RECEIVER KIT. Complete as above, but unassembled kit containing all necessary parts and instructions for home construction. Less No. 1051 cabinet, tubes and power supply. Packed in carton 10½" x 5½" x 5½"; weight 5 lbs. Code RECIT. NET PRICE $26.95

PLUG-IN COIL PAIRS. Specify TYPES 125-C1 for 3.5-4 mcs.; 125-C2 for 7-7.3 mcs.; 125-C3 for 14-14.4 mcs.; 125-C4 for 21-21.5 mcs.; 125-C5 for 27-30 mcs.; 125-C6 for 50-54 mcs. Sold in pairs of one antenna and one oscillator coil per pair. Packed in carton 1½" x 1½" x 3¾"; weight 3 oz. NET PRICE PER PAIR $1.00

MODEL 803 TWO STAGE TUNED R.F. AMPLIFIER. Not illustrated, but of same "ATOM-X" style and size as MODEL 802. Two stage tuned r.f. amplifier operative upon same bands as MODEL 802. Will greatly increase image selectivity, gain and signal-to-noise ratio of any communication receiver not so equipped. Packed in carton 13½" x 9" x 8⅜"; weight 7 lbs. NET PRICE:

MODEL 804 factory-wired	$38.95
MODEL 804K kit	$26.95

PLUG-IN COIL PAIRS. For MODEL 803 series 125-D1 thru 125-D6 for same ranges as 125-C1 thru 125-C6. Packing and prices similarly identical.

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MODEL 700 "ATOM-X" U.H.F. TRANSMITTER

MODEL 700 TRANSMITTER pioneers the shift from energy-spreading modulated oscillators to energy concentrating MO-PA crystal control in the 140/144 and 235/240 megacycle bands . . . with the reduced interference and increased power effectiveness which frequency stability brings.

Compact almost beyond belief, its "ATOM-X" design houses in a cube only 10" x 5 x 5¼" a complete two-band transmitter and voice modulator, including all tuned circuits for two u.h.f. bands! The interior construction is open and easy of assembly through new SILVER design. The circuit uses one 6AQ5 (miniature 6V6GT) as a Tritet crystal oscillator tripling in its plate circuit to drive a 6C4 frequency doubler. A second 6C4 acts as a frequency doubler for 144/148 mcs., or as a tripler for 235/240 mcs. This second multiplier drives an 832 push-pull beam power amplifier to 28 watts input. Crystal frequencies for 144/148 mcs. may lie between 12 and 12.333+ megacycles (1/12th operating frequency); between 13.005+ and 13.333+ megacycles for 235/240 megacycles (1/18th operating frequency).

All inductors are permanently soldered to TYPE 619 tuning capacitors, internally adjustable. The 832 employs a long-line plate circuit with adjustable hair-pin output coupling loop. This line is tuned by a fifth TYPE 619 capacitor. Band shift requires only change of crystal and retuning of five TYPE 619 capacitors. Panel lamps eliminate costly meters to continuously register r.f. crystal current, and cathode currents of the three following tubes.

The built-in modulator employs two 6AQ5 beam power tubes in push-pull, and is complete with modulation and input transformers for operation with any good carbon microphone, current for which is supplied by the transmitter. Modulation capability is 100% for 28 watts input to the final amplifier. Power output of 5 watts at 240 mcs. and 8 watts or more at 144 mcs. is customary with a 300 volt plate supply — plenty of power to cut a swath through these bands when concentrated by crystal frequency stability. Crystal socket accepts any of the new compact war-time holders having ½" pin center-spacing, such as Crystal Research Lab. we used.

First air tests were W1IJ to W1HDQ — 45 miles from Madison to West Hartford, Connecticut . . . a terrain span so unfavorable that no previous W1IJ rig had ever bridged it.

MODEL 700 U.H.F. TRANSMITTER. Complete as above, less 3 — 6AQ5, 2 — 6C4, 1 — 832 tubes, power supply microphone and crystal. Size and finish identical to MODEL 800. Packed in carton 13¼" x 9" x 8⅜"; weight 9 lbs. Code UHTRA. NET PRICE $36.95

MODEL 700K TRANSMITTER KIT. Complete as above, but unassembled kit containing all necessary parts and instructions for home construction. Less cabinet, tubes, crystal and microphone. Packed in carton 10½" x 5½" x 5½"; weight 7 lbs. Code UHFPA. NET PRICE $24.95

MODEL 701 "ATOM-X" 75-WATT TRANSMITTER

"ATOM-X" is most descriptive of power and punch in amazin
small size when applied to MODEL 701 Transmitter, for it is
power-house in miniature. Easy to construct as a result of new a
unique SILVER design, it is a modern, 6-band transmitter which w
take 75 watts input to its 807 final amplifier at any frequency fr
3.5 through 54 megacycles. It closely follows A.R.R.L. Handbo
teachings to get maximum results for minimum size and cost.

One 6AQ5 miniature beam tetrode functions as Tritet crys
oscillator, working straight through, doubling or quadrupling
its plate circuit to drive an 807 beam power amplifier. Par
controls are Tritet cathode, oscillator plate and final amplif
plate tuning, all Series 600 Steatite insulated capacitors. Tune-
and operation are sure-fire and positive. Lifting cabinet lid reve
crystal (new military ½" pin center-spacing) socket and thr
TYPE 125 plug-in coils accessible along top rear of front pan
in easy reach for band changing. Two dial lamps visible throu
panel grommets indicate crystal current and final amplifier pla
current. The need for costly meters in tune-up or operation
eliminated, but with performance of essential circuits clearly a
continuously monitored. Crystal lamp acts as fuse to prevent fractu
ing of crystal due to possible tune-up overload.

CW power output in all bands, 3.5 through 30.0 mcs., is a nomin
50 watts for 75 watts final input on crystal fundamental or seco
harmonic. Power output when quadrupling crystal frequency fa
off somewhat, as in 50-54 mcs. band where a crystal lying b
tween 12.5 and 13.5 mcs. must be used.

Built-in 'phone modulator is identical to that of MODEL 700 and provides 14 wa
audio output to 100% modulate 28 watts final amplifier plate and screen inp
Though modulation falls only about 2.3 db. at 75 watts input, plate voltage shou
be reduced when switching to 'phone operation to reduce interference to oth
stations. Shift from CW to voice is by removing key plug and inserting micropho
plug. Compensated oscillator cathode keying eliminates "chirps" and perm
break-in operation.

Beginners will find MODEL 701 the easy, sure and certain way to get on the
with a serious, stable and effective signal. Old-timers will do likewise when pock
book or "shack" space precludes a "rock-crusher". For portable operation MOD
701 leaves little to be desired, so small and compact is it, yet so powerful for
size and cost. It is an ideal driver for high-power r.f. amplifiers.

MODEL 701 75 WATT TRANSMITTER. Complete as above, less 3-6AC
1-807 tubes, power supply, microphone, key and crystal. Size, finish and wei
identical to MODEL 700. Ship. Code TRANS. NET PRICE $36.

MODEL 701K TRANSMITTER KIT. Complete as above but unassembled kit co
taining all necessary parts and instructions for home construction. Less cabin
tubes, power supply, microphone, key and crystal. Shipping size and wei
same as MODEL 700K. Code TRAKI. NET PRICE $24.

PLUG-IN COILS FOR MODEL 701 TRANSMITTER. TYPE 125 coils. Car
size 1½" x 1½" x 1¾"; weight 1½ oz. NET PRICE EACH $.

Freq. Band	TRITET CATHODE No.	Tritet Plate No.	P.A. Plate No.
3.5-4 mcs.	125-E1A	125-E1B	125-E1C
7- 7.3 mcs.	125-E2A- 7 mc.xtal	125-E2B	125-E2C
14-14.4 mcs.	125-E3A-14 mc.xtal	125-E3B	125-E3C
21-21.5 mcs.	125-E2A- 7 mc.xtal	125-E4B	125-E4C
27-30 mcs.	125-E3A-14 mc.xtal	125-E5B	125-E5C
50-54 mcs.	125-E3A-14 mc.xtal	125-E6B	125-E6C

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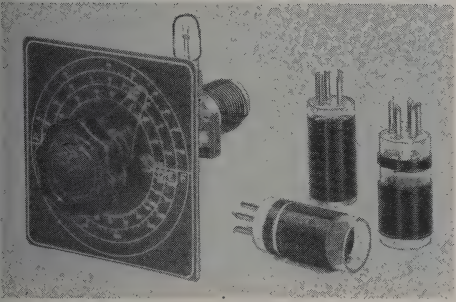


MODEL 903
ABSORPTION FREQUENCY METER

In transmitter design and construction by the amateur in his shop or in the commercial laboratory, few instruments are as necessary as the absorption wave-meter. With it operation of oscillator, amplifier and double stages . . . super-regenerative and other receivers . . . may be investigated and checked rapidly and effectively. Of particular importance, frequency multiplying stages driven by a low frequency oscillator can be checked to insurer output on the correct harmonic.

MODEL 903 Absorption Frequency Meter covers the unusually wide frequency range from 1600 kcs. up through the new amateur and civilian 400/500 megacycle ranges. It consists of an etched aluminum panel carrying a 600-series, low-loss Steatite insulated tuning capacitor, inductor socket and resonance-indicating lamp and socket. A knob and hair-line pointer permit accurate setting of the tuning capacitor to any point upon eight scales; seven directly calibrated frequency ranges, the eighth scale 0-100. With suitable inductor plugged into the rear socket and held near a transmitter tank circuit, resonance and approximate frequency is indicated either by dip of plate current meter or by the indicator lamp.

The extreme frequency range of MODEL 903 Absorption Frequency Meter is made possible by two different types of tuned circuits. Upon six ranges the tuning capacitor is in parallel with the selected inductor wound upon a low-loss TYPE 125 "Micanol" plug-in form and functions as a conventional parallel-tuned resonant circuit. Upon the seventh, or 400/500 megacycle range, the inductor is a plug-in quarter-wave transmission line with series tuning.

MODEL 903 ABSORPTION FREQUENCY METER. Complete as above, 7-band, with calibrated, etched aluminum panel and indicator lamp, less inductors. Size 3½" square, 3¾" deep overall. Packed in substantial carton 3¾" x 3¾" x 4"; weight 12 oz. Code ABMET. NET. PRICE $3.30

TYPE 100 INDUCTOR. Plug-in inductor with built-in indicator lamp coupling coil. Range 1600/3200 kcs. Packed in substantial carton 1½" x 1½" x 1¾"; weight 1½ oz. Code ONEIN. NET PRICE $.50

TYPE 101 INDUCTOR. Same as above, but 3000/7500 kcs. Code TWOIN. NET PRICE $.50

TYPE 102 INDUCTOR. Same as above, but 7000/17500 kcs. Code TREIN. NET PRICE $.50

TYPE 103 INDUCTOR. Same as above, but 17/50 mcs. Code FORIN. NET PRICE $.50

TYPE 104 INDUCTOR. Same as above, but 50/150 mcs. Code FIVIN. NET PRICE $.50

TYPE 105 INDUCTOR. Same as above, but 100/300 mcs. Code SIXIN. NET PRICE $.50

TYPE 106 INDUCTOR. Plug-in quarter-wave transmission line. Range 400/500 mcs. No indicator lamp coupling coil. Other wise as above. Code SEVIN. NET PRICE $.75

MODEL 907 SIGNAL QUALITY AND KEYING MONITOR

There's a story behind MODEL 907. One Sunday morning, shortly after the 10-meter band was reopened, a very famous amateur indeed called "Mac" and said "I want to **know** what my "bug" keying and my signal actually sound like. Why don't you do something for me and thousands of other amateurs?" So we went to work, with MODEL 907 as the tangible result. Of "ATOM-X" size, it's small enough to take practically no room on the amateur operating desk, where it will provide audible monitoring of keying, quality and frequency of the **actual signal you put on the air.**

Basically MODEL 907 is a simple untuned receiver using a 12AT6 a.f. amplifier pentode, a 12AT6 diode detector, 50B5 a.f. power amplifier and 35W4 rectifier. As such it serves as an ideal phone signal monitor, picking up the transmitter signal by a small length of "antenna" wire brought out of its cabinet. For CW telegraphy it is, a good and stable frequency monitor, for the triode section of the 12AT6 functions as a high-C, stable beating oscillator. This oscillator is tuned by a 600-Series capacitor driven by a 16:1 preloaded gear train actuated by the 0-100 division, 3½" diameter dial. A lever switch on the panel selects ranges of 3.5-4, 7-7.3 and 12.5-15 megacycles. Each band covers most of the 800 dial divisions for accurate readability. Effective dial length is nearly 88", or over 7 feet. In operation MODEL 907 Monitor may be left on permanently to insure maximum oscillator frequency stability, since it draws but 20 watts from the a.c. mains. With a length of "antenna" pick-up wire determined by experiment, it is tuned to produce the desired audio beat note with the CW transmitter and monitor signal volume adjusted with the panel r.f. **input** gain control. The keyed signal is audible through the built-in loud speaker, or headphone jack. By adding two .1 mfd. paper condensers and two leads, the monitoring signal may be fed right into the regular receiver to give "side-tone" monitoring. For phone operation the oscillator is simply tuned away from the transmitter frequency to yield no beat-note. Adding a key and paper condenser makes it a fine code practice oscillator, phone or speaker output of ample volume and power.

105/125 volt, 25/60 cycle a.c. operated, MODEL 907 Monitor cabinet and panel is insulated from the mains circuit to avoid danger of shock. It provides perpetual monitoring of CW signal quality, frequency and keying; of phone quality (and phone carrier frequency when desired) and so is an essential part of any truly complete amateur station where the operators interest is in putting out the best possible signal at all times. Harmonics of basic frequency ranges provide operation at 21-21.5, 27-30 . . . 50-54 megacycles.

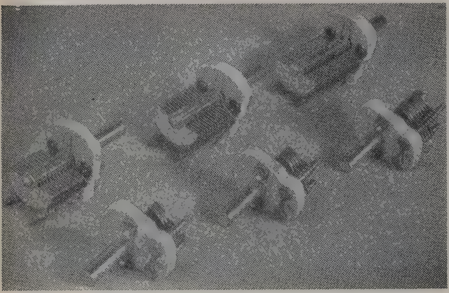
MODEL 907 MONITOR. Complete as above in "ATOM-X" size of 10" long, 5" high, 5¼" deep, less 2- 12AT6, 1- 50B5 and 1- 35W4 tubes Factory wired and tested. Packed in carton 13½" x 9" x 8⅝", weight 7 lbs. Code MONFA. NET PRICE $29.95

MODEL 907K MONITOR KIT. Complete as above but unassembled kit containing all necessary parts for home construction. Less cabinet and tubes. Packed in carton 10½" x 5½" x 5½"; weight 5 lbs. Code MOKIT. NET PRICE $19.95

SILVER

McMurdo Silver Company

1249 MAIN STREET, HARTFORD 3, CONNECTICUT, U. S. A.
IN CANADA — McMURDO SILVER DIVISION, GENERAL RADIONICS, LTD.
465 CHURCH STREET — TORONTO, ONTARIO, CANADA.



MINIATURE — U.H.F. STEATITE TUNING CAPACITORS

The first of an ever-growing line of new tuning capacitors, the 600-series is familiar in appearance. Their small size makes Series 600 capacitors ideal for use where space is at a premium . . . for internally-adjustable band-set capacitors . . . for u.h.f. tuning up to 500 megacycles and beyond. They are most useful for i.t. transformer tuning, and particularly for ultra-compact transmitters and receivers.

Plates are of aluminum, rotor shaft is carried in spring-loaded, precisely machined single bearing free of back-lash and play. Metal parts other than aluminum are cadmium plated for corrosion resistance and fine appearance. Stator tie rods are bonded together by soldered link to reduce self-inductance. Steatite end plates carry two square mounting studs 3/32″ high, tapped 4/40, with centers spaced 21/32″ on shaft center-line. Shaft is ¼″ diameter x ¾″ long for knob attachment in front of panel.

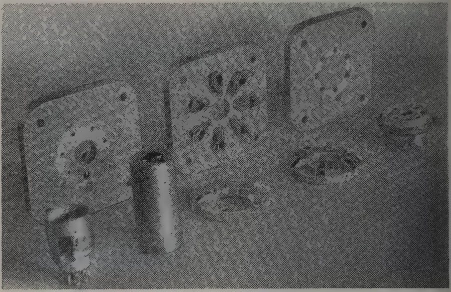
Series 600 capacitors have ¼″ thick ceramic end-plates 15/16″ wide, ½″ high above and 23/32″ long below shaft center. All are identical in construction, differing only in depth behind panel as a function of capacitance. Each stator rod projects ¼″ behind plate assembly and is grooved for soldering connections. Three-eared bronze rotor spring has solder lug extending rewardly for rotor connection. Rotor is ungrounded. Plate spacing is .015″. Each is individually packed in carton. Code is letters "CA" followed by the maximum capacitance figure.

Type Number	CAPACITANCE Max. Min.	Number of Plates	Depth	Net Price
600	17 — mmfd. — 3.0	5	13/16″	$ .96
601	28 — mmfd. — 3.4	8	15/16″	.96
602*	50 — mmfd. — 4.3	14	1 3/16″	1.05
603	75 — mmfd. — 5.3	21	1 5/16″	1.17
604	100 — mmfd. — 6.0	28	1 9/16″	1.26
605	140 — mmfd. — 7.1	39	1 ⅞″	1.44

Also available as TYPE 602A at $1.10 with ¼″ dia. x ¼″ long rear shaft extension as for ganging.

TYPE 1050 CABINET. Exactly as used for "VOMAX", etc. Size 12⅜″ long, 7⅜″ high, 5″ deep overall. Panel opening 11½″ x 6½″. Four 6/32 tapped holes in front flanges provide mounting for 12″ x 7″ panel (not supplied). Complete with four bumper feet on bottom, two 1⅛″ holes in rear, leather carrying handle and loops. Four 6/32 tapped holes in front flanges on 5½″ x 6½″ centers. In carton 15″ x 11″ x 9″, weight 6 lbs. Code VOCAB. NET PRICE $3.70.

TYPE 1051 CABINET. Exactly as used for "ATOM-X" receivers, transmitters, monitor. Size 10″ long, 5″ high, 5¼″ deep. Hinged top cover. Screened ventilating appertures in both ends. Two 1⅛″ holes in rear. Four bumper feet on bottom. Four 6/32 tapped holes on 9 3/16″ x 4 3/16″ centers, one at each corner for mounting 10″ x 5″ panel (not supplied). In carton 13½″ x 9″ x 8⅜″; weight 4½ lbs. Code ATCAB. NET PRICE $3.70



LOW-LOSS VACUUM TUBE SOCKETS

Listed below are sockets to satisfy almost any experimental need. All are constructed of the finest available materials . . . are operative efficiently at frequencies up to and beyond 500 megacycles . . . have been specified for and used in thousands of military equipments.

TYPE 500 OCTAL STEATITE SOCKET: Steatite body is firmly clamped in metal saddle provided with two No. 27 holes for mounting and four solder lugs for convenient grounding points for circuit components. Eight silver-plated full-grip spring contacts are freely held in Steatite body. Length 1¾″, maximum width 1¼″, depth below chassis ⅝″. Mounts in one 1⅛″ hole between two No. 27 holes on 1½″ centers. Packed in individual carton. Shipping weight 2 oz. Code STEOC. Net Price $.24.

TYPE 501 OCTAL PHENOLIC SOCKET: Not illustrated ,this socket is identical to TYPE 500 except for low-loss mica-filled phenolic body. Same mounting and overall dimensions, packing and weight. Code PHEOC. Net Price $.15.

TYPE 502 ACORN STEATITE SOCKET: Steatite ring carries seven silver plated spring contacts to accept the seven radial pins of the new 6F4 u.h.f. acorn triode. Overall diameter 1 13/16″, overall height ⅜″. Mounts by one ¾″ hole to pass acorn tube body between two No. 27 holes on 1 3/16″ centers. Packed in individual carton. Shipping weight 2 oz. Code SEVAC. Net Price $.75.

TYPE 503 ACORN STEATITE SOCKET: Same as Type 502 except with five contacts for 900-series acorn tubes. Code FIVAC. Net Price $.60.

TYPE 504 SHIELDED MINIATURE STEATITE SOCKET: Steatite body carries seven silver-plated ,freely floating, full-grip spring contacts to accept all 7-pin miniature tube types. Body is firmly clamped in metal saddle extending upward ¾″ as partial shield and to prevent glass breakage due to rocking tube in removal. Cadmium plated base shield and removable 1¾″ bayonet-lock top-shield containing coil spring to firmly retain tube in socket. Mounts in one ⅝″ hole between two ⅛″ holes on ⅞″ centers. Overall diameter 15/16″, overall length 2½″. Packed in individual carton. Shipping weight 3 oz. Code STEMI. Net Price $.75.

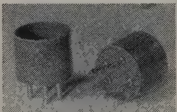
TYPE 505B MINIATURE LOW-LOSS SOCKET. Of construction paralleling Types 500 and 504 sockets, TYPE 505B is a miniature low-loss, metal saddle mounted, mica-bakelite socket. Mounts above or below chassis with ⅝″ socket hole between two No. 32 holes on ⅞″ centers. In carton, shipping weight 1 oz. Code MINST. Net Price $.15.

TYPE 506 STEATITE TRANSMITTING SOCKET: Designed for 826, 829, 832, etc. tubes . . . 7-pin glass button bases. Steatite base 2⅝″ square, with four 3/16″ bossed mounting holes at corners of 1⅞″ square mounts beneath 2⅛″ chassis hole. Contacts are two-piece, spring reinforced, keyed into base to prevent turning. Packed in individual carton. Shipping weight 5 oz. Code STEUH. Net Price $1.10.

TYPE 507 5 PIN JUMBO STEATITE SOCKET: Same as TYPE 605 except designed for 803, 4-125A and other tubes having "jumbo" 5-pin bases. Code STEJU. Net Price $1.10.

TYPE 508 7-PIN GIANT STEATITE SOCKET: Same as TYPE 605 except designed for 813 and other tubes having "giant" 7-pin bases. Code STEGI. Net Price $1.10.

TYPE 125 PLUG-IN COIL FORM



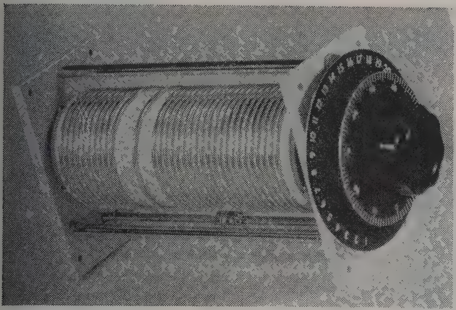
Recognizing the excellent high-frequency insulating characteristics and fine dimensional stability of RCA'S "micanol" transmitting tube bases, SILVER now makes them available to amateurs and experimenters for use as coil forms, plugs, etc. They are most convenient for winding receiver and transmitter inductors, plug-in or fixed, for housing and protecting air-wound u.h.f. coils, and for transmitter coils for plate inputs up to 75 watts. Winding space is 1⅜″ diameter and 1 1/16″ long. Holes are easily drilled. TYPE 125 Forms fit standard 5-pin tube sockets and are equipped with five substantial nickel-plated contact pins.

TYPE 125 PLUG-IN COIL FORM. Size 1⅜″ x 1 3/32″ long. 5 pins project 9/16″ below solid end. In carton size 1½″ x 1½″ x 1¾″; weight 2 oz. Code PLUCO. Net Price $ .15.

SILVER

McMurdo Silver Company

1249 MAIN STREET, HARTFORD 3, CONNECTICUT, U. S. A.
IN CANADA—McMURDO SILVER DIVISION, GENERAL RADIONICS, LTD.
465 CHURCH STREET — TORONTO, ONTARIO, CANADA.



TYPE 180 ROTARY 3.5-54 MCS. TRANSMITTING INDUCTOR

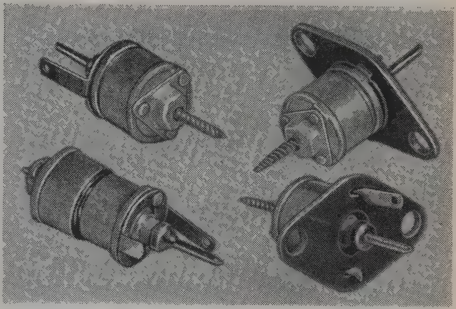
TYPE 180 Rotary Inductor brings to the radio amateur for the first time the military/commercial type of multi-band transmitting coil. TYPE 180 replaces the six usual bulky plug-in coils required to cover the 3.5 through 54 mcs. bands! It eliminates costly variable capacitors, substituting small fixed ceramic or air condensors selected by a panel switch for band changing. In oscillator and frequency-meter construction TYPE 180 provides **extreme** bandspread through its multi-revolution 2¾" diameter 0-100 division main dial and positively locked turn-counting rear-of-panel dial viewed through a 5⁄16" diameter panel window immediately above the fiducial marker.

Wound of No. 12 tinned copper wire upon threaded 2¼" diameter low-loss Steatite form, division of this winding into two discrete sections at critical inductance and spacing enables the single coil to cover the 3.5-4, 7-7.3, 14-14.4, 21-21.5, 27-30 and 50-54 megacycle amateur bands with excellent Q. Power handling capacity is up to 500 watts plate input, while heavy, rugged and substantial construction, coupled with positive lateral retention of the trolley-rod makes for extraordinarily high accuracy of resetability in frequency meter construction. TYPE 180 is a direct descendent of the rotary inductor of F.C.C.'s McMurdo Silver-designed portable heterodyne frequency meter.

Positive, spring-loaded contact is made at both end-plates to the rotor shafts terminating the coil winding, as well as to both ends of the trolley-rod carrying the movable contact-roller. A two-turn coupling coil is mounted on the inside face of the rear Steatite end-plate with appropriate terminals thereon. Two 6/32 tapped holes in the bottom edge of each end plate provide for chassis mounting. Eight No. 26 holes, one at each corner of both end-plates allow close and convenient mounting of associated parts. Four screws and spacers are supplied for 1⁄16" to ¼" thick front-panel mounting where desired.

TYPE 180 ROTARY INDUCTOR. As above, 3.5 through 54 mcs. complete with 2¾" 0-100 polished black anodized, white-filled direct-drive main dial with 1⅝" bakelite knob, 3⅝", 0-30 rear-of-panel turn-counting dial and mounting hardware. Size 7⅛" deep behind panel, 4⅛" high, 2½" wide. In carton 8" x 4½" x 4½"; Weight 5 lbs. Code ROIND.
NET PRICE $6.90

TYPE 180A INDUCTOR. Inductor only as above. For use with variable tuning capacitor of 80 mmfd. or more capacity. Taps may be soldered to turns so switch or flexible lead and clip may be used for band changing. Size 2¼" diameter, 5⅝" long. Mounts by four 4/40 screws supplied tapped into either end on 21⁄16" diameter circle. In carton, size 6" x 3" x 3"; weight 2 lbs. Code STIND. NET PRICE $2.25



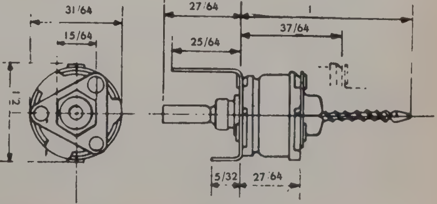
TYPE 619 HIGH -Q AIR TRIMMER CAPACITOR

A new and novel air-dielectric capacitor of unusually high Q, extraordinary stability both mechanical and electrical, easy of adjustment, small in size and useful well beyond 500 megacycles as either trimmer or tuning capacitor is now available. Produced at the famous Philips works in Holland, this new capacitor is brought to American amateurs and experimenters through SILVER jobbers by the McMurdo Silver Co.

Less than ½" in diameter, less than 1 1⁄16" in length, SILVER TYPE 619 capacitor provides 3 to 30 mmfd. at insulation resistance above 10,000 megohms, at power factor of .007 at 1 mcs. and 8 mmfd., due to high-quality ceramic insulation. Both rotor and stator are of one-piece, low inductance, multiple aluminum cup construction. The rotor meshes with the stator to give a linear capacitance range of 27 mmfd. over 100°, (three full rotations). Rotor position once set is permanent by virtue of retention spring, while vibration does not affect capacitance since a long rotor bearing sleeve closely hugs a matching central ceramic insulator. Temperature coefficient is $+300 \times 10^{-6}$ per °C.

Weighing less than ¼ oz., TYPE 619 capacitors have two solder terminals, are so light they may be mounted directly by their connecting leads. Supplied with a low-loss phenolic mounting plate having two No. 25 mounting holes in 1" centers. Capacitor mounts thereto by two ears which are given a slight twist with nose pliers after insertion through matching slots in the insulated mounting plate.

TYPE 619 CAPACITOR. Best news is price — in line with the usual compression mica trimmers which they may so advantageously replace in all circuits. Code MICAP. Packed in cartons of 10. NET PRICE EACH $.30.

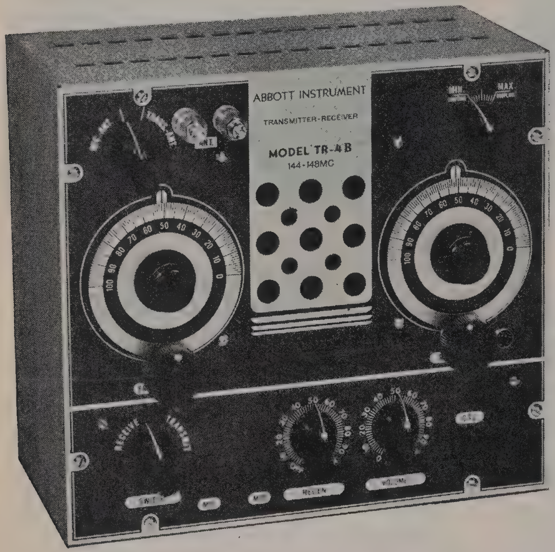


ABBOTT

INSTRUMENTS *for communication - emergency - or amusement*

And now . . . The NEW ABBOTT TR-4B

Ultra High Frequency 2 meter TRANSMITTER-RECEIVER *For 144-148 Mc Operation with Acorn 955 Tube Used in Receiver*



OPERATES FROM VIBRATOR OR AC POWER SUPPLY

NET PRICE TO AMATEURS .... **$52.00** ***less tubes***

FEATURES:

1. Radiation from the receiver is reduced to a negligible value.
2. The receiving circuit and its antenna coupling can be adjusted for optimum performance.
3. The transmitter circuit and its antenna coupling can be tuned for maximum power output and efficiency.
4. Retuning is eliminated when changing between transmitting and receiving.
5. Jacks are provided for measuring oscillator and modulator current.

FREQUENCY COVERAGE: Will cover 144 to 148 mc., the amateur 2 meter band.

RANGE: The working range of the ABOTT TR-4B will depend upon the location in which it is used. The range will vary between 5 and 75 miles. In actual field tests, ranges up to 290 miles have been covered.

POWER REQUIREMENTS: Any standard 300 volt ma vibrator power supply with filter added will serve as satisfactory power equipment for mobile use. For fixed operation the unit can be operated from an AC power supply having an output of 300 volts at 100 milliamperes and 6.3 at 3.5 amperes.

SIZE: 9" x 8" x 4½".

TUBES USED: One Acorn 955
One Hytron HY-75
One 7F7
One 6L6 or 6V6

TUBE FUNCTIONS:

Receiver:	955—Super-regenerative detector 7F7—First audio 6L6 or 6V6—Power audio
Transmitter:	HY-75—Oscillator 7F7—Audio 6L6 or 6V6—Modulator

MICROPHONE REQUIREMENTS: Any good single button microphone will work satisfactorily.

The TR-4B Radiotelephone & Receiver Unit can be used for fixed station operation or as a mobile unit in an automobile, truck, boat or plane or anywhere where a 6 volt battery or 110 volts 60 cycles AC is available.

GENERAL SPECIFICATIONS: The TR-4B incorporates a separate receiver using an Acorn 955 as the super-regenerative detector and a separate transmitter utilizing a Hytron HY-75 as an ultra-high frequency oscillator.

The receiver portion incorporates a specially designed circuit and many mechanical refinements such as: front of panel control variable inductive coupling, variable sensitivity control, and audio volume control.

Because of the separate transmitter and receiver incorporated in the TR-4B, it will be found much more convenient for various typs of services in view of the fact that no retuning is required when going from SEND to RECEIVE during a contact. It will also be noted that the TR-4B incorporates a ganged antenna send-receive switch which is automatically thrown when the lower send-receive is operated. This reduces the operating controls during a contact to one control, and also makes possible the use of a common antenna for both transmitter and receiver.

During many field tests covering a period of several months, the TR-4B has performed brilliantly and has proven itself to be a piece of outstanding ultra-high frequency equipment. It will prove itself particularly useful in many types of services.

A 5" PM speaker is self-contained and good volume will be obtained from most stations.

ABBOTT INSTRUMENT, INC.

NEW YORK, 11, N. Y.
U. S. A.

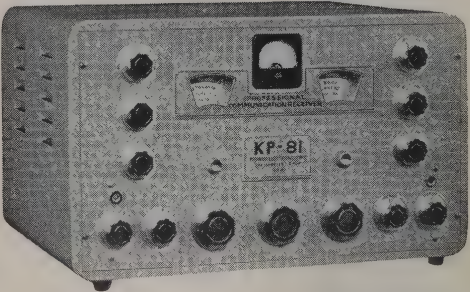
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

A TRIUMPH IN COMMUNICATIONS ENGINEERING

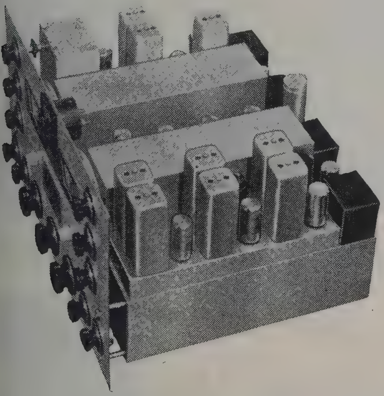
The New Improved

KP-81

Receiver



'he KP-81 is offered today as the receiver of tonorrow, having been designed and developed by Karl E. Pierson who formerly designed the famous 'R series of receivers. Engineered to meet presnt day conditions and to anticipate future requirements, the KP-81 is packed with advantageous eatures. Two tuned RF or **Pre-Selector** stages in peration at all times on all bands, combined vith highest design efficiency, gives an unusually rief image ratio on all bands. Electrical **Band Spread** eliminates paralax, employs a shutter ystem which gives 0 to 100 scale as well as acurately calibrated frequency scales for all ham ands, has provisions for accurate frequency seting, and is designed to literally spread each ham and over the entire band spread dial. The main **'uning Condensor** is 4 gang, non microphonic, igidly constructed and mounted. **Band Change** is accomplished by use of a slide coil drawer, an improved adaptation of the turret system. Contacts are heavily silvered knife switch type. There are **Five Bands:** 7½ to 550 meters. Frequency indicators consist of printed information on dial shutters (see table). The **Crystal Filter** combines band pass and series-parallel types, the component parts separately shielded. Utilizes precision one-peak crystal, air tuning, is isolantite insulated, has phasing condensor with insulated shaft, and assures maximum efficiency of operation. **Intermediate Transformers** are of new and unusual design and help give a type of selectivity and interference elimination heretofore unknown in communications receivers. **High Frequency Oscillator** is electron coupled type of unusually high stability. Changes of oscillator plate voltage as high as 50% have a negligible effect on oscillator frequency even when operating on highest frequency band. **Inter Channel Noise Suppression** may be switched in or out of any band, may be adjusted to open on a signal of any R strength, is of extraordinary benefit in stand-by work where carrier of station received is turned off during transmissions. **Tone Controls** are variable high-pass and low-pass audio filters, make possible adjustment of the audio curve to fit the particular noise or such conditions of any situation normally encountered in communication work. In full "on" position the audio curve becomes a sharp peak at 1000 cycles, an ideal situation for code reception, particularly through heavy noise.



'he KP-81 is an 18 tube receiver consisting of 2 tages of RF Pre-Selection, local oscillator, moduator or mixer, 3 IF stages, noise amplifier and ectifier, automatic threshold control, second deector, first audio, push-pull output, beat oscillator, quelch, calibrator, and rectifiers. The power suply is arranged for either 110 or 220 volt 50-60 ycle operation. The speaker is heavy duty, 10" ynamic P. M.

FREQUENCY COVERAGE

Band—1	550.0 KC to 1700.0 KC
Band—2	1.7 MC to 5.5 MC
Band—3	5.5 MC to 12.0 MC
Band—4	12.0 MC to 20.0 MC
Band—5	20.0 MC to 40.0 MC

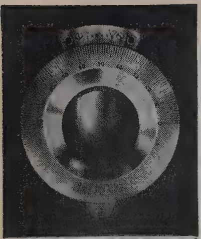
We are making every effort to meet the heavy demand for the new KP-81 receivers. However, Pierson Electronic Corporation will adhere to their policy of precision construction, and suggest that you place your order well in advance.

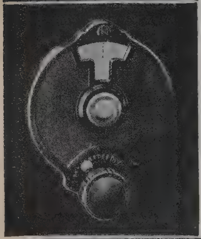
PIERSON ELECTRONIC CORP.

33 EAST FIFTH STREET - - - LOS ANGELES 13, CALIFORNIA

Manufacturers of Communication and Commercial Radio Equipment

Export Department: FRAZAR & HANSEN, 301 Clay Street, San Francisco 11, Calif., U. S. A.





NATIONAL DIALS

The four-inch N and AD Dials have engine divided and die stamped scales respectively. The N Dial has a decimal vernier; the AD Dial employs a pointer. The planetary drive has a ratio of 5 to 1, and is contained within the body of the dial. 2, 3, 4 or 5 scale. Fits ¼″ shaft. **Specify scale.**

N Dial **List $**
AD Dial **List $**

"Velvet Vernier" Dial, Type B, has a compact variable ratio 6 to 1 minimum, 20 to 1 maximum drive that is smooth and trouble free. The case is black bakelite. 1 or 5 scale. 4″ diam. Fits ¼″ shaft. **Specify scale.**

B Dial **List $**

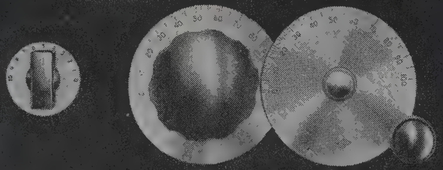
The original "Velvet Vernier" mechanism is now available in a metal skirted dial 3″ in diameter. The planetary drive has a ratio of 5 to 1. It is available with 2, 3, 4, 5 or 6 scale and fits ¼″ shaft.

AM Dial **List $**

The BM Dial is a smaller version of the B Dial (described in the opposite column) for use where space is limited. The drive ratio is fixed. Although small in size, the BM Dial has the same smooth action as the larger units. 1 or 5 scale. 3″ diam. Fits ¼″ shaft. **Specify Scale.**

BM Dial **List $**

INEXPENSIVE DIALS



TYPE R
List $
1⅜″ Dia.

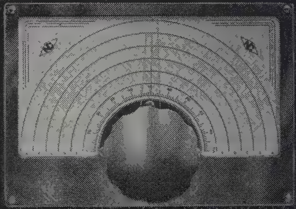
TYPE O
List $
3½″ Dia.

TYPE K
List $
3½″ Dia.

TYPE L
List $
5″ Dia.

TYPE M
List $
5″ Dia.

FOR INDIVIDUAL CALIBRATING



For experimenters who "build their own" and desir direct calibration. Fine for Freq. Monitors and VFO's

- Dial bezel size 5″ x 7¼″
- Five blank Ranges for direct calibration
- Employs Velvet Vernier Drive
- 5 to 1 ratio

TYPE ACN List $

R Dial scale 3 only but marked 10-0; O, K, L, M scale 2. All fit ¼″ shafts.

KNOBS

HRK (Fits ¼″ shaft) **List $**
Black bakelite knob 2⅜″ diam.

HRK
HRP-P
HRP

HRP-P (Fits ¼″ shaft) **List $**
Black bakelite knob 1¼″ long and ½″ wide. Equipped with pointer.

HRP List $
The Type HRP knob has no pointer, but is otherwise the same as the knob above.

ACCESSORIES

ODL **List $**
A locking device which clamps the rim of O, K, L and M Dials. Brass, nickel plated.

ODD **List $**
Vernier drive for O, K, L, M or other plain dials.

SB (Fits ¼″ shaft) **List $**
A nickel plated brass bushing ½″ diam.

RSL (Fits ¼″ shaft) **List $**
Rotor Shaft Lock for TMA, TMC and similar condensers.

ODL
ODD
RSL
SB

DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0-100-0	180°	Either
2	0-100	180°	Counter Clockwise
3	100-0	180°	Clockwise
4	150-0	270°	Clockwise
5	200-0	360°	Clockwise
6	0-150	270°	Counter Clockwise

The HRT is a new gray plastic tuning knob with a chrome plated appearance circle. The HRT knob fits a ¼″ dia. shaft and is 2⅛″ in dia.

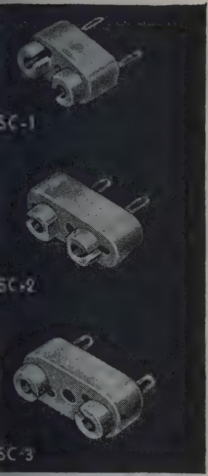
HRT Knob **List $**

The HRS Knobs are a new gray plastic knob with a 1⅜″ dia. chrome plated skirt. HRS Knobs fit ¼″ dia. shafts. Three types are available as follows:

HRS-1 Knob ON-OFF through 30° rotation **List $**
HRS-2 Knob 5-0-5 through 180° rotation **List $**
HRS-3 Knob 0-10 through 300° rotation **List $**

HRS-1
HRS 2
HRS-3

NATIONAL PARTS LOW-LOSS SOCKETS



The SC-1, SC-2 and SC-3 are crystal mounting sockets for crystal holders with mounting pins spaced 0.500″, 0.486″ and .750″ respectively and pin diameters of 1/16″, 3/32″ and ⅛″ respectively. Steatite Insulation. Single 4-36 or 4-40 screw mounting for CS-1 and CS-2; single 6-32 screw mounting for CS-3.

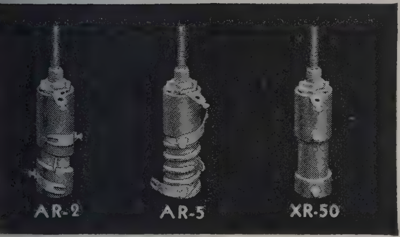
SC-1	**List $**
SC-2	**List $**
SC-3	**List $**

The AR-2 and AR-5 coils are high Q permeability tuned RF coils. The AR-2 coil tunes from 75 Mc. to 220 Mc. with capacities from 100 to 10 micro-micro-farads. The AR-5 coil tunes from 37 Mc. to 110 Mc. with capacities from 100 to 10 micro-micro-farads. The inductive windings supplied may be replaced by other windings as desired to modify the tuning range.

AR-2 High Frequency Coil List $
AR-5 High Frequency Coil List $

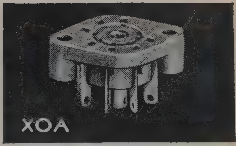
The XR-50 coil forms may be wound as desired to provide a permeability tuned coil. The form winding length is 11/16″ and the form winding diameter is ½ inch. The iron slug is ⅜″ dia. by ½″ long.

XR-50 **List $**



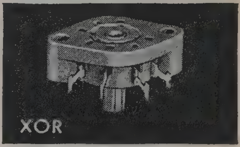
The XOA Socket is a socket for the Miniature Button 7 Pin base tubes. Low loss mica filled bakelite insulation. Mounts with two 4-40 screws. Socket contacts extend axially from base of socket.

XOA **List $**



The XOR Socket is the same as the XOA Socket except that the contacts extend radially from base of socket.

XOR **List $**

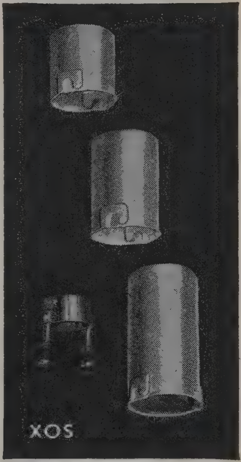


The XOS tube shield is a two piece shield for the Miniature Button 7 Pin base tubes. The shield is available in three sizes corresponding to the 1 3/16″, 1½″ and 2″ tube body heights. The shield contains a spring which centers tube in shield and holds tube and shield firmly in place. The two 4-40 spade bolts serve to mount the XOA or XOR Socket and the XOS tube shield.

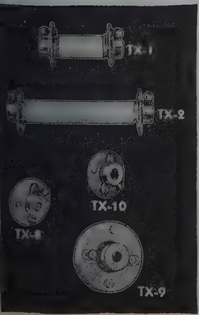
XOS-1 For 1 3/16″ high tube body **List $**

XOS-2 For 1½″ high tube body **List $**

XOS-3 For 2″ high body **List $**



NATIONAL SHAFT COUPLINGS



TX-1, Leakage path 1″ **List $**

TX-2, Leakage path 2½″. **List $**

Flexible couplings with glazed steatite insulation which fit ¼″ shafts.

TX-8 **List $**

A non-flexible rigid coupling with steatite insulation. 1″ diam. Fits ¼″ shaft.

TX-9 **List $**

This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is steatite. 1⅝″ diam. Fits ¼″ shaft.

TX-10 **List $**

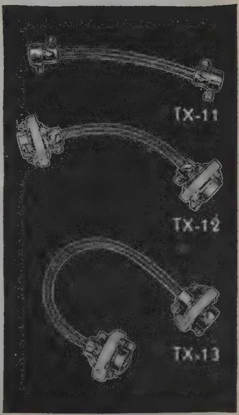
A very compact insulated coupling free from backlash. Insulation is canvas Bakelite. 1 1/16″ diam. Fits ¼″ shaft.

TX-11 **List $**

The flexible shaft of this coupling connects shafts at angles up to 90 degrees, and eliminates misalignment problems. Fits ¼″ shafts. Length 4¼″.

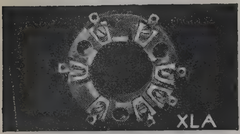
TX-12, Length 4⅝″ **List $**
TX-13, Length 7⅛″ **List $**

These couplings use flexible shafting like the TX-11 above, but are also provided with steatite insulators at each end.



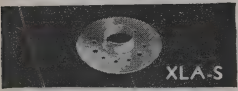
NATIONAL Radio Products

NATIONAL LOW-LOSS SOCKETS AND INSULATOR



XLA List $

A low-loss socket for the 6F4 and 950 series acorn tubes for frequencies as high as 600 MC. Conventional by-pass condensers may be compactly mounted between the contact terminals and the chassis. Low contact resistance, short and direct leads and low and constant inductance are features.



XLA-S List $

An internal shield fitting the XLA socket and suitable for tubes such as the 956.

XLA-C List $

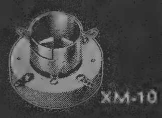
This miniature by-pass condenser may be mounted inside the socket, directly below the contact. Capacities of 50 or 100 mmf. available.

XCA List $

A low-loss socket for acorn triodes.

XMA List $

For pentode acorn tubes, this socket has built-in by-pass condensers. The base is a copper plate.



XM-10 List $

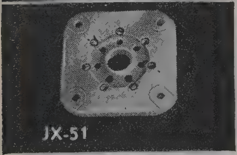
A heavy duty metal shell socket for tubes having the XU base.

XM-50 List $

A heavy duty metal shell socket for tubes having the Jumbo 4-pin base ("fifty watters").

JX-50 List $

Without Standoff Insulators



JX-51 List $

A low loss wafer socket for the 813 and other tubes having the Giant 7-pin base.

HX-100S List $

With Standoff Insulators

A low-loss wafer socket suitable for the type 4-125-A, 4-250-A and other tubes using the Giant 5-pin base. Shield grounding clips are supplied which mount on the chassis with the socket mounting screws to ground the tube shield at three points. Air holes are provided in the socket to permit forced air cooling.

GS-1
GS-2
GS-3
GS-4
GS-4A

GS-1, ½" × 1⅜" List $
GS-2, ½" × 2⅞" List $
GS-3, ¾" × 2⅞" List $
GS-4, ¾" × 4⅞" List $
GS-4A, ¾" × 6⅞" List $

Cylindrical low-loss steatite standoff insulators with nickel plated caps and bases.

GSJ, (not illustrated) List $

A special nickel plated jack top threaded to fit the ¾" diameter insulators GS-3, GS-4 & GS-4A.

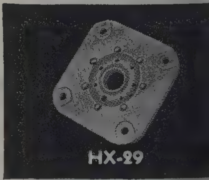
GS-10
GS-5
GS-6
GS-7

GS-5, 1¼" List, each $
GS-6, 2" List, each $
GS-7, 3" List, each $
GS-10, ¾", package of 10 List $

These cone type standoff insulators are of low-loss steatite. They have a tapped hole at each end for mounting.

GS-8, with terminal List $
GS-9, with jack List $

These low-loss steatite standoff insulators are also useful as lead-through bushings.



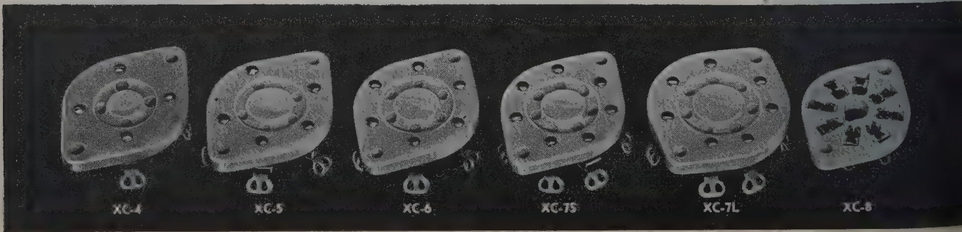
HX-29 List $

A low-loss wafer socket with steatite insulation for the popular 829 and 832 tubes.

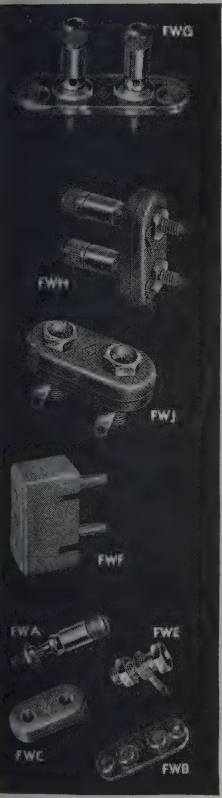
XC Series Sockets

XC-4	List $
XC-5	List $
XC-6	List $
XC-7S	List $
XC-7L	List $
XC-8	List $

National wafer sockets have exceptionally good contacts with high current capacity together with low loss steatite insulation. All types have a locating groove to make tube insertion easy.



ATIONAL LOW-LOSS SOCKETS AND INSULATORS



FWG **List $**

A Victron terminal strip for high frequency use. The binding posts take banana plugs at the top, and grip wires through hole at the bottom, simultaneously, if desired.

FWH **List $**

The insulators of this terminal assembly are molded R-39 and have serrated bosses that allow the thinnest panel to be gripped firmly, and yet have ample shoulders. Binding posts same as FWG above.

FWJ **List $**

This assembly uses the same insulators as the FWH above, but has jacks. When used with the FWF plug (below), there is no exposed metal when the plug is in place.

FWF **List $**

This molded R-39 plug has two banana plugs on 3/4" centers and fits FWH or FWJ above. Leads may be brought out through the top or side.

FWA, Post **List, each $**
Brass Nickel Plated

FWE, Jack **List, each $**
Brass Nickel Plated

FWC, Insulator **List, per pair $**
R-39 Insulation

FWB, Insulator **List, each $**
Polystyrene insulation

CIR Series Sockets

Any Type **List $**

Type CIR Sockets feature low-loss steatite insulation, a contact that grips the tube prong for its entire length, and a metal ring for six position mounting.

AA-3 **List $**

A low-loss steatite spreader for 6 inch line spacing. (600 ohms impedance with No. 12 wire.)

AA-5 **List $**

A low-loss steatite aircraft-type strain insulator.

AA-6 **List $**

A general purpose strain insulator of low-loss steatite.

XS-6 **List, each $**

A low-loss steatite bushing for 1/2" holes.

XP-6 Same as above but polysterene.

List, box of ten $

TPB **List, per dozen $**

A threaded polystyrene bushing with removable .093 conductor moulded in, 1/4" diam., 32 thread.

XS-7, (3/8" Hole) **List $**
XS-8, (1/2" Hole) **List $**

Steatite bushings. Prices include male and female bushings with metal fittings.

XS-1, (1" Hole) **List $**
XS-2, (1 1/2" Hole) **List $**

Prices listed are per pair, including metal fittings. Insulation steatite.

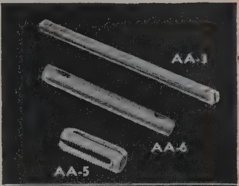
XS-3, (2 3/4" Hole) **List $**
XS-4, (3 3/4" Hole) **List $**

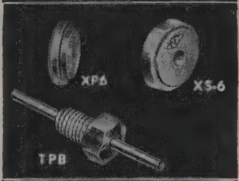
Prices are per pair, including metal fittings. These low-loss steatite bowls are ideal for lead-in purposes at high voltages.

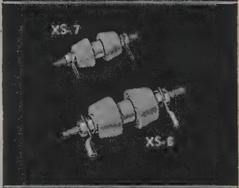
XS-5, Without Fittings
List, each $

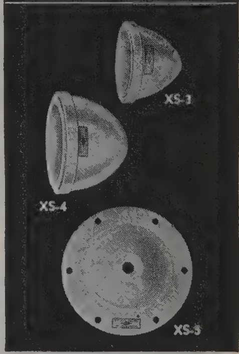
XS-5F, With Fittings
List, per pair $

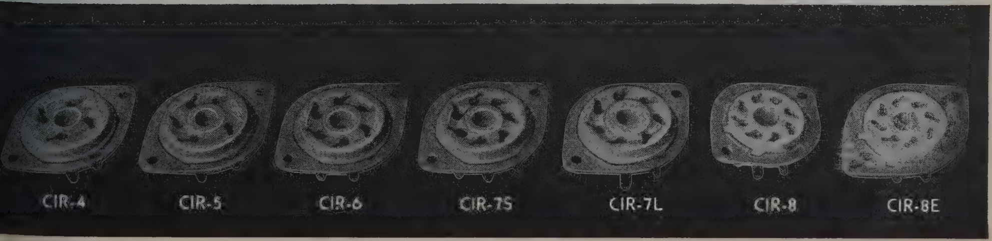
These big low-loss bowls have an extremely long leakage path and a 5 1/4" flange for bolting in place. Insulation steatite.





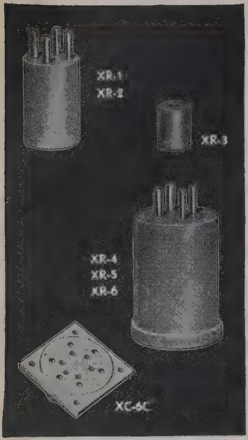






NATIONAL Radio Products

NATIONAL PARTS



COIL FORMS

XR-1, Four prong, **List $**
XR-2, without prongs **List $**

Molded of R-39, permitting them to be grooved and drilled. Coil form diameter 1″, length 1½″.

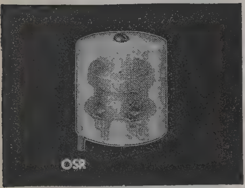
XR-3 **List $**

Molded of R-39. Diameter 9⁄16″, length ¾″. Without prongs.

XR-4, Four prong, **List $**
XR-5, Five prong, **List $**
XR-6, Six prong, **List $**

Molded of R-39, permitting them to be grooved and drilled. Coil form diameter 1½″, length 2¼″. A special socket is required for the six-prong form.

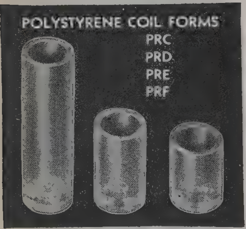
XC6C, Special six-prong socket for XR-6 Coil Form, **List $**



OSCILLATOR COIL

OSR **List $**

A shielded oscillator coil which tunes to 100 KC with .00041 Mfd. Two separate inductances, closely coupled. Excellent for interruption-frequency oscillator in super-regenerative receivers.



H. F. COIL FORMS

Symbol	Outside Diameter	Length	List
PRC-1	⅜″	⅜″	$
PRC-2	⅜″	½″	
PRC-3	⅜″	¾″	
PRD-1	½″	½″	
PRD-2	½″	1″	
PRE-1	9⁄16″	¾″	
PRE-2	9⁄16″	1″	
PRE-3	9⁄16″	2″	
PRF-1	¾″	¾″	
PRF-2	¾″	1¼″	

COIL SHIELDS

RZ, coil shield **List $**
1⅜″ square x 4″ high.

RS, coil shield **List $**
1 7⁄16″ x 1⅞″ x 3½″ high.

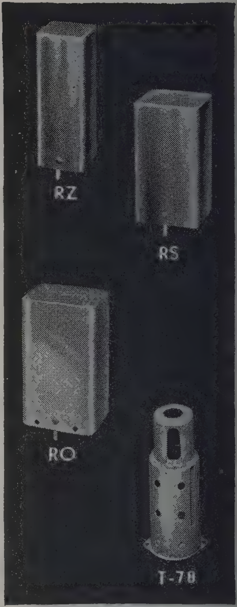
RO, coil shield **List $**
2″ x 2⅜″ x 4⅛″ high.

National coil shields are formed from a single piece of pure aluminum. They are mechanically strong and have ample thickness to mount small parts on the walls.

The RZ, RS and RO coil shields are supplied with two threaded studs extending downward from the open end for attaching to the chassis.

T-78, tube shield complete **List $**

National tube shield type T-78 is a three-piece pure aluminum shield suitable for shielding glass tubes with ST-12 bulb, such as the 6C6 and 6D6 tubes.



JACK SHIELD

JS-1, Jack shield **List $**

For shielding small standard jacks mounted behind a panel, or on the ends of extension cords.

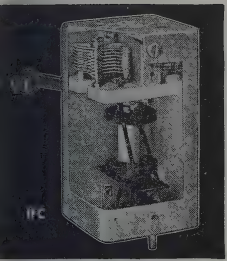
NATIONAL CABINETS

The National Cabinets listed below are the same as those used in National Receivers, except that they are supplied in blank form. They are made of heavy gauge steel, and the paint is unusually well bonded to the metal. Sub-bases and bottom covers are included in the price.

	Width	Height	Depth	List Price
Type C-SW3	9¾″	7″	9″	
Type C-NC100	17¼″	8¾″	11¼″	
Type C-HRO	16¾″	8¾″	10″	
Type C-One-Ten	11″	7″	7¼″	
Type C-SRR	7½″	7″	7½″	

NATIONAL CABINETS

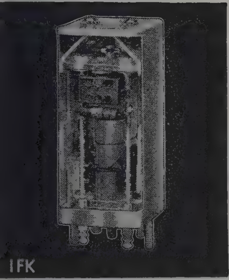
NATIONAL PARTS



I. F. TRANSFORMERS

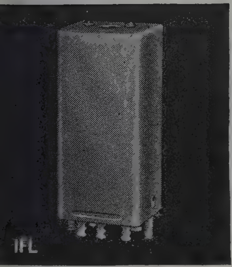
IFC, Transformer, air core
List $
IFCO, Oscillator, air core
List $

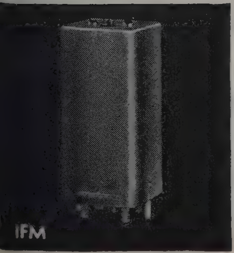
Air dielectric condensers isolated from each other by an aluminum shield. Litz wound coils on a moisture proofed ceramic base. Shield can 4½" x 2⅜" x 2". Available for either 175 KC or 450-550 KC. Specify frequency.



15 Mc. IF transformers suitable for ultra high frequency superheterodynes. They are made in two models with and without variable coupling. Approximate stage gain of 10 is obtained with IFJ or IFK Transformer and 6AB7 tube.

IFJ, with variable coupling
List $
IFK, with fixed coupling
List $





IFL, IFM, IFN and IFO transformers operate at 10.7 Mc. and designed for use in AM or FM Superheterodyne receivers. The transformer cans are 1⅜" square and stand 3⅛" above the chassis. Two 6-32 spade bolts are provided for mounting.

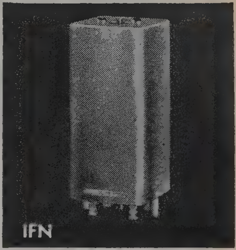
The IFL transformer is a 10.7 Mc. FM discriminator transformer suitable for use in conventional FM receiver discriminator circuit and is linear over a band of ±100 Kc.

The IFM transformer is a 10.7 Mc. IF transformer with a 150 Kc. bandwidth at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFM Transformer and 6SG7 tube.

The IFN transformer is a 10.7 Mc. IF transformer with a 100 Kc. pass band at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFN Transformer and 6SG7 tube.

The IFO transformer is a 10.7 Mc. FM discriminator transformer of the ratio type and is linear over a band of ±100 Kc.

IFL FM Discriminator
List $
IFM IF Transformer **List $**
IFN IF Transformer **List $**
IFO FM Ratio Discriminator
List $



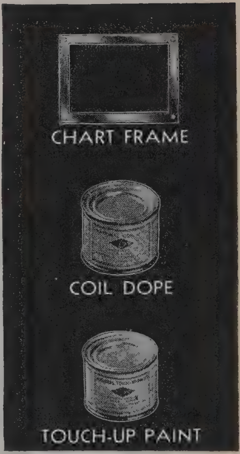


CHART FRAME

The National Chart Frame is blanked from one piece of metal, and includes a celluloid sheet to cover the chart. Size 2¼" x 3¼", with sides ¼" wide.

Type CFA **List $**

COIL DOPE

CD-1, ¼ pint can **List $**
Liquid Polystyrene Cement — is ideal for windings as it will not spoil the properties of the best coil form.

TOUCH-UP PAINT

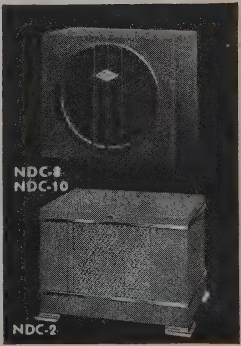
A high quality air-drying paint that may be applied with a brush. It is especially suited to touching up places on radio equipment where the paint may have become marred through abrasion.

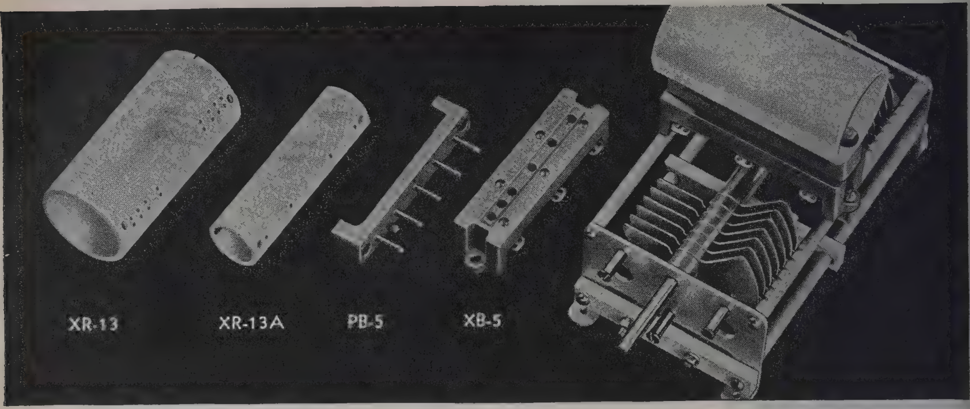
CP-1, gray **List $**
CP-2, black **List $**

SPEAKER CABINETS

NDC-8 for 8" speaker
List $
NDC-10 for 10" speaker
List $
NDC-2 for 10" speaker
List $

These metal speaker cabinets are acoustically correct. They are lined with acoustic felt, and are of welded construction to eliminate rattles. Finish is black wrinkle on NDC-8 and NDC-10. NDC-2 is finished in gray wrinkle to match the NC-2-40D receiver.





BUFFER COIL FORMS

National Buffer Coil Forms are designed to mount directly on the tie bars of a TMC condenser using the PB-5 Plug and XB-5 Socket. Plug and Socket are of molded R-39.

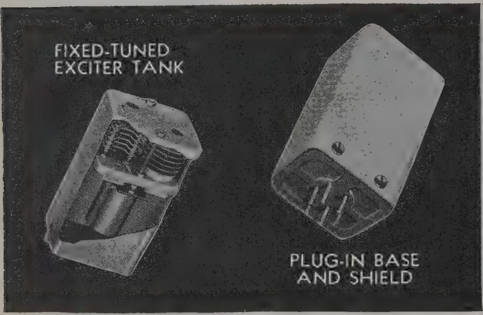
The two coil forms are of Isolantite, left unglazed to provide a tooth for coil dope. The larger form, Type XR-13, is 1¾″ in diameter and has a winding length of 2¾″. The smaller form, Type XR-13A, is 1″ in diameter and provides a winding length of 2¾″. Both forms have holes for mounting and for leads.

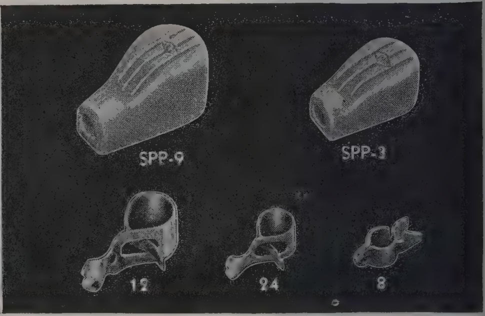
SINGLE UNITS

XR-13, Coil Form only	**List $**
XR-13A, Coil Form only	**List $**
PB-5, Plug only	**List $**
XB-5, Socket only	**List $**

ASSEMBLIES

UR-13A, Assembly (including small Coil Form, Plug and Socket)	**List $**
UR-13, Assembly (including large Coil Form, Plug and Socket)	**List $**





FIXED TUNED EXCITER TANK

Similar in general construction to National I.F. transformers, this unit has two 25 mmf., 2000 volt air condensers and an unwound XR-2 coil form.

FXT, without plug-in base	**List $**
FXTB-5, with 5 prong base	**List $**
FXTB-6, with 6 prong base	**List $**

PLUG-IN BASE AND SHIELD

The low-loss R-39 base is ideal for mounting condensers and coils when it is desirable to have them shielded and easily removable. Shield can is 2″ x 2⅜″ x 4⅛″.

PB-10-5, (5 Prong Base & Shield)	**List $**
PB-10-6, (6 Prong Base & Shield)	**List $**
PB-10A-5, (5 Prong Base only)	**List $**
PB-10A-6, (6 Prong Base only)	**List $**

SAFETY GRID AND PLATE CAPS

National Safety Grid and Plate Caps have a ceramic body which offers protection against accidental contact with high voltage caps on tubes.

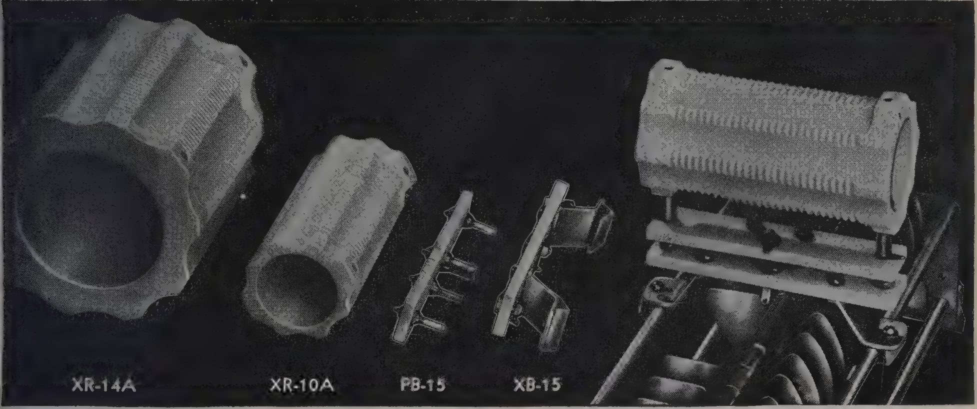
SPP-9 Ceramic insulation. Fits 9/16″ diameter.	**List $**
SPP-3 Ceramic insulation. Fits ⅜″ diameter.	**List $**

GRID AND PLATE GRIPS

National Grid and Plate Grips provide a secure and positive contact with the tube cap and yet are released easily by a slight pressure on the ear.

Type 12, for 9/16″ Caps	**List $**
Type 24, for ⅜″ Caps	**List $**
Type 8, for ¼″ Caps	**List $**

NATIONAL Radio Products



TRANSMITTER COIL FORMS

The Transmitter Coil Forms and Mounting are designed as a group, and mount conveniently on the bars of a TMA condenser. The larger coil form, Type XR-14A, has a winding diameter of 5", a winding length of 3¾" (30 turns total) and is intended for the 80 meter band. The smaller form, Type XR-10A, has a winding length of 3¾" and a winding diameter of 2½" (26 turns total). It is intended for the 20 and 40 meter bands.

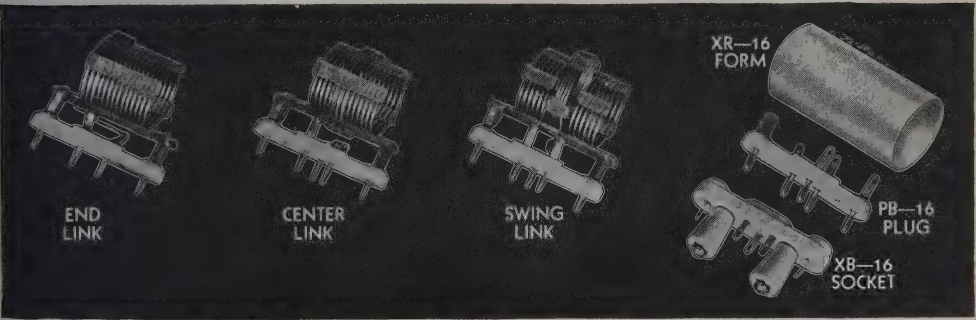
Either coil form fits the PB-15 plug. For higher frequencies, the plug may be used with a self-supporting coil of copper tubing. The XB-15 Socket may be mounted on breadboards or chassis, as well as on the TMA Condenser.

SINGLE UNITS

XR-10A, Coil Form only	**List $**
XR-14A, Coil Form only	**List $**
PB-15, Plug only	**List $**
XB-15, Socket only	**List $**

ASSEMBLIES

UR-10A, Assembly (including small Coil Form, Plug and Socket)	**List $**
UR-14A, Assembly (including large Coil Form, Plug and Socket)	**List $**



EXCITER COILS AND FORMS—TYPE AR-16 (Air Spaced)

These air-spaced coils are suitable for use in stages where the plate input does not exceed 50 watts and are available in the sizes tabulated below. Capacities listed will resonate the coils at the low frequency end of the band and include all stray circuit capacities. All have separate link coupling coils and all fit the PB-16 Plug and XB-16 Socket.

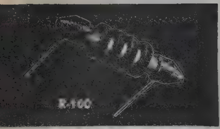
The XR-16 Coil Form also fits the PB-16 Plug and XB-16 Socket. It has a winding diameter of 1¼" and a winding length of 1¾".

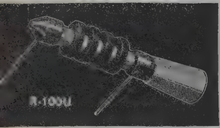
Band	End Link	Cap Mmf	Center Link	Cap Mmf	Swinging Link	Cap Mmf
6 meter	AR16-6E	25	AR16-6C	25		
10 meter	AR16-10E	20	AR16-10C	20	AR16-10S	25
20 meter	AR16-20E	26	AR16-20C	26	AR16-20S	40
40 meter	AR16-40E	33	AR16-40C	33	AR16-40S	55
80 meter	AR16-80E	37	AR16-80C	37	AR16-80S	60
160 meter	AR16-160E	65	AR16-160C	65		

XR-16, Coil Form only	**List $**
PB-16, Plug-in Base only	**List $**
XB-16, Plug-in Socket only	**List $**
AR-16, Coils — Any type (see table). Include PB-16 Plug as illustrated	**Each, List $**

Exciter coil on TMK condenser

NATIONAL RF CHOKES





R-100 List $
R-100U List $
R-100S List $

These RF chokes are identical electrically, but differ in mounting provisions. The R-100 employs pigtail leads; the R-100U has pigtail leads and a standoff insulator; the R-100S has cotter-pin lug terminals and a stand-off insulator. These chokes are available in 2.5, 5 and 10 millihenry sizes and are rated at 125 milliamperes.

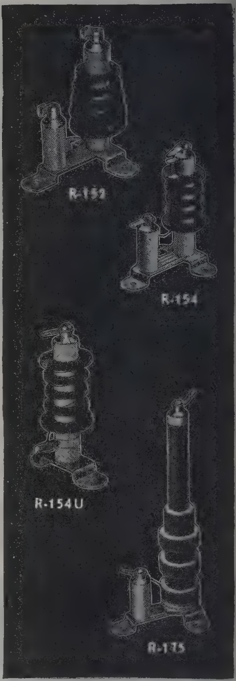
R-152 List $

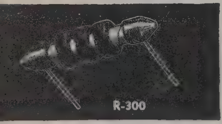
For the 80 and 160 meter bands. Inductance 4 m.h., DC resistance 10 ohms, DC current 600 ma. Coils honeycomb wound on Isolantite core.

R-154 List $

R-154U List $

For the 20, 40 and 80 meter bands. Inductance 1 m.h., DC resistance 6 ohms, DC current 600 ma. Coils honeycomb wound on Isolantite core. The R-154U does not have the third mounting foot and the small insulator, but is otherwise the same as R-154. See illustration.





R-300 List $
R-300U List $
R-300S List $

RF chokes R-300, R-300U and R-300S are similar in size to R-100 series but have higher current capacity. The R-300U is provided with a removable stand-off insulator at one end. The R-300S has non-removable stand-off insulator and cotter-pin lug terminals. Inductance values of 0.5, 1.0, 2.5 and 5.0 millihenries are available with a current rating of 300 millamperes. R-300, R-300U and R-300S are identical electrically.

R-175 List $

The R-175 Choke is suitable for parallel-feed as well as series-feed in transmitters with plate supply up to 3000 volts modulated or 4000 volts unmodulated. Unlike conventional chokes, the reactance of the R-175 is high throughout the 10 and 20 meter bands as well as the 40, 80 and 160 meter bands. Inductance 225 μh, distributed capacity 0.6 mmf., DC resistance 6 ohms, DC current 800 ma., voltage breakdown to base 12,500 volts.

R-33 List $

The R-33 series chokes are 2-section RF chokes and available in 1, 10, 50 and 100 microhenry sizes. They are rated at 33 milliamperes. The chokes are wound on a ⅝″ long form and range in diameter up to 5⁄16″ maximum diameter.

R-50 RF Choke List $

The R-50 series chokes are 4-section RF chokes and available in 0.5, 1, 2.5, and 10 millihenry sizes. They are rated at 50 milliamperes. The chokes are wound on a 1″ long form and have a maximum diameter of 15⁄32″. The 10 millihenry R-50I choke is wound on an iron core.

R-33G List $

The R-33G choke is a 2-section 750 microhenry RF choke hermetically sealed in glass with a current rating of 33 milliamperes. The choke body is 1″ long by ⅝″ diameter.

R-60 RF Choke List $

The R-60 choke is a high current RF choke (500 milliamperes) available in 2 and 4 microhenry sizes. The choke is 1⅛″ long by 5⁄16″ diameter.

NATIONAL CRU OSCILLOSCOPE

NATIONAL OSCILLOSCOPES

CRU **CRU WITH THE CRU-P PANEL**

Description

The CRU Oscilloscope is a compact inexpensive instrument whose capabilities make it outstanding in its field. Amateurs and electronic experimenters will recognize this 2″ scope as an indispensible item of equipment to guarantee the efficient operation of their stations. Put the CRU scope to work in your station and watch it:

Measure Percentage Modulation.

Check distortion, excitation, overmodulation, etc., by the Trapezoidal pattern method.

Monitor RF and Audio circuits continuously while you are on the air.

Test Audio and RF circuits where extreme sensitivity is not required.

The circuit of the CRU is simple yet ample having a self contained power supply and controls for brilliancy and focus, a potentiometer for controlling the amplitude of the horizontal deflection as well as a built-in 60 cycle sweep. Approximately 100 volts dc. will give a 1″ deflection on the CRU screen.

Tubes

Cathode-Ray	2AP1-A
Rectifier	6X5

Controls

A.C. ON/OFF: the A.C. line switch.

Intensity: A potentiometer controlling the brilliancy of the pattern.

Focus: A potentiometer controlling the clarity of the scope image.

Sweep: A potentiometer controlling the length of the pattern.

"Ext."—"60 cycle": A two position switch, which when on "Ext." connects the horizontal deflection plates to the horizontal terminal strip at the rear of the cabinet. In the "60 cycle" position the 60 cycle A.C. sweep is connected to the horizontal deflection plates.

BSW: A pair of insulated beam switch control terminals permitting connection to a switch or relay so that a trace appears on the screen only during transmission periods.

Prices

CRU-Table Model Oscilloscope, Less tubes **List $**

CRU-P Rack Panel and Control Plate (to rack mount CRU Oscilloscope) **List $**

NATIONAL POWER SUPPLIES

National Power Supplies are specially designed for high frequency receivers, and include efficient filters for RF disturbances as well as for hum frequencies.

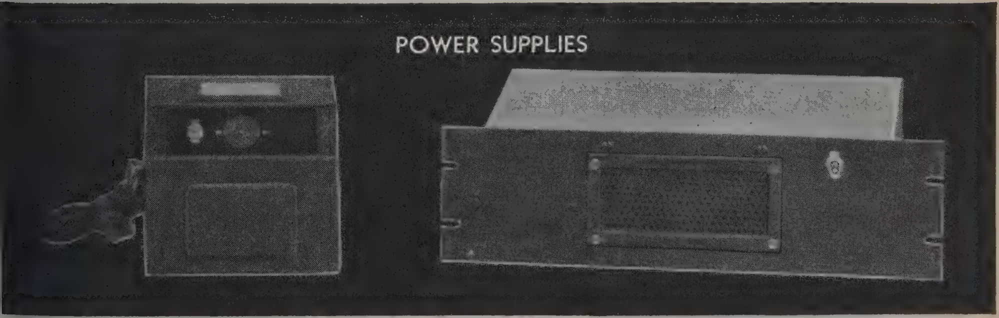
686S, Table model (165 V., 50 MA.), for operation from 6.3 volts DC, with vibrator. **List $**

SPU-686S Rack Model **List $**

697 Table Model (240V., 70 Ma. and 6.3 V., 3.4 A.), for operation from 115/230 Volts, 50/60 cps. A.C. **List $**

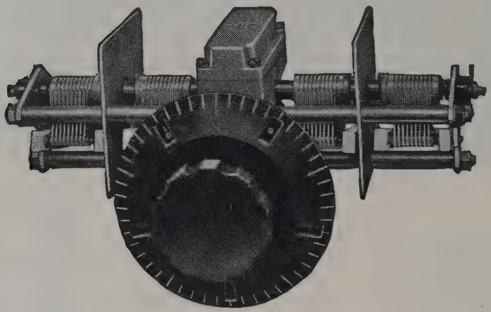
SPU-697 Rack Model **List $**

5886 Table Model (155 V., 50 Ma. and 6.3 V., 2.5 A.) for operation from 115 Volt, 50/60 cps. A.C. **List $**



686S, 697, 5886 **SPU-686S, SPU-697**

NATIONAL PRECISION CONDENSERS



The Micrometer dial reads direct to one part in 500. Division lines are approximately ¼″ apart. The dial revolves ten times in covering the tuning range, and the numbers visible through the small windows change every revolution to give consecutive numbering by tens from 0 to 500. The condenser is of extremely rigid construction, with four bearings on the rotor shaft. The drive, at the mid-point of the rotor, is through an enclosed preloaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact. Stator insulation is Steatite. Plate shape is straight-line frequency when the frequency range is 2:1.

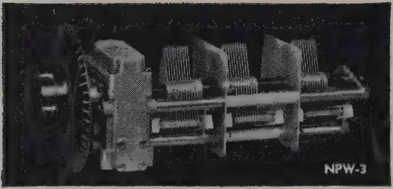
PW Condensers are available in 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied.

A single-section PW condenser with grounded rotor is supplied in capacities of 150, 200, 350 and 500 mmf, single spaced, and capacities up to 125 mmf, double spaced.

PW condensers are all with rotor shaft parallel to the panel.

PW-1R	Single section right	**List $**	**PW-3R**	Double section right; single left	**List $**
PW-1L	Single section left	**List $**	**PW-3L**	Double section left; single right	**List $**
PW-2R	Double section right	**List $**	**PW-4**	Double section each side	**List $**
PW-2L	Double section left	**List $**			
PW-2S	Single section each side	**List $**			

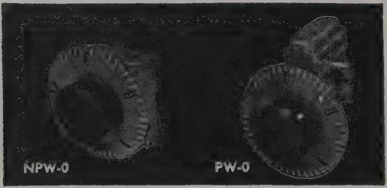
NPW MODEL with micrometer dial.


NPW-3

Similar to PW models, except that rotor shaft is perpendicular to panel.

NPW-3. Three sections, each 225 mmf. **List $**

GEAR DRIVE UNITS with micrometer dial

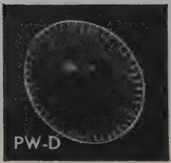

NPW-0 PW-0

NPW-O **List $**

Uses parts similar to the NPW condenser. Drive shaft perpendicular to panel. One TX-9 coupling supplied.

PW-O **List $**

Uses parts similar to the PW condenser. Drive shaft parallel to panel. Two TX-9 couplings supplied.

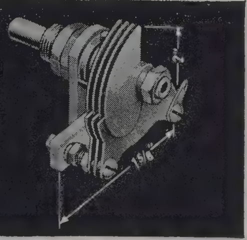

PW-D

MICROMETER DIAL

PW-D **List $**

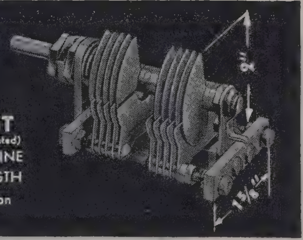
Identical with the dials used on the condensers and drives above. It revolves ten times in covering the complete range and as there is no gear reduction unit furnished, the driven shaft will revolve ten times, also. The PW-D dial fits a shaft $\frac{5}{16}$″ in diameter.

NATIONAL RECEIVING CONDENSERS



TYPE STHS
STRAIGHT-LINE
WAVELENGTH
180 Rotation

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
SINGLE BEARING MODELS						
15 Mmf.	3 Mmf.	3	.018″	1 3/16″	STHS- 15	$
25	3.25	4	.018″	1 3/16″	STHS- 25	
50	3.5	7	.018″	1 3/16″	STHS- 50	
DOUBLE BEARING MODELS						
35 Mmf.	6 Mmf.	8	.026″	2¼″	ST- 35	$
50	7	11	.026″	2¼″	ST- 50	
75	8	15	.026″	2¼″	ST- 75	
100	9	20	.026″	2¼″	ST-100	
140	10	27	.026″	2¾″	ST-140	
150	10.5	29	.026″	2¾″	ST-150	
200	12.0	27	.018″	2¼″	STH-200	
250	13.5	32	.018″	2¾″	STH-250	
300	15.0	39	.018″	2¾″	STH-300	
335	17.0	43	.018″	2¾″	STH-335	
SPLIT STATOR DOUBLE BEARING MODELS						
50–50	5–5	11–11	.026″	2¾″	STD- 50	$
100–100	5.5–5.5	14–14	.018″	2¾″	STHD-100	

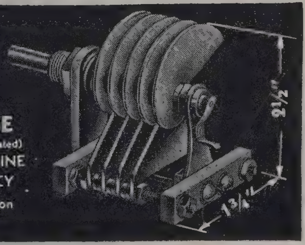


TYPE ST
(Type STD Illustrated)
STRAIGHT-LINE
WAVELENGTH
180° Rotation

The ST Type condenser has Straight-Line Wavelength plates. All double-bearing models have the front bearing insulated to prevent noise. On special order a shaft extension at each end is available, for ganging. On double-bearing single shaft models, the rotor contact is through a constant impedance pigtail. Steatite insulation.

NOTE — Type SS Condensers, having straight-line-capacity plates but otherwise similar to the Type ST, are available. Capacities and Prices same as Type ST.

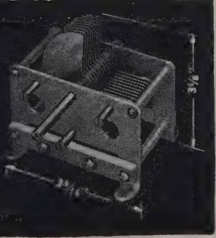
Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
15 Mmf.	7 Mmf.	6	.055″	2¼″	SEU- 15	$
20	7.5	7	.055″	2¼″	SEU- 20	
25	8	9	.055″	2¼″	SEU- 25	
50	9	11	.026″	2¼″	SE- 50	
75	10	15	.026″	2¼″	SE- 75	
100	11.5	20	.026″	2¼″	SE-100	
150	13	29	.026″	2¾″	SE-150	
200	12	27	.018″	2¼″	SEH-200	
250	14	32	.018″	2¾″	SEH-250	
300	16	39	.018″	2¾″	SEH-300	
335	17	43	.018″	2¾″	SEH-335	



TYPE SE
(Type SEU Illustrated)
STRAIGHT-LINE
FREQUENCY
270° Rotation

TYPE SE — All models have two rotor bearings, the front bearing being insulated to prevent noise. A shaft extension at each end, for ganging, is available on special order. On models with single shaft extension, the rotor contact is through a constant impedance pigtail. The SEU models (illustrated) are suitable for high voltages as their plates are thick polished aluminum with rounded edges. Other SE condensers do not have polished edges on the plates. Steatite insulation.

Capacity	Minimum Capacity	No. of Plates	Length	Catalog Symbol	List
150 Mmf.	9 Mmf.	9	2 15/16″	EMC-150	$
250	11	15	2 15/16″	EMC-250	
350	12	20	2 15/16″	EMC-350	
500	16	29	4 3/8″	EMC-500	
1000	22	58	6¾″	EMC-1000	



TYPE EMC
STRAIGHT-LINE
WAVELENGTH
180 Rotation

TYPE EMC — A general purpose condenser available in large sizes and having Straight-Line wavelength plates. They are similar in construction to the TMC Transmitting condenser, and have high efficiency and rugged frames. Insulation is Steatite, and Peak Voltage Rating is 1000 volts. Same sizes available with straight line capacity plates, type DXC condenser.

NATIONAL Radio Products

NATIONAL MINIATURE CONDENSERS

PSR — See table — Type PSR condensers are small, compact, low-loss units with silver plating on conducting parts. Their soldered construction makes them particularly suitable for applications where vibration is present. Adjustment is made with a screw driver. Steatite base.

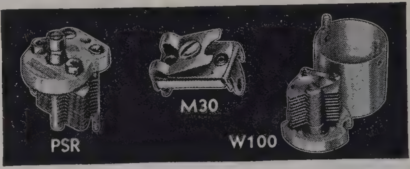
PSE — See table — Type PSE condensers are similar to Type PSR, but are provided with a ¼″ diameter shaft extension at each end.

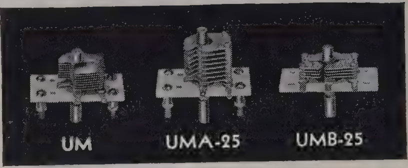
PSL — See table — Type PSL condensers are similar to Type PSR, but are provided with a rotor shaft lock, so that the rotor can be clamped at any setting.

M-30 **List $**

Type M-30 is a small adjustable mica condenser with a maximum capacity of 30 mmf. Dimensions 13/16″ × 9/16″ × ½″. Isolantite base.

W-75, 75 mmf. **List $**
W-100, 100 mmf. **List $**





Capacity	Catalog Symbol			List
25 mmf. 50 75 100 140	PSR-25 PSR-50 PSR-75 PSR-100 PSR-140	PSE-25 PSE-50 PSE-75 PSE-100 PSE-140	PSL-25 PSL-50 PSL-75 PSL-100 PSL-140	$

Capacity	Minimum Capacity	No. of Plates	Air Gap	Catalog Symbol	List
15 mmf.	1.5	6	.017″	UM-15	$
35	2.5	12	.017″	UM-35	
50	3	16	.017″	UM-50	
75	3.5	22	.017″	UM-75	
100	4.5	28	.017″	UM-100	
10	1	8	.042″	UM-10D	
25	3 4	14	.042″	UMA-25	
BALANCED STATOR MODEL					
25	2	4-4-4	.017″	UMB-25	$
50	5	8-8-8	.017″	UMB-50	

Small padding condensers having very low temperature coefficient. Mounted in an aluminum shield 1¼″ in diameter.

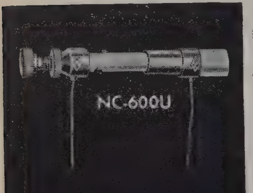
The **UM CONDENSER** is designed for ultra high frequency use and is small enough for convenient mounting in PB-10 and RO shield cans. They are particularly useful for tuning receivers, transmitters, and exciters. Shaft extensions at each end of the rotor permit easy ganging when used with one of our flexible couplings. The UMB-25 Condenser is a balanced stator model, two stators act on a single rotor. The UM can be mounted by the angle foot supplied or by bolts and spacers. See table for sizes.

Dimensions: Base 1″ × 2¼″, Mounting holes ⅝″ × 1 23/32″, Axial length 2⅛″ overall.

Plates: Straight line capacity, 180° rotation.

The UM-10D and UMA-25 condensers are double spaced versions of the UM condenser. The UMA-25 is assembled with nuts and bolts so that the capacity may be reduced if desired.

NATIONAL NEUTRALIZING CONDENSERS



NC-600U **List $**
With standoff insulator

NC-600 **List $**
Without insulator

For neutralizing low power beam tubes requiring from .5 to 4 mmf., and 1500 max. total volts such as the 6L6. The NC-600U is supplied with a GS-10 standoff insulator screwed on one end, which may be removed for pigtail mounting.

STN **List $**

The Type STN has a maximum capacity of 18 mmf. (3000 V), making it suitable for such tubes as the 10 and 45. It is supplied with two standoff insulators.

NC-800A **List $**

The NC-800A disk-type neutralizing condenser is suitable for the RCA-800, 35T, HK-54 and similar tubes. It is equipped with a clamp to lock its setting. The chart below gives capacity and air gap for different settings.

NC-75 **List $**

For 75T, 808, **811, 812** & similar tubes.

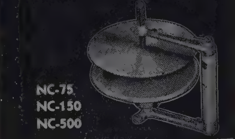
NC-150 **List $**

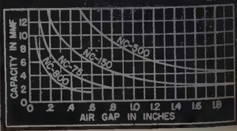
For HK354, RK36, 300T, 852, etc.

NC-500 **List $**

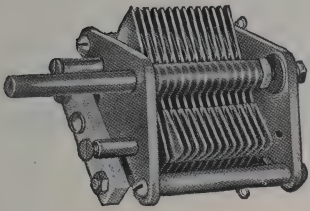
For WE-251, 450TH, 450TL, 750TL, etc.

These larger disk type neutralizing condensers are for the higher powered tubes. Disks are aluminum, insulation steatite.





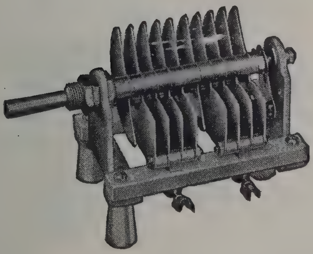
NATIONAL TRANSMITTING CONDENSERS



TYPE TMS

is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators. Insulation is steatite. Voltage ratings listed are conservative.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List Price
SINGLE STATOR MODELS							
100 Mmf.	9.5	3″	.026″	1000v.	9	TMS-100	
150	11	3″	.026″	1000v.	14	TMS-150	
250	13.5	3″	.026″	1000v.	22	TMS-250	
300	15	3″	.026″	1000v.	27	TMS-300	
35	8	3″	.065″	2000v.	7	TMSA-35	
50	11	3″	.065″	2000v.	11	TMSA-50	
DOUBLE STATOR MODELS							
50–50 Mmf.	6–6	3″	.026″	1000v.	5–5	TMS-50D	
100–100	7–7	3″	.026″	1000v.	9–9	TMS-100D	
50–50	10.5–10.5	3″	.065″	2000v.	11–11	TMSA-50D	



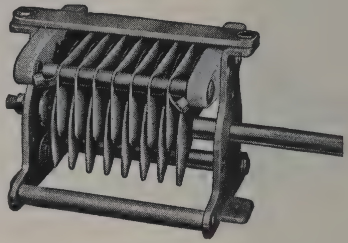
TYPE TMH

features very compact construction, excellent power factor, and aluminum plates .040″ thick with polished edges. It mounts on the panel or on removable stand-off insulators. Steatite insulators have long leakage path. Stand-offs included in listed price.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
50 Mmf.	9	3¾″	.085″	3500v.	15	TMH-50	
75	11	3¾″	.085″	3500v.	19	TMH-75	
100	12.5	5⅛″	.085″	3500v.	25	TMH-100	
150	18	6½″	.085″	3500v.	37	TMH-150	
35	11	5⅛″	.180″	6500v.	17	TMH-35A	
DOUBLE STATOR MODELS							
35–35 Mmf.	6–6	3¾″	.085″	3500v.	9–9	TMH-35D	
50–50	8–8	5⅛″	.085″	3500v.	13–13	TMH-50D	
75–75	11–11	6½″	.085″	3500v.	19–19	TMH-75D	

NATIONAL TRANSMITTING CONDENSERS

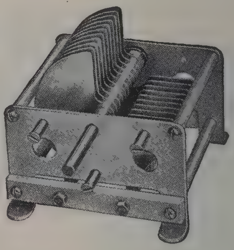
TYPE TMK



is a new condenser for exciters and low power transmitters. Special provision has been made for mounting AR-16 coils in a swivel plug-in mount on either the top or rear of the condenser, (see page 10). For panel or stand-off mounting; steatite insulation.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List Price
			SINGLE STATOR MODELS				
35 Mmf.	7.5	2 7/32"	.047"	1500v.	7	TMK-35	
50	8	2⅜"	.047"	1500v.	9	TMK-50	
75	9	2 11/16"	.047"	1500v.	13	TMK-75	
100	10	3"	.047"	1500v.	17	TMK-100	
150	10.5	3⅝"	.047"	1500v.	25	TMK-150	
200	11	4¼"	.047"	1500v.	33	TMK-200	
250	11.5	4⅞"	.047"	1500v.	41	TMK-250	
			DOUBLE STATOR MODELS				
35–35 Mmf.	7.5–7.5	3"	.047"	1500v.	7–7	TMK-35D	
50–50	8–8	3⅝"	.047"	1500v.	9–9	TMK-50D	
100–100	10–10	4¼"	.047"	1500v.	17–17	TMK-100D	
Swivel Mounting Hardware for AR 16 Coils						SMH	

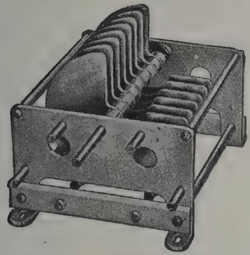
TYPE TMC



is designed for use in the power stages of transmitters where peak voltages do not exceed 3000. The frame is extremely rigid and arranged for mounting on panel, chassis or standoff insulators. The plates are aluminum with buffed edges. Insulation is steatite. The stator in the split stator models is supported at both ends.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List Price
			SINGLE STATOR MODELS				
50 Mmf.	10	3"	.077"	3000v.	7	TMC-50	
100	13	3½"	.077"	3000v.	13	TMC-100	
150	17	4⅝"	.077"	3000v.	21	TMC-150	
250	23	6"	.077"	3000v.	32	TMC-250	
300	25	6¾"	.077"	3000v.	39	TMC-300	
			DOUBLE STATOR MODELS				
50–50 Mmf.	9–9	4⅝"	.077"	3000v.	7–7	TMC-50D	
100–100	11–11	6¾"	.077"	3000v.	13–13	TMC-100D	
200–200	18.5–18.5	9¼"	.077"	3000v.	25–25	TMC-200D	

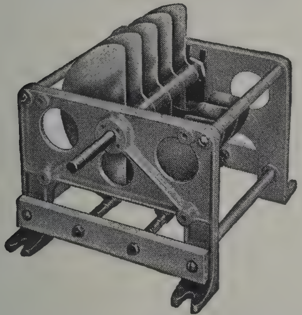
NATIONAL TRANSMITTING CONDENSERS



TYPE TMA

is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is steatite located outside of the concentrated field.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List Price
SINGLE STATOR MODELS							
300 Mmf.	19.5	4 9/16″	.077″	3000v.	23	TMA-300	
50	15	4 9/16″	.171″	6000v.	7	TMA-50A	
100	19.5	6⅞″	.171″	6000v.	15	TMA-100A	
150	22.5	6⅞″	.171″	6000v.	21	TMA-150A	
230	33	9 5/16″	.171″	6000v.	33	TMA-230A	
100	30	9¼″	.265″	9000v.	23	TMA-100B	
150	40.5	12½″	.265″	9000v.	33	TMA-150B	
50	21	7⅛″	.359″	12000v.	13	TMA-50C	
100	37.5	12⅞″	.359″	12000v.	25	TMA-100C	
DOUBLE STATOR MODELS							
200-200 Mmf.	15-15	6⅞″	.077″	3000v.	16-16	TMA-200D	
180-180	10-10	12¾″	.140″	4000v.	24-24	TMA-180D	
50-50	12.5-12.5	6⅞″	.155″	6000v.	8-8	TMA-50DA	
100-100	17-17	9 5/16″	.155″	6000v.	14-14	TMA-100DA	
60-60	19.5-19.5	12½″	.249″	9000v.	15-15	TMA-60DB	
40-40	18-18	12⅞″	.343″	12000v.	11-11	TMA-40DC	



TYPE TML

condenser is a 1 KW job throughout. Steatite insulators, specially treated against moisture absorption, prevent flashovers. A large self-cleaning rotor contact provides high current capacity. Thick capacitor plates, with accurately rounded and polished edges, provide high voltage ratings. Sturdy cast aluminum end frames and dural tie bars permit an unusually rigid structure. Precision end bearings insure smooth turning and permanent alignment of the rotor. End frames are arranged for panel, chassis or stand-off mountings.

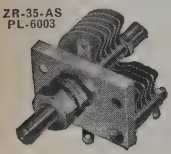
Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List Price
SINGLE STATOR MODELS							
75 Mmf.	25	18 1/16″	.719″	20,000v.	17	TML-75E	
150	60	18 1/16″	.469″	15,000v.	27	TML-150D	
100	45	13⅝″	.469″	15,000v.	19	TML-100D	
50	22	8 5/16″	.459″	15,000v.	9	TML-50D	
245	54	18 1/16″	.344″	10,000v.	35	TML-245B+	
150	45	13⅝″	.344″	10,000v.	21	TML-150B+	
100	32	10 15/16″	.344″	10,000v.	15	TML-100B+	
75	23.5	8 5/16″	.344″	10,000v.	11	TML-75B+	
500	55	18 1/16″	.219″	7,500v.	49	TML-500A+	
350	45	13⅝″	.219″	7,500v.	33	TML-350A+	
250	35	10 15/16″	.219″	7,500v.	25	TML-250A+	
DOUBLE STATOR MODELS							
30–30 Mmf.	12–12	18 1/16″	.719″	20,000v.	7–7	TML-30DE	
60–60	26–26	18 1/16″	.469″	15,000v.	11–11	TML-60DD	
100–100	27–27	18 1/16″	.344″	10,000v.	15–15	TML-100DB+	
60–60	20–20	13⅝″	.344″	10,000v.	9–9	TML-60DB+	
200–200	30–30	18 1/16″	.219″	7,500v.	21–21	TML-200DA+	
100–100	17–17	10 15/16″	.219″	7,500v.	11–11	TML-100DA+	

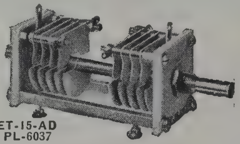
STANDARDS OF COMPARISON

TRIM-AIR MIDGET CAPACITORS

Combine essential sturdiness with the flexibility obtained only in a spacer-built rotor and stator type of assembly.

ZR-35-AS
PL-6003





ET-15-AD
PL-6037

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: End Plates of 5/32" thick Isolantite.

SHAFT: ¼" diameter, nickel plated brass.

PLATES: .020" thick aluminum, specially treated to remove burrs.

FINISH: Spacers, bushing nuts and screws nickel plated brass.

MOUNTING: Singles require one ⅜" hole in panel; Duals provided with four No. 4-36 screws in square brass tie rods. Trim-Air mounting posts or brackets fit both single and dual types. Singles are fitted with tapered nuts acting on split bushing for locking rotor shaft for fixed tune. Duals have rear shaft extension for coupling to other units and have a removable intersection shield, on airgaps of .020 and .030.

Note: Single section Trim-Airs normally stocked with full length shaft for knob or dial. Stub shaft equivalents, with slot for screw driver adjustment only, available to order. "ZS" type singles have .040" thick plates with rounded buffed edges.

SINGLE TRIM-AIR CONDENSERS (Long Shaft Construction)

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
PL 6016	ZU-75-AS	75	2.7	15	.020	1⅜	$2.50
PL 6017	ZU-100-AS	100	3	19	.020	1½	2.55
PL 6018	ZU-140-AS	140	5	27	.020	1 23/32	4.60
PL 6000	ZR-10-AS	10	1.2	3	.030	⅞	1.85
PL 6001	ZR-15-AS	15	1.5	5	.030	31/32	1.90
PL 6002	ZR-25-AS	25	2	7	.030	1 1/16	2.10
PL 6003	ZR-35-AS	35	2.5	11	.030	1 9/32	2.20
PL-6004	ZR-50-AS	50	2.8	13	.030	1⅜	2.30
PL 6055	ZR-100-AS	108	6.6	29	.030	2 9/64	3.30
PL 6024	ZV-5-TS*	5	1.5	3	.060	⅞	1.85
PL 6044	ZT-5-AS	5	2	3	.070	31/32	2.10
PL 6010	ZT-10-AS	11	3.6	6	.070	1 1/16	2.15
PL 6011	ZT-15-AS	15	3	9	.070	1½	2.25
PL 6012	ZT-30-AS	30	4	17	.070	2 17/64	2.75
PL 6022	ZS-4-SS	4	1.5	5	.140	1½	2.75
PL 6023	ZS-7-SS	7	4	7	.140	1 27/32	3.05

* Supplied with 2 segment stator for UHF circuits. Extra plate also supplied, making 3 plates as listed.

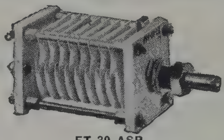
DUAL TRIM-AIR CONDENSERS

Per Section

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
6041	EU-75-AD	75	2.7	15	.020	3 1/32	$4.80
6042	EU-100-AD	100	3	19	.020	3 1/32	5.00
6043	EU-140-AD	140	5	27	.020	3 11/16	8.85
6028	ER-10-AD	10	1.2	3	.030	2 3/16	3.85
6029	ER-15-AD	15	1.5	5	.030	2 3/16	3.85
6030	ER-25-AD	25	2	7	.030	2 3/16	3.95
6031	ER-35-AD	35	2.5	11	.030	3 1/32	4.30
6032	ER-50-AD	50	2.8	13	.030	3 1/32	4.55
6065	ER-100-AD	100	6.9	25	.030	3 11/16	8.15
6037	ET-15-AD	15	3	9	.070	3 1/32	4.40
6039	ET-30-AD	30	4	17	.070	4 15/32	5.30
6033	ES-4-SD	4	1.5	5	.140	3 1/32	5.30
6035	ES-7-SD	7	4	7	.140	3 11/16	5.90
6293	ER-25-ADI*	25	2	7	.030	2 3/16	5.80

* Insulated coupling between rotor sections.

TRIM-AIR HEAVY DUTY SPECIALS



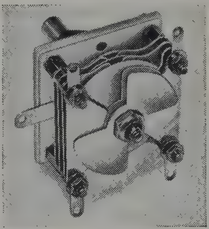
ET-30-ASP
PL-6058

Four-tie-rod frame, ball and strap rear bearing construction, augmenting the simplified Trim-Air construction, to give even greater strength and rigidity. General characteristics otherwise same as standard Trim-Airs.

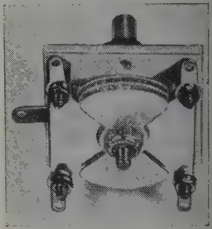
Dual section units have balanced rotor and stator sections and both single and dual section types may be single hole mounted or used with standard Trim-Air mounting accessories. Standard Trim-Air shaft locking nut may be used for fixed tune. PL-6069 and PL-6068 are duals with rear shaft extended; all others have ball and strap type rear bearing.

SINGLES		LIST	DUALS		LIST
PL 6056	ER-50-ASP	$4.35	PL 6057	ER-50-ADP	$4.80
PL 6059	EU-75-ASP	3.95	PL 6069	ER-50-ADP (rear sh. ext.)	8.70
PL 6058	ET-30-ASP	4.05	PL 6068	EU-140-ADP (rear sh. ext.)	11.60

A NEW LINE OF CARDWELL MIDGET CONDENSERS FOR V.H.F.



PL-6113



PL-6076

Cardwell offers a new line of 90 degree condensers with butterfly rotor plates, fulfilling a demand created by engineers and amateurs since the publication of an article "Stabilizing The 144 Megacycle Transmitter" in April, 1946 "QST." Also see pages 351 to 353 inclusive in the 1946 ARRL Radio Amateurs Handbook. PL-6113 and PL-6076 are specified in these articles. Features of these 90 degree midget condensers are as follows:

- Electrical Symmetry
- Low Distributed Inductance.
- No Moving Contacts.
- Plates easily removable to change capacity range.
- Isolantite Insulation.
- Single Hole Mounting.
- Small Size; 1 7/16" x 1 13/32" per general outline dimensions for differential "Trim-Airs" as shown on Page 6 of Catalog No. 46.

These condensers are made to fit all standard Cardwell "Trim-Air" hardware.

Note maximum and minimum capacity values shown are measured from stator-to-stator and are effective values as used when a coil is connected stator-to-stator, with rotor floating.

CARDWELL V.H.F. 90 DEGREE TRIM-AIR MIDGETS

Part List No.	Type	Max. Cap.	Min. Cap.	No. Plates Rotor	No. Plates Stator	Air Gap.	Length Over-all	List Price
6075	ER-3-BF/S	3	1.5	2	1	.030"	1 25/32"	$2.60
6076	ER-6-BF/S	5	1.5	3	2	.030"	1 31/32"	2.70
6077	ER-8-BF/3	7	2.0	4	3	.030"	1 31/32"	2.80
6078	ER-15-BF/S	13	3.0	7	6	.030"	2⅜"	3.40
6079	EU-25-BF/S	20.4	3.4	8	7	.020"	2 5/32"	3.65
6080	EU-35-BF/S	27	4.0	10	9	.020"	2⅜"	3.80
**6081	EU-50-BF-S	38	6.0	14	13	.020"	2 31/32"	7.65
*6113	ER-14-BF/SL	13	10.4	(3) Disc (2) 90°	(2) 180° (2) 90°	.030"	2 1/16"	4.00

* Minimum capacity loaded by circular rotor plates.
** Iso. rear end plate—ball and strap rear bearing.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

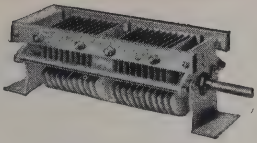
CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

MIDWAY TRANSMITTING CAPACITORS

The Midway is ideal for low and medium power transmitters for portable Mobile and aircraft equipment, due to its light weight, compact size and extremely sturdy construction. Incorporates original patented features of the larger "X" type standard transmitting condenser.



MT-100-GD PL-7030
with PL-5051 Mtg. Brackets

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: All aluminum end plates and tie rods.

SHAFT: ¼" C.R. steel, cadmium plated.

PLATES: .025" aluminum. On sizes having airgap of .070" or over, plates have rounded edges, buffed to minimize corona loss.

BEARINGS: Brass, nickel plated shoulder type front bearing with ball thrust rear bearing.

INSULATION: Mycalex.

MOUNTING: 3 point front panel mounting by means of 3 screws and hex. posts. Two aluminum mounting feet with screws, Cardwell Part List No. 5052 for regular chassis mounting, provided instead, if so ordered. Type "M" special brackets (Part List No. 5051) permit inverted mounting.

MIDWAY SINGLE CONDENSERS

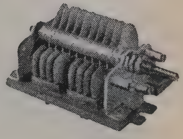
Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL7000	MR-25-BS	25	6	3	.030	1¾	$3.95
PL7001	MR-50-BS	50	6	5	.030	1¾	5.00
PL7002	MR-70-BS	70	7	7	.030	1¾	5.15
PL7003	MR-105-BS	112	9	11	.030	1¾	5.35
PL7004	MR-150-BS	150	10	15	.030	1¾	5.80
PL7005	MR-260-BS	260	13	25	.030	2¾	6.40
PL7006	MR-365-BS	365	16	35	.030	2¾	7.00
PL7015	MT-20-GS	25	8	5	.070	1¾	4.80
PL7016	MT-35-GS	35	6	7	.070	1¾	5.15
PL7017	MT-50-GS	50	10	11	.070	1¾	5.75
PL7018	MT-70-GS	70	10	15	.070	2¾	6.55
PL7019	MT-100-GS	100	14	21	.070	2¾	7.20
PL7020	MT-150-GS	150	18	31	.070	$3\frac{11}{16}$	8.85
PL7021	MG-35-NS	35	14	15	.171	$3\frac{11}{16}$	8.85
PL7024	MO-165-BS	165	15	25	.050	2¾	4.90

MIDWAY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL7007	MR-25-BD	25	5	3	.030	1¾	$6.40
PL7008	MR-50-BD	47	7	5	.030	2¾	6.85
PL7009	MR-70-BD	70	8	7	.030	2¾	7.20
PL7010	MR-100-BD	112	9	11	.030	2¾	7.50
PL7011	MR-150-BD	150	10	15	.030	2¾	7.75
PL7013	MR-260-BD	260	13	25	.030	$3\frac{11}{16}$	8.75
PL7026	MT-20-GD	20	6	5	.070	2¾	8.15
PL7027	MT-35-GD	35	8	7	.070	2¾	8.85
PL7028	MT-50-GD	50	9	11	.070	$2\frac{15}{16}$	9.35
PL7029	MT-70-GD	70	11	15	.070	$3\frac{11}{16}$	10.30
PL7030	MT-100-GD	100	13	21	.070	$5\frac{11}{32}$	11.75
PL7031	MO-180-BD	190	15	29	.050	$5\frac{11}{32}$	11.75

"N" TYPE TRANSMITTING CAPACITORS

Designed for medium power high frequency transmitters and short wave therapy apparatus, the Cardwell "N" series maintains the customary high standard of Cardwell construction, yet eliminates closed circuit loops completely.



NP-35-DD
PL-7107

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: Improved aluminum end plates support heavy lateral ceramic insulating bars which carry the stators.

SHAFT: ¼" diameter cadmium plated steel.

PLATES: Aluminum, .040" thick, with rounded edges. PL-7106 and 7116 have buffed and polished edges. PL-7105 has .025" thick plates, buffed and polished edges.

BEARINGS: Cardwell shoulder type front bearing, with ball thrust rear bearing.

MOUNTING: Can be single hole mounted, or by three mounting posts and screws, to front panel. Chassis mounting on feet which form part of end plates, or use Cardwell "M" brackets, Cardwell part No. 301, for inverted mounting, for lowest stator-to-ground capacity.

ULTRA-HIGH FREQUENCY SINGLE CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7100	NP-50-DS	50	9	13	.084	3⅜	$5.15
PL7101	NP-75-DS	75	11	19	.084	$4\frac{5}{32}$	6.05
PL7102	NP-100-DS	100	13	25	.084	$5\frac{7}{32}$	6.85
PL7103	NP-150-DS	150	19	39	.084	$6\frac{11}{16}$	8.95
PL7104	NG-35-DS	35	11	15	.171	$5\frac{7}{32}$	6.75

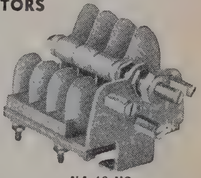
ULTRA-HIGH FREQUENCY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7105	NT-50-GD	50	7	11	.070	$4\frac{5}{32}$	$8.85
PL7116	NP-15-ND	17	4	5	.084	$4\frac{5}{32}$	8.40
PL7106	NP-35-ND	35	5	9	.084	$4\frac{5}{32}$	8.85
PL7110	NP-15-DD	17	4	5	.084	$4\frac{5}{32}$	7.50
PL7107	NP-35-DD	35	5	9	.084	$4\frac{5}{32}$	7.90
PL7108	NP-50-DD	50	9	13	.084	$5\frac{7}{32}$	8.85
PL7109	NP-75-DD	75	11	19	.084	$6\frac{11}{16}$	10.60
PL7115	NA-12-NDI	13	6	7	.218	$5\frac{15}{32}$	22.10

Note: NA-12-NDI is dual neutralizer, rotor sections insulated from each other. Capacity and nr. plates shown, is PER SECTION.

"NA" NEUTRALIZING CAPACITORS

The "NA" group offers 180° neutralizing capacitors of restricted range, for dial or screw driver adjustment. Shaft lock for permanent setting. Adjustable airgap on NA-4-NS *only* by adjusting threaded bushing in aluminum end plate. Single rotor bearing with beryllium tension washer and special bushing for rigidity. Plates are .040" thick aluminum, rounded and buffed edges. Three point panel mounting or foot mounting.



NA-16-NS
PL-7114

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7111	NA-4-NS	4	3.25	2	.218	$1\frac{19}{32}$	$5.30
PL7112	NA-6-NS	6	4	3	.218	$1\frac{19}{32}$	5.30
PL7113	NA-10-NS	12	6	6	.218	$2\frac{19}{32}$	6.65
PL7114	NA-16-NS	16	7	8	.218	$3\frac{3}{32}$	7.40

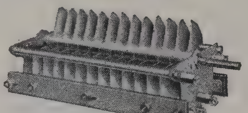
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

"X" TYPE STANDARD TRANSMITTING CAPACITOR



XC-100-XS
PL-8023

The original grounded rotor, metal frame variable air capacitor.

Rounded edges, polished aluminum plates, .040" thick on all but "XT" and "XR" types.

Frames, tie rods, bearing bushings, spacers and stator blocks, nickeled brass. Cadmium plated ¼" steel shaft supports securely locked rotor assembly. Mycalex insulation. Panel spaces 4⅛" x 3⅜". Panel mounting. N.P. brass mounting feet provided on special order, for chassis mounting. See Accessories.

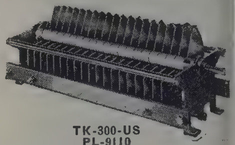
"X" TYPE STANDARD SINGLES

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL8000	XR-50-PS	50	11	3	.030	1½	$5.05
PL8001	XR-100-PS	100	12	5	.030	1½	5.15
PL8002	XR-150-PS	150	12.5	7	.030	1½	5.30
PL8003	XR-250-PS	250	13	11	.030	1½	5.40
PL8004	XR-375-PS	375	16	17	.030	$2\frac{1}{16}$	6.15
PL8005	XR-500-PS	475	18	21	.030	$2\frac{1}{16}$	7.55
PL8007	XR-1000-PS	950	30	41	.030	$3\frac{3}{16}$	14.50
PL8013	XR-1500-PS	1500	50	65	.030	5	16.00
PL8048	XT-220-PS	220	20	21	.070	$3\frac{3}{16}$	7.35
PL8050	XT-440-PS	440	40	43	.070	5	11.30
PL8040	XP-90-KS	90	16	11	.084	$2\frac{1}{16}$	6.65
PL8041	XP-165-KS	165	22	19	.084	$3\frac{3}{16}$	9.55
PL8043	XP-290-KS	290	35	33	.084	5	14.00
PL8044	XP-330-KS	330	37	37	.084	5⅝	16.00
PL8029	XE-120-XS	120	19	17	.100	$3\frac{3}{16}$	8.85
PL8031	XE-240-XS	240	30	33	.100	5⅝	16.00
PL8025	XD-160-XS	160	28	27	.125	5⅝	13.30
PL8032	XG-25-XS	25	8	5	.171	$2\frac{1}{16}$	5.15
PL8033	XG-50-XS	50	15	11	.171	$3\frac{3}{16}$	9.55
PL8034	XG-110-XS	110	26	23	.171	5⅝	14.25
PL8020	XC-18-XS	19	8	5	.200	$2\frac{1}{16}$	6.65
PL8021	XC-40-XS	40	15	11	.200	$3\frac{3}{16}$	9.55
PL8022	XC-65-XS	65	20	17	.200	5	12.50
PL8023	XC-100-XS	100	28	25	.200	6⅝	15.50
PL8037	XK-55-XS	55	20	15	.230	5	14.75

"X" TYPE STANDARD DOUBLES

Parts List No.	Type	Per Section Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL8018	XR-500-PD	500	18	21	.030	$3\frac{3}{16}$	$14.00
PL8068	XT-80-PD	80	11	9	.070	$3\frac{3}{16}$	9.30
PL8070	XT-210-PD	210	22	21	.070	5	12.80
PL8065	XP-90-KD	95	15	11	.084	$3\frac{23}{32}$	11.05
PL8066	XP-165-KD	165	23	19	.084	5⅝	16.20
PL8067	XP-325-KD	325	38	37	.084	$10\frac{3}{16}$	32.45
PL8061	XE-120-XD	120	19	17	.100	5⅝	14.75
PL8062	XE-240-XD	240	32	33	.100	$10\frac{3}{16}$	30.85
PL8060	XD-160-XD	160	28	27	.125	$10\frac{3}{16}$	28.05
PL8063	XG-50-XD	50	14	11	.171	5⅝	15.75
PL8064	XG-110-XD	110	27	21	.171	$10\frac{3}{16}$	26.50
PL8056	XC-40-XD	40	14	11	.200	6⅝	16.95
PL8057	XC-75-XD	75	21	19	.200	$10\frac{3}{16}$	22.10
PL8081	XE-160-70-XQ	Multi-Band			.100	$10\frac{3}{16}$	40.60

"T" TYPE HEAVY DUTY TRANSMITTING CAPACITORS



TK-300-US
PL-9110

6¼" wide, 5⅜" high, plates unmeshed. Corona shields on stators for wider airgap types. End plates ⅛" thick, heavy nickel plated. Massive bearings, ⅜" stainless steel shafts; heavy, two finger phosphor bronze rotor contactor bears on sturdy contact ring built to carry very heavy current without power loss. Rotor plates 4½" diameter, .050" thick aluminum. Heavy mounting feet formed as part of end plates. Ball thrust rear bearing. Mycalex insulation.

SINGLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Inside End Plates	List Price
PL9009	TJ-315-US	315	36	31	.168	$8\frac{1}{32}$	$40.50
PL9001	TC-200-US	200	35	23	.200	7	35.40
PL9002	TC-300-US	300	42	35	.200	10	40.50
PL9036	TK-300-US	312	53	39	.230	$12\frac{3}{16}$	47.00
PL9011	TL-50-US	45	15	7	.294	$3\frac{9}{16}$	20.90
PL9013	TL-80-US	85	24	13	.294	5⅝	26.55
PL9014	TL-100-US	98	26	15	.294	$6\frac{5}{16}$	27.85
PL9016	TL-160-US	160	40	25	.294	9¾	37.95
PL9019	TZ-40-RS	43	18	11	.500	7	30.35
PL9020	TZ-80-RS	83	32	21	.500	12½	40.50

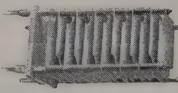
DOUBLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Inside End Plates	List Price
PL9026	TJ-150-UD	150	21	15	.168	$8\frac{1}{32}$	$40.50
PL9027	TJ-200-UD	211	30	21	.168	10¾	45.55
PL9021	TC-100-UD	112	20	13	.200	$8\frac{1}{32}$	39.20
PL9022	TC-160-UD	160	30	19	.200	11	43.00
PL9023	TC-200-UD	200	35	23	.200	13	48.05
PL9024	TC-250-UD	255	40	29	.200	16	53.15
PL9030	TL-50-UD	45	15	7	.294	$6\frac{5}{16}$	31.65
PL9031	TL-70-UD	70	19	11	.294	9	36.70
PL9033	TL-100-UD	98	26	15	.294	$11\frac{13}{16}$	43.65
PL9034	TL-160-UD	160	40	25	.294	18¾	55.65
PL9029	TKD-100-UD	110	30	21	.350	18¾	55.65
PL9035	TZ-40-RD	43	18	11	.500	$13\frac{9}{16}$	48.55

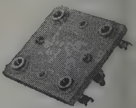
TYPE "J" PLUG-IN FIXED AIR CONDENSERS

For fixed capacity loading.

Plates easily removed. All "J" types have 2¼" square x ¼" Alsimag No. 196 ceramic end plates. Supplied with banana plugs to fit "JB" Jack Base. On special order provided with hexagonal brass mounting pillars and mounting screws for permanent installation.



JCO-50-OS
PL-9705



"JB" Jack Base
PL-5102

TYPE "J" PLUG-IN FIXED AIR CONDENSERS

Parts List No.	Type	Capacity	No. Plates	Air Gap	Length Overall	List Price
PL9705	JCO-50-OS	50 mmf.	13	.250	5⅜	$3.24
PL9704	JCO-25-OS	25 mmf.	7	.250	3¾	2.34
PL9703	JD-100-OS	100 mmf.	17	.125	4⅜	3.82
PL9702	JD-80-OS	80 mmf.	13	.125	4	3.24
PL9701	JD-50-OS	50 mmf.	8	.125	$3\frac{3}{16}$	2.34
PL9700	JD-25-OS	25 mmf.	4	.125	2½	1.64
PL9706	JR-750-OS	750 mmf.	33	.030	4⅝	5.20
PL9707	JKD-50-OS	50 mmf.	18	.350	$8\frac{3}{16}$	3.80

JACK BASE FOR "J" FIXED AIR CONDENSERS

Size: 2½" x 3½" x ¼". Material: Alsimag No. 196.
Complete with mounting posts, screws and nuts.
Type "JB" (PL-5102) ....List Price $1.25

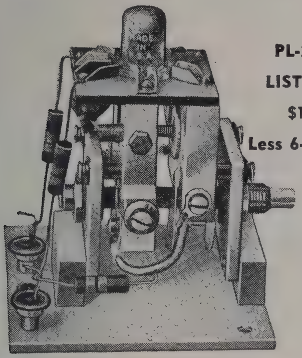
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

V.H.F. OSCILLATOR KIT

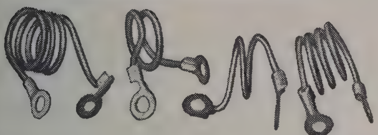


PL-20,024

LIST PRICE

$18.00

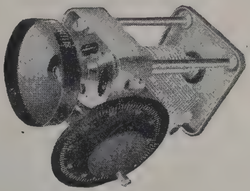
Less 6-F-4 Tube



This kit includes 3 sets of coils covering 144-148 mc, 220-225 mc, 420-450 mc bands. (The 6F4 tube is not included.)
Ideally suited for local oscillator, for super-heterodyne receiver, as plate modulated oscillator for low power transmitter or transceiver, driver unit for amplifier tube in higher powered transmitter, V.H.F. signal generator, etc., etc.

CARDWELL PRECISION CAPACITOR
Type PL-24,050

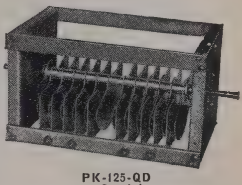
Designed for frequency meters equiring maximum mechanical and electrical precision. Type No. 4.080 gear and worm driven capacitor incorporates special design features representing ears of research and usage of his component in special meaurement equipment which has uccessfully withstood most rigorous usage our armed forces could give it.



Frequency Meter Condenser
PL-24,050

CAP. RANGE: Max. Cap. 220 mmfd., Min. Cap. 21 mmfd.
PLATE SHAPE: S.L.F.
DI-ELECTRIC SUPPORTS: Steatite.
ACKLASH: Negligible.
RESETTABILITY: To 10 parts in one million.
GEAR DRIVE: Precision split worm gear, equipped with precision ball bearings. Ratio—100 : 1 over 360 degrees.
DIALS: 3" DRUM: 50 divisions over 180° condenser rotation. 3" FAST RUNNING DIAL: Graduated 100 divisions, makes 1 revolution for each drum division. VERNIER RING: Divides each division on fast running dial into 10 parts.
DIMENSIONS: 5⅝" lg. (over drum dial) x 3⅛" deep x 3⅛" high.
WEIGHT: 1¾ lbs. (with cast aluminum frame).
OTOR CONTACT: Silver plated phosphor bronze spring, with 2 silver contacts bearing on silver plated disc.
MOUNTING: 3 point, to bottom of main casting.
PRICE: Capacitor, PL-24,050, Type 4.080, only....................List $95.00
Drum Dial ....List $ 5.95
Fast Running Dial ....List $12.75
Vernier Ring ....List $ 2.50

TYPE "P" LIGHT HEAVY WEIGHT TRANSMITTING CAPACITORS



PK-125-QD
Special

Designed to accommodate capacitance values up to 150 mmfd. per section in a dual section type having an airgap of .500", the "P" type construction permits higher capacity for a given airgap, and therefore a shorter frame than the "T" type construction. Typical Cardwell sturdiness is built-in, and the "P" type is probably the lightest transmitting condenser built for its size, yet completely satisfactory for heavyweight use. No single section types are catalogued; parallel or series connect for double or half single section capacity listed in table.

GENERAL SPECIFICATIONS:

FRAME: End plates are ⅛" thick formed aluminum, satin finish.
SHAFT: ⅜" diameter, non-magnetic stainless steel, extended both front and rear end.
PLATES: .064" thick, rounded and buffed edges. Rotor plates are 6¾" in diameter.
BEARINGS: Heavy nickel plated brass front and rear shoulder bearings.
ROTOR CONNECTION: Heavy, two finger N.P. phosphor bronze wiper bears on ⅛" thick N.P. brass contact ring, at each end.
STATOR CONSTRUCTION: Plates permanently staked into slotted, rounded edge aluminum stator blocks.
INSULATION: Mycalex (glass bonded mica).
MOUNTING: 3 clearance holes for No. 10 screws in each *side* of each end plate permitting mounting on any side, as well as provision for mounting associated components such as inductance coil mountings, etc.

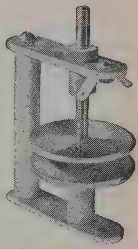
TYPE "P" LIGHT HEAVYWEIGHT DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL9208	PJ-750-QD	750	50	35	.168	20½	Special
PL9210	PK-200-QD	210	30	13	.230	11 27/64	Special
PL9203	PKD-70-QD	70*	15*	7	.350	9 13/16	$75.00
PL9204	PKD-100-QD	115	22	9	.350	11 27/64	83.50
PL9205	PZ-50-QD	50*	15*	7	.500	11⅞	82.25
PL9206	PZ-70-QD	70*	20*	9	.500	14¼	87.90
PL9207	PZ-100-QD	91	23	11	.500	16 1/16	100.00
PL9209	PZ-150-QD	150	40	19	.500	24 9/16	125.00

* Estimated value.
Tolerance for maximum and minimum capacity values: ±10%.

DISC TYPE NEUTRALIZER

For neutralizing low capacity transmitting triodes. Glazed steatite insulation. Polished aluminum discs. Fine screw thread adjustment in long nickel silver bearing—no wabble. Knurled thumb nut for easy locking. Heavy satin finish aluminum support and base plate.



ADN. Neut. Conds.
PL-7118

DISC TYPE NEUTRALIZING CONDENSERS

Item No.	Parts List No.	Type	Max. Cap.	Air Gap	Min. Cap.	Air Gap	List Price
1	PL7118	ADN	7 mmf.	.100"	1 mmf.	.700"	$4.40
2	PL7119	BDN	15 mmf.	.200"	3 mmf.	1.000"	7.40

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

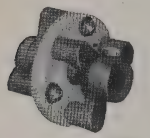
THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

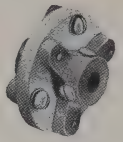
INSULATED COUPLINGS

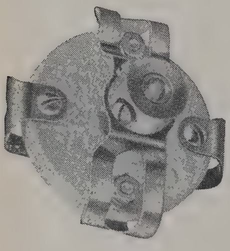
For isolating R.F. controls. Ceramic insulation (Alsimag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brass hubs, permanently swedged or spin riveted into the springs. Two fillister head, cup point, case hardened steel set screws in each hub insure positive lock to shaft.

All rigid types have improved three-point-spider construction, carefully machined solid brass castings, and are absolutely rigid.

Flexible types C, D, E and F fit both ¼" diameter shaft or a ⅜" shaft by removing bushing supplied.


"ENF" Rigid Coupling
PL-5201


"FNF"
PL-5013


"C"
PL-5004

"A"
PL-5000

INSULATED COUPLINGS—Flexible

Parts List No.	Type	DIMENSIONS "A" (Width)	"B" (Length)	Peak Flashover	To Fit Shaft Diameter	List Price
5000	A	1 9/32″	¾″	3;700 V.	¼″	$0.75
5002	B	1 9/32″	1 3/32″	7,000 V.	¼″	.75
5202	AB	1 9/32″	29/32″	5,000 V.	¼″	1.00
5004	C	2 ⅝″	2 3/32″	13,500 V.	¼ & ⅜″	3.55
5006	D	2 ⅝″	1 ⅜″	9,000 V.	¼ & ⅜″	3.55
5008	E	2 1/16″	1 ¾″	10,000 V.	¼ & ⅜″	1.90
5010	F	2 1/16″	1 1/16″	5,000 V.	¼ & ⅜″	1.90

INSULATED COUPLINGS—Rigid

5014	CNF	2 ¼″	2 1/16″	12,000 V.	⅜″	4.45
5201	ENF	1 ⅜″	1 13/16″	10,000 V.	¼″	1.50
5013	FNF	1 ⅜″	15/16″	7,500 V.	¼″	1.25

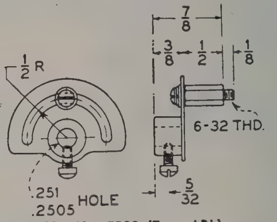
ACCESSORIES

"MIDWAY" MOUNTING FEET

Heavy aluminum, with 2 screws; for Midway condensers
Parts List No. 5052...**List (Pair) $0.2**

INDUCTANCE CLIPS

For tapping air-wound inductors. Cadmium plated phospho bronze spring clips for No. 12 or 14 wire. Thin blades preven shorting turns. Type 804-A. **Parts List No. 5104**........**List Price $0.2**



ROTOR LOCK

For locking "X" standard or "M" Midwa rotor shafts in positio for fixed tune. Can b set behind panel or attached to any ¼" shaft mounted directly o front of panel. Nicke plated brass; diamete 1½".

Parts List No. 5100 (Type ARL)...**List Price $0.7**

SHAFT LOCK PANEL BUSHING

Long panel bushing for ¼" shafts, has tapered nut for locking shaft in position. Fits ⅜" hole in panel. Complete wit panel nuts. Nickeled brass.
Parts List No. 5055 (Type ALB)...**List Price $0.4**

TYPE "M" BRACKET

Use with type "N" U.H.F. duals or "M" Midway condensers Turns condenser upside down for shortest plate leads in balanced R.F. amplifier. Regular mounting feet can be used t support a tank coil or jack base. Made of strong, satin finished, 1/16" aluminum, and supplied with proper screws an lock washers.
Parts List No. 5051...**List Price, each $0.2**

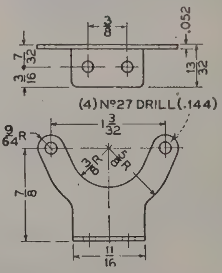
"STANDARD" TYPE "X" MOUNTING FEET

Heavy nickel plated brass; for "X" transmitting types, wit four screws.
Parts List No. 5053...**List Price, pair $0.2**

TRIM-AIR ACCESSORIES

As catalogued, Trim-Air singles are equipped for single hol mounting. Additional mounting accessories listed below ar sold separately.

MOUNTING POSTS—(¼" hex. x ¾" long, tapped 6-32 N.P brass). Pair, with screws and lockwashers.
Parts List No. 5054...**List Price $0.2**



"TRIM-AIR" MOUNTING BRACKET

For dual and single Trim-ai condensers. Insulated fron rotor and stator; N.P. brass with two screws and nuts.

Parts List No. 5050...**List Price, each $0.2**

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

STANDARDS OF COMPARISON

Cardwell

MODEL CE-25

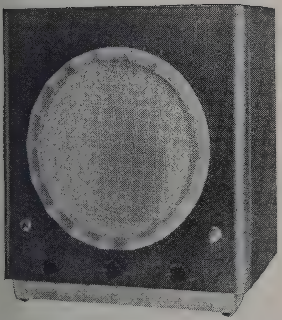
HIGH FIDELITY AUDIO AMPLIFIER

SPECIFICATIONS

POWER OUTPUT: 25 watts undistorted.
GAIN: Microphone 135 db phonograph 86 db.
FREQUENCY RESPONSE: Response at 50 cycles controllable from —15 to +17 db. Response at 10,000 cycles controllable from —15 to +22 db. In addition, Audio Compensation is used on the phonographic input which boosts bass as the volume level is reduced. This compensation is effective over a 40 db range in volume level and results in exceptional tone balance.
POWER REQUIRED: 115 watts at 105-125 volts 60 cycles AC.
DIMENSIONS: Length 15½", Depth 10¼", Height 8⅝".
CONTROLS: Two microphone volume controls and one phonograph volume control. One bass boost and one treble boost control.
TUBES: (2)—6SJ7, (3)—6SL7GT, (2)—6L6G, (1)—5U4G
OUTPUT IMPEDANCES: 2, 4, 8, 16, 250, and 500 ohms.
INPUT IMPEDANCES: Microphone channels—10 megohms. Phonograph channel—500,000 ohms.
WEIGHT: 26 lbs. All aluminum case.

COMPLETE WITH TUBES
PRICE ON REQUEST

MODEL CE-26 SOUND REPRODUCER



PRICE ON REQUEST

SPECIFICATIONS

CASE

SIZE: 14" wide, 9½" deep, 17" high.

WEIGHT: 26 lbs. net

FINISH: Gun metal gray, with silver trim. Harmonizes with any interior.

AMPLIFIER

OUTPUT: 8 watts undistorted, 11 watts maximum output. Taps on output transformer permit use of 4 additional speakers.

INPUT: One zero level input delivering 8 watts output for 0.5 volts input. Input impedance 500,000 ohms.
One high impedance microphone input. Input impedance 10 megohms

POWER CONSUMPTION: 70 watts at 115 volts, 60 cycle A.C.
(Note: Special transformer 110-220 V., 50-60 cycle, supplied on CE-26E export model.)

CONTROLS: One "Phono" Gain control with 11 db. bass compensation at 100 cycles at low level. (Right).
One "Microphone" Gain control. (Left)
One Tone control. (Center).
ON-OFF toggle switch.

FREQUENCY RESPONSE: With Tone Control set at maximum, response is flat within 2 db. from 60 cycles to 8000. Maximum variation in response at 5000 cycles obtainable with tone control is 25 db.

INTER-MODULATION: Less than 8% at normal rated output.

TUBES REQUIRED: 2—6V6GT, 2—6SL7GT, 1—5Y3GT, 1—6SJ7.

SPEAKER: Ten inch heavy duty, high quality permanent magnet type. Correctly matched to amplifier output.

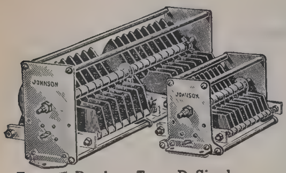
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

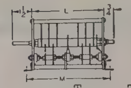
THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

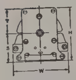
E. F. JOHNSON Company WASECA, MINNESOTA

VARIABLE CONDENSERS

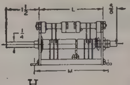


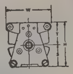
Type C Dual Type D Single

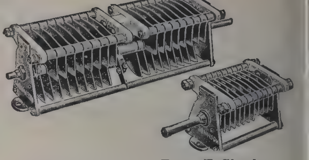




Type	T	S	W	H
C	2 5/16	3 3/32	5 1/2	5 13/32
D	1 27/32	2 5/32	4 1/4	4
E	1 5/16	1 9/32	2 5/8	2 19/32
F	1 1/32	1 31/32	2 1/16	2







Type E Dual Type F Single

JOHNSON C and D condensers are sturdily constructed to give trouble-free operation under the most severe service. Only the finest materials are employed yet these units are lower in price than any other quality condensers.

All dual models have center rotor connections, to insure balanced operation at ultra-high frequencies. Heavy laminated phosphor bronze contact springs insure low resistance circuits.

Important features include: Heaviest aluminum plates of any similar condenser, .051'' thick—Steatite insulation—Large laminated rotor brushes—Center rotor contacts on all dual condensers—Heavy 5/16'' diameter aluminum tie rods for frame strength and rigidity—1/4'' stainless steel shafts.

Supplied with single hole mounting brackets which fit either top or bottom of end plate so that stators may be mounted to top or bottom as preferred.

TYPE C CONDENSERS SINGLE SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
250C70	152-1	$15.00	252	34	.175''	24	6 13/16
500C70	152-2	21.00	496	56	.175''	47	12 7/32
250C90	152-3	17.25	245	45	.250''	31	12 7/32
350C90	152-4	20.50	337	63	.250''	43	14 27/32
50C110	152-5	10.50	51	19	.350''	8	4 3/4
100C110	152-6	13.00	103	30	.350''	17	8 5/8
250C110	152-7	20.50	251	66	.350''	41	18 9/32
50C130	152-8	11.75	51	24	.500''	10	7 11/16
100C130	1529	15.25	102	42	.500''	21	13 3/8

TYPE C DUAL SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
200CD45	152-501	18.75	204	21	.125''	15	8 19/32
300CD45	152-502	21.50	290	26	.125''	21	10 5/16
200CD70	152-503	21.00	198	27	.175''	19	12 7/32
300CD70	152-504	28.00	305	37	.175''	29	16 25/32
150CD90	152-505	22.25	147	30	.250''	19	14 27/32
200CD90	152-506	26.00	196	38	.250''	25	18 9/32
50CD110	152-507	15.75	50	18	.350''	8	10 5/16
65CD110	152-508	17.50	66	21	.350''	11	12 3/16
100CD110	152-509	22.50	103	32	.350''	17	16 25/32
50CD130	152-510	18.25	51	24	.500''	10	14 13/16

TYPE D SINGLE SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
50D35	153-1	6.50	49	12	.080''	5	2 29/32
100D35	153-2	7.25	99	14	.080''	8	2 29/32
150D35	153-3	8.25	151	18	.080''	12	2 29/32
250D35	153-4	9.75	252	24	.080''	20	4 25/32
350D35	153-5	11.50	343	27	.080''	27	5 25/32
500D35	153-6	14.00	496	36	.080''	39	6 25/32
100D45	153-7	8.50	104	19	.125''	12	4 25/32
150D45	153-8	10.00	146	23	.125''	17	4 25/32
50D70	153-9	8.00	51	17	.175''	7	2 29/32
70D70	153-10	8.75	72	18	.175''	11	4 25/32
100D70	153-11	9.75	98	23	.175''	15	4 25/32
150D70	153-12	11.25	151	31	.175''	23	6 25/32
250D70	153-13	14.50	244	45	.175''	37	10 5/16
350D70	153-14	17.75	351	62	.175''	53	13 11/32
50D90	153-15	8.50	53	20	.250''	10	4 25/32
70D90	153-16	9.50	73	25	.250''	14	5 25/32
100D90	153-17	10.75	99	30	.250''	19	7 11/16
150D90	153-18	13.00	149	43	.250''	29	10 5/16
250D90	153-19	17.50	249	68	.250''	49	15 7/8

TYPE D DUAL SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
100DD35	153-501	10.00	95	13	.080''	8	4 25/32
150DD35	153-502	11.50	147	15	.080''	12	5 13/16
200DD35	153-503	14.00	202	19	.080''	16	7 23/32
300DD35	153-504	17.75	291	24	.080''	23	9 15/32
500DD35	153-505	24.70	496	38	.080''	39	13 11/32
150DD45	153-506	15.50	155	24	.125''	18	9 15/32
200DD45	153-507	17.50	198	27	.125''	23	12 7/32
50DD70	153-508	11.00	52	15	.175''	8	5 13/16
70DD70	153-509	12.50	72	17	.175''	11	7 23/32
100DD70	153-510	14.50	97	22	.175''	15	9 15/32
150DD70	153-511	18.00	151	31	.175''	23	13 11/32
200DD70	153-512	21.50	199	39	.175''	30	16 25/32
50DD90	153-513	13.50	52	19	.250''	10	9 15/32
100DD90	153-514	17.75	97	30	.250''	19	14 13/16

MOUNTING BRACKETS

Extra brackets for mounting other components above condenser.

Cat. No.	List
115-100—Single Hole Bracket for C or D condenser	$0.10
115-101—Two Hole Bracket for C or D condenser	.10

Designed as rugged, compact units for medium and low power transmitters, type E and F condensers are in a class by themselves. They have more capacity per cubic inch and occupy less panel space for their rating than any other condenser on the market. Their rapid adoption by manufacturers of high grade equipment and discriminating amateurs is ample proof of their excellence.

Points of superiority: Heavy aluminum plates, .032'' thick, with rounded edges for maximum voltage rating—Heavy aluminum tie rods 1/4'' diameter for frame strength and rigidity—Steatite insulation—Stator mounted above to reduce capacity to ground—heavy phosphor bronze contact springs, cadmium plated—Center contact on dual models—Chassis or panel mounting—Stainless steel shafts.

In addition to mounting foot shown, removable single hole brackets are furnished so that condenser may be inverted from position shown, or other components mounted above.

TYPE E CONDENSERS SINGLE SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
250E20	154-1	$ 6.10	244	12	.045''	23	2 25/32
350E20	154-2	6.80	353	15	.045''	33	3 17/32
500E20	154-3	7.80	488	19	.045''	45	4 15/32
35E30	154-4	4.70	39	8	.075''	6	1 11/16
50E30	154-5	4.90	52	9	.075''	8	1 29/32
70E30	154-6	5.10	73	9	.075''	11	2 5/32
100E30	154-7	5.45	100	11	.075''	15	2 9/16
150E30	154-8	6.00	154	14	.075''	23	3 7/16
250E30	154-9	7.10	251	20	.075''	37	4 15/16
350E30	154-10	8.30	347	25	.075''	51	6 7/16
35E45	154-11	5.00	38	11	.125''	12	2 31/32
50E45	154-12	5.30	38	9	.125''	9	2 5/16
70E45	154-13	5.65	74	13	.125''	17	3 9/16
100E45	154-14	6.25	101	16	.125''	23	4 17/32
150E45	154-15	7.25	145	20	.125''	33	6 3/32
250E45	154-16	9.25	241	32	.125''	55	9 9/16

TYPE E DUAL SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
200ED20	154-501	9.20	200	10	.045''	19	5 1/8
300ED20	154-502	11.00	312	13	.045''	29	6 21/32
50ED30	154-503	7.45	52	8	.075''	8	4 3/32
70ED30	154-504	7.95	72	8	.075''	11	4 15/32
100ED30	154-505	8.70	99	10	.075''	15	5 5/16
150ED30	154-506	10.00	153	13	.075''	23	7 1/16
200ED30	154-507	11.25	196	15	.075''	29	8 3/8
50ED45	154-508	7.95	52	10	.125''	12	6 5/32
70ED45	154-509	8.95	74	12	.125''	17	7 7/16
100ED45	154-510	10.30	100	15	.125''	23	9 9/32

TYPE F SINGLE SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
35F20	155-1	4.50	35	7	.045''	6	1 1/2
50F20	155-2	4.70	54	8	.045''	9	1 5/8
70F20	155-3	4.90	66	8	.045''	11	1 25/32
100F20	155-4	5.30	106	10	.045''	17	2 1/4
150F20	155-5	5.95	154	12	.045''	25	2 7/8
250F20	155-6	7.15	252	17	.045''	41	4 3/32
35F30	155-7	4.65	36	8	.075''	9	1 7/8
50F30	155-8	4.95	52	9	.075''	13	2 5/16
70F30	155-9	5.35	67	11	.075''	17	2 3/4
100F30	155-10	6.00	99	14	.075''	25	3 19/32
150F30	155-11	7.00	148	18	.075''	37	4 7/8

TYPE F DUAL SECTION

Cat. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
50FD20	155-501	7.10	53	7	.045''	9	3 1/2
70FD20	155-502	7.60	66	7	.045''	11	3 27/32
100FD20	155-503	8.35	104	9	.045''	17	4 11/16
150FD20	155-504	9.80	153	11	.045''	25	6
200FD20	155-505	11.00	202	14	.045''	33	7 7/32
50FD30	155-506	7.75	51	8	.075''	13	4 27/32
70FD30	155-507	8.80	66	10	.075''	17	5 23/32
100FD30	155-508	10.25	99	13	.075''	25	7 7/16

DEPARTURES FROM STANDARD

Special plate spacings, capacities, shaft extensions, insulation, mounting brackets, terminals, etc., can be furnished to specifications for commercial applications.

CONDENSERS FOR HIGHER VOLTAGES

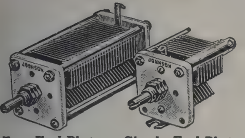
The JOHNSON line includes heavy duty pressurized or air dielectric fixed and variable condensers for high voltage commercial applications. Data sheets furnished on request.

EXPLANATION OF TYPE NUMBERS

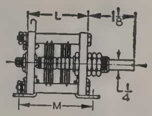
The first part of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter D indicates a two section type. The final number multiplied by 100 is the approximate peak breakdown voltage. Capacity measurements of the E and F types are made with the condensers in the position shown in the above illustration. The C and D types are measured in inverted position.

E. F. JOHNSON Company WASECA, MINNESOTA

TYPE H CONDENSER



Two End Plates Single End Plate



e Type H condenser was designed for aircraft transmitters and mbines a minimum of weight and size with simple but rugged nstruction. Capacities and spacings are provided for low and edium power stages. Use of steatite for end plates avoids any ssibility of "short circuit loops" and permits panel mounting ith both rotor and stator insulated from ground. Has aluminum lates .020" thick. End plate 1½" square. Capacity measureents are taken with condenser in position shown above.

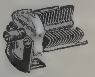
TYPE H CONDENSERS SINGLE SECTION

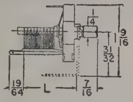
at. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
		Single End Plate					
H15	156-1	$ 2.70	25	4	.030"	6	11/16
H15	156-2	2.80	35	4	.030"	8	11/16
H15	156-3	2.95	49	4	.030"	11	15/16
H15	156-4	3.20	69	6	.030"	15	1 5/32
0H15	156-5	3.50	97	7	.030"	21	1 7/16
		Double End Plate					
0H15	156-6	4.70	146	9	.030"	31	2 13/32
0H15	156-7	5.75	242	13	.030"	51	3 13/32
H30	156-8	3.80	28	7	.080"	13	2 3/16
H30	156-9	4.10	37	8	.080"	17	2 19/32
H30	156-10	4.55	54	11	.080"	25	3 13/32
H30	156-11	5.15	74	13	.080"	35	4 13/32

TYPE H DUAL SECTION

at. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
HD15	156-512	4.70	31	6	.030"	7	1 11/16
HD15	156-513	5.05	51	7	.030"	11	2 3/32
HD15	156-514	5.55	71	8	.030"	15	2½
0HD15	156-515	6.25	99	10	.030"	21	3 3/32
HD30	156-516	6.05	38	12	.080"	17	4 13/32
HD30	156-517	7.15	55	15	.080"	25	6

TYPE J CONDENSER

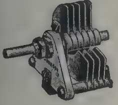


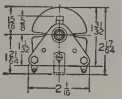


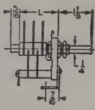
e Type J condenser is a midget with big condenser characristics. It has wider spacing than most small types, yet ccupies little more space and is ideal for oscillator and low ower stages. It can be used in conjunction with JOHNSON tube cket type inductors to provide an extremely compact tank unit. e spacing is .025" and universal type mounting brackets make ssible a variety of mountings including chassis, panel, or inde tube socket type inductors. Steatite end plate is 1⅛" wide.

at. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
12	157-1	$ 1.75	8	2.6	.025"	3	9/16
J12	157-2	1.90	17	3.3	.025"	6	11/16
J12	157-3	2.10	29	3.6	.025"	10	7/8
J12	157-4	2.55	52	4.9	.025"	19	1 7/32
J12	157-5	3.05	73	6	.025"	26	1½
00J12	157-6	3.50	102	7	.025"	36	1 15/16

TYPE G CONDENSER



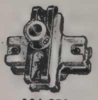




e Type G condenser is extremely popular as a neutralizing ndenser for medium and low power stages. It is also widely sed for grid and plate tuning at high and ultra-high frequenes. A wide range of capacities and spacing make it adaptable many applications. It has a single end plate of steatite and w minimum capacity. .032" rounded aluminum plates, univerl mounting bracket locking nut, and front and rear shaft exten-on are among outstanding features.

at. No.	Part No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
5G20	165-1	$3.30	27	4	.045"	5	29/32
0G20	165-2	3.60	52	5	.045"	9	1 5/32
G45	165-3	3.15	7.7	3.6	.125"	3	7/8
3G45	165-4	3.30	13	4.7	.125"	5	1 5/32
3G45	165-5	3.65	23	6.4	.125"	9	1 13/16
G70	165-6	3.30	5.7	3.5	.225"	3	1 1/16
2G70	165-7	4.15	12	6	.225"	7	2 5/8

COUPLINGS



104-251

104-250

104-262

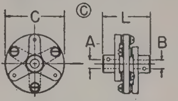
104-252

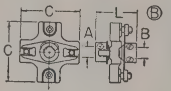
104-258

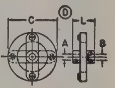
104-260

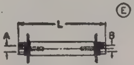
104-259

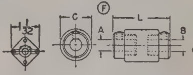
104-261

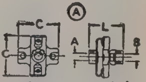












All JOHNSON insulated shaft couplings are characterized by best steatite insulation properly proportioned for electrical and mechanical strength, by accurate metal parts heavily plated, by advanced design, and by skillful manufacture.

The phosphor bronze springs of the -250 and -251 series couplings provide flexibility without backlash and adjust to minor shaft misalignments.

The hub assemblies of the new -260 and -263 coupling move freely on their supporting posts, accommodating misalignment and strain without dependence upon a flexing metal, and yet are well secured to prevent accidental disassembly. Rigid types -252, -262 and -261 meet the requirements of accurate shaft alignment and high torque.

The -259 and -2593 are bar type couplings recommended for high voltages or very high frequencies.

Cat. No.	List Price	Modulated Peak Volt.	Dim. Dwg.	C	Dimension L	Dimension A	Dimension B
104-250	$1.00	4000	A	1 15/16	1⅛	¼	¼
104-2503	1.10	4000	A	1 5/16	1 3/16	¼	⅜
104-251	1.40	5000	A	2⅛	1 15/32	⅜	⅜
104-251A	1.40	5000	A	2⅛	1 15/32	¼	¼
104-251B	1.40	5000	A	2⅛	1 15/32	¼	⅜
104-252	.90	1000	F	11/16	1¼	¼	¼
104-258	.25			½	¾	¼	¼
104-259	1.50	8000	E		3⅜	¼	¼
104-2593	1.45	5000	E		2⅜	¼	¼
104-260	1.00	2500	B	1 5/16	31/32	¼	¼
104-261	4.25	7500	C	2½	1 15/16	⅜	⅜
104-262	.85	5000	D	2	29/32	¼	¼
104-263	.90	2000	B	1	15/16	¼	¼

PANEL BEARINGS

115-255, 256, 2562

Nickel plated brass for ¼" shaft and up to ⅜" panels. Also with 3" and 6" cadmium plated brass shafts.

Cat. No. 115-255	Panel bearing only	List Price $0.17
Cat. No. 115-256	Bearing and 3" shaft	List Price .40
Cat. No. 115-2562	Bearing and 6" shaft	List Price .50

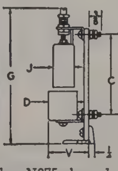
FLEXIBLE SHAFTS

115-253, 254

Phosphor bronze, non-rusting with ¼" hubs. Permit out of line or up to 90 degree angular control.

Cat. No. 115-253	3" flexible shaft	List Price .45
Cat. No. 115-254	6" flexible shaft	List Price .50

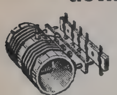
TYPE N CONDENSER

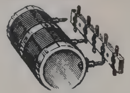


Small mounting space requirements, extremely high voltage rating in proportion to size, fine adjustment with uniform voltage breakdown rating throughout the full capacity range, and low cost, make these neutralizing condensers ideal for the modern transmitter. "Plates" are aluminum cups supported on a steatite frame with cast aluminum mounting bracket. Because of the design these condensers will withstand much higher voltage than conventional flat plate condensers of the same spacing. The N375 has been improved and now features a bushing for the guide shaft for greater stability and a beaded lower cup for high voltage rating. Peak R.F. Breakdown Ratings at 2 Mc.; N125 8,500, N250 11,500, N375 14,500.

Cat. No.	Part No.	List Price	Capacity Max.	Capacity Min.	D	C	G	V	Spacing
N125	159-125	$6.00	11.0	1.1	1⅜	3⅛	6 13/32	1 15/16	.125"
N250	159-250	6.75	10.6	1.4	1 47/64	3¾	7 17/32	2 9/32	.250"
N375	159-375	8.50	10.7	1.7	2⅜	5 13/32	8 23/32	2 15/16	.375"

ROTATING COIL "HI-Q" INDUCTORS


231-661

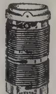

231-693

JOHNSON Hi-Q inductors were designed for optimum LC ratios on all bands. Numbers 660 through 664 and 680 through 684 contain rotating coupling coils which permit adjustment of interstage or output coupling of any circuit as desired. These coupling coils provide means of working directly into non-resonant lines without coupling or matching networks. On the higher frequency bands the coupling coils are adequate for working directly into a 600 ohm open wire line, while on the lower frequency bands coupling may be easily made into a 70 ohm line.

For capacity coupled stages and other applications, inductors are supplied less the coupling coil. Two sizes are supplied. The 660 and 670 series on forms 4$\frac{1}{16}$'' long are for inputs up to and including 350 watts, and the 680 and 690 series on forms 6¾'' long are for inputs up to and including 1000 watts.

Cat. No.	List Price	Band (Meters)	Cap. to tune (mmf.)
231-660	$3.75	10	26
231-661	3.95	20	33
231-662	4.10	40	40
231-663	4.25	80	75
231-664	4.40	160	150
231-670	1.95	10	26
231-671	2.10	20	33
231-672	2.20	40	40
231-673	2.30	80	75
231-674	2.40	160	150
235-666	.80	4$\frac{1}{16}$x2'' form only	
235-667	.85	4$\frac{1}{16}$x2½'' form only	
235-668	1.00	Plug strip for 666 & 667	
235-669	1.00	Jack Base for Mounting above Inductors	
231-680	5.20	10	26
231-681	5.55	20	26
231-682	5.75	40	42
231-683	5.90	80	70
231-684	6.00	160	140
231-690	3.00	10	26
231-691	3.25	20	26
231-692	3.40	40	42
231-693	3.50	80	70
231-694	3.65	160	140
235-686	1.45	6¾x2¾'' form only	
235-687	1.55	6¾x2½'' form only	
235-688	1.50	Plug Strip for 686 & 687	
235-689	1.50	Jack Base for Mounting above Inductors	

TUBE-SOCKET "HI-Q" INDUCTORS

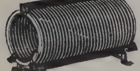


Cat. No.	List Price	Band (Meters)	Cap. to tune (mmf.)
230-640	$2.40	10	24
230-641	2.45	20	33
230-642	2.50	40	37
230-643	2.55	80	71
230-644	2.60	160	130
230-645	1.95	14	27
230-650	2.15	10	35
230-651	2.20	20	58
230-652	2.25	40	70
230-653	2.30	80	75
230-654	2.35	160	110
230-655	1.85	14	40
235-646	.85	Form only, 4 prong	
235-647	.85	Form only, 5 prong	

Inductors plug into a five prong tube socket. Numbers —640 through —645 have link at center, —650 through —655 link at bottom. Those with center links are center tapped for split stator circuits. Power rating is 100 watts. All sizes use coil from 1¾'' in diameter and 3¾'' high, and have additional terminal at top.

Because of the difficulties in raw material supply the above inductors may be available in limited quantities only for the next few months.

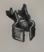
EDGEWISE WOUND "HI-Q" INDUCTORS

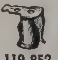


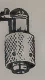
Design improvements and mycalex insulation are new features in this inductor of plated edge-wound copper strip. They are widely used in commercial equipment, and will safely handle more than 1000 watts in continuous service. Other sizes and types of inductors are manufactured for commercial broadcast and industrial electronic applications. More information available on request.

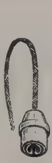
Cat. No.	List Price	Band (Meters)	Cap. to tune (mmf.)	Coupling	Dimensions LxD
232-610	$8.50	33 mh impedance		matching	7$\frac{13}{16}$'' x 2½''
232-611	6.50	14 mh impedance		matching	4$\frac{1}{16}$'' x 2½''
232-620	9.50	160	100	None	8$\frac{5}{16}$'' x 4''
232-622	7.50	80	50	None	6$\frac{7}{16}$'' x 3¼''
232-624	7.00	40	25	None	6'' x 3¼''
232-626	6.60	40	50	None	4¾'' x 2½''
232-628	6.30	20	20	None	4⅝'' x 2½''
232-619	6.00	20 mh coupling inductor			3⅛'' x 4''
232-623	5.50	8.1 mh coupling inductor			2$\frac{3}{16}$'' x 3¼''
232-627	5.20	2.2 mh coupling inductor			1$\frac{7}{16}$'' x 2½''

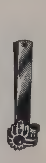
TUBE CAP CONNECTORS


119-850


119-852


119-838


119-853


119-843

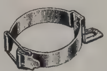
JOHNSON tube cap connectors are carefully designed, specifically for transmitting and industrial uses. Numbers 119-853 and 119-855 have steatitle covers assembled with 12'' and 15'' high voltage insulated leads. They are particularly recommended for rectifier and high voltage service. The 119-856 and 119-857 are similar to 119-852 and 119-854, but have 6'' copper straps for low-loss R.F. uses. Collet types, numbers 119-838 through 119-841 are recommended for heavy current industrial uses. The outside diameter is ⅞'' and connector may be tightened with spanner wrench listed below. The 119-843 is a part of the 124-212 socket for 833A tubes and is recommended for other tubes having .500 diameter caps and requiring radiator type connectors for high R.F. currents. The flexible strap is 5⅛'' long and ⅝'' wide.

Cat. No.	Tube Cap Diameter	List Price
119-838	.375	$.00
119-839	.437	.00
119-840	.500	.00
119-841	.676	.00
119-843	.500	.00
119-846	.125	.00
119-848	.070	.00
119-849	.048	.00
119-850	.250	1.80 C
119-851	.360	1.80 C

Cat. No.	Tube Cap Diameter	List Price
119-852	.360	$.06
119-853	.360	.70
119-854	.566	.09
119-855	.566	.85
119-856	.360	.00
119-857	.566	.00
119-858	.070	.00
119-859	.048	.00
119-860	.125	.00

115-838 Spanner wrench for use with Nos. 119-838 through -841

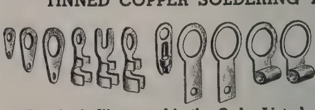
TUBE LOCKING CLAMP



Accurately formed cadmium plated steel band with integral locking device and mounting bracket. Made to hold tubes securely in place under conditions of heavy vibration and shock.

Cat. No.	Tube Dia.	List
133-817	1.165''	$0.35
133-818	1.275''	.35
133-820	1.377''	.35

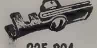
TINNED COPPER SOLDERING TERMINALS

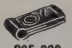

Terminals Illustrated in the Order Listed

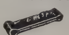
Available in eleven sizes, JOHNSON soldering terminals meet the requirements of most applications. Composed of copper for low resistance, they are tinned to permit easy soldering.

Cat. No.	Size Hole	Length	List per C
110-880	6-32	$\frac{9}{16}$''	$0.40
110-881	¼''	$\frac{13}{16}$''	.65
110-882	⅜''	1''	1.25
110-883	10-32	$\frac{15}{16}$''	2.10
110-884	10-32	1''	2.10
110-885	¼''	1$\frac{1}{16}$''	3.25
110-886	.180''	⅞''	1.60
110-887	$\frac{25}{64}$''	1$\frac{9}{32}$''	1.65
110-888	$\frac{33}{64}$''	1$\frac{9}{32}$''	1.65
110-889	$\frac{25}{64}$''	1$\frac{1}{32}$''	2.95
110-890	$\frac{33}{64}$''	1$\frac{1}{32}$''	2.95

INDUCTOR CLIPS


235-804

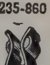

235-803


235-860

Clips are plated phosphor bronze Nos. 235-803 and 235-804 are designed for making connections to the above edgewise wound or similar inductors. No. 235-860 will take wire from No. 20 to No. 10 without danger of tilting and shorting adjacent turns.

Cat. No.	Type	List Price
235-803	LC4S	$0.22
235-804	LC4	.25
235-860	860	.12

FUSE CLIP


115-840

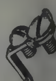
This cadmium plated phosphor bronze clip provides sure grip for ⅜'' diameter fuse or resistor. Mounts with No. 8 screw.

Cat No. 115-840
List Price $0.03

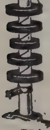
SCREW TERMINAL

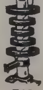
A convenient and substantial clip for use as antenna and ground connections and power terminals. Furnished complete with 2 screws.

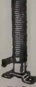
Cat. No. 110-112
List Price $0.06

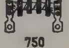

110-112

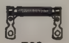
RADIO FREQUENCY CHOKES


754


752


762


750

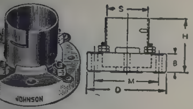

760

Uniformly flat in response, JOHNSON R.F. chokes are equally effective over the entire range for which they are designed. Coils are of enameled silk-covered wire impregnated with high grade R.F. lacquer, and are wound on steatite cores. Current ratings are of continuous service and may be increased for intermittent use.

Cat. No.	List Price	Frequency	Current Rating	Lgth
102-750	$1.00	1.7 to 30 mc	150 ma	1½
102-752	2.00	1.7 to 30 mc	500 ma	2⅞
102-754	2.50	1.7 to 30 mc	750 ma	4
101-760	.60	Ultra-high	250 ma	1½
101-762	1.10	Ultra-high	1500 ma	2⅞

E. F. JOHNSON Company WASECA, MINNESOTA

TUBE SOCKETS



123-209
0, -211, -216

"The World's Most Famous Tube Sockets," a title earned over years of top quality in material, workmanship, and design, cover nearly every transmitting tube requirement. "JOHNSON" sockets are specified by exacting users.

os. -209, -210, -211 and -216 all have heavy phosphor bronze, e wiping type contacts, aluminum shells and clear white, zed porcelain bases.

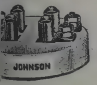
o. -209 is similar to No. -210, but provides greater spacing ween contacts and shell, for higher voltages, No. -211, the ndard "50 watt" socket has double filament contacts for rying heavy currents. Terminals are permanently and plainly ked with identifying letters molded in base both top and om.

o. -216 is for tubes having a GIANT 5 pin bayonet base such he 803, RK28, etc. -210F and -211F are enclosed in lustrous ck finished aluminum housing for front of panel mounting.

S" dimension -209, -210 series 1.386", -211 series 1.886", series 2.198". ....

uffix letter "B" identifies sockets with beryllium copper cons, suffix letter "S" sockets with steatite bases.

No.	List Price	D	H	M	B	Base
209	$1.15	$2\frac{13}{16}$	$1\frac{27}{32}$	$2\frac{5}{16}$	$\frac{11}{16}$	Medium
209B	1.30	$2\frac{13}{16}$	$1\frac{27}{32}$	$2\frac{5}{16}$	$\frac{11}{16}$	Four
209S	2.10	$2\frac{13}{16}$	$1\frac{27}{32}$	$2\frac{5}{16}$	$\frac{11}{16}$	Pin
209SB	2.25	$2\frac{13}{16}$	$1\frac{27}{32}$	$2\frac{5}{16}$	$\frac{11}{16}$	Bayonet
210	1.10	$2\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{16}$	$\frac{21}{32}$	
210B	1.25	$2\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{16}$	$\frac{21}{32}$	
210F	3.00	$2\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{16}$	$\frac{21}{32}$	
211	1.60	$3\frac{3}{8}$	$2\frac{9}{32}$	$2\frac{13}{16}$	$\frac{23}{32}$	Standard
211B	1.85	$3\frac{3}{8}$	$2\frac{9}{32}$	$2\frac{13}{16}$	$\frac{23}{32}$	Jumbo
211S	2.75	$3\frac{3}{8}$	$2\frac{9}{32}$	$2\frac{13}{16}$	$\frac{23}{32}$	Four
211SB	3.00	$3\frac{3}{8}$	$2\frac{9}{32}$	$2\frac{13}{16}$	$\frac{23}{32}$	Pin
211F	4.20	$3\frac{3}{8}$	$2\frac{9}{32}$	$2\frac{13}{16}$	$\frac{23}{32}$	
216	2.50	$3\frac{3}{4}$	$2\frac{7}{16}$	$3\frac{1}{8}$	$\frac{25}{32}$	Giant
216B	2.75	$3\frac{3}{4}$	$2\frac{7}{16}$	$3\frac{1}{8}$	$\frac{25}{32}$	Five
216S	4.25	$3\frac{3}{4}$	$2\frac{7}{16}$	$3\frac{1}{8}$	$\frac{25}{32}$	Pin
216SB	4.50	$3\frac{3}{4}$	$2\frac{7}{16}$	$3\frac{1}{8}$	$\frac{25}{32}$	Bayonet

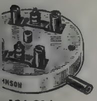


124-213

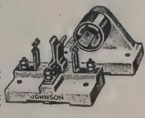
No. -213 takes Eimac 152TL and 304TL. Contacts arranged for either series or parallel filaments.

No. -214 takes Eimac 1500TH and similar tubes. Has air jet tube for cooling filament tube seals.

No. -215 is for "250 watt" tubes such as 204A, 849, etc. The plate terminal has a "safety cup" which prevents accidental dislodgement of the tube.



124-214



124-215

Cat. No.	Price	Base
124-213	$2.00	"Eimac"
124-214	2.75	"Eimac"
124-215	4.00	"250 Watt"

MINIATURE SOCKETS

No.	Descrpition	List Price
267	Miniature socket, all ceramic	$0.50
277B	**Miniature socket with shield base**	.75
277S	Miniature socket, shield base only	.15
278A	$1\frac{3}{8}$" shield for 277 B or S	.20
278B	$1\frac{3}{4}$" shield for 277 B or S	.20

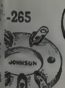
120-277B

133-278

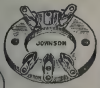
cets for 9000 series and miniature series such as 1S5, 1T4, 1R5, etc. No. -267 all steatite type. No. B steatite base with metal mounting ring which exls upward to form a shield. No. -277S is shield base as used on No. -277B and can be used with No. or other similar sockets. Nos. -278A and B are ld caps to fit No. -277B or No. -277S. Available in sizes, thev include an inside coil spring to hold the firmly in position.

120-267

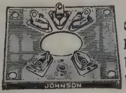
ACORN SOCKETS



-265



121-235

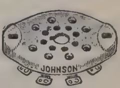


121-245

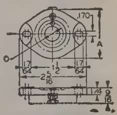
Cat. No.	Price	Mtg. Cen.
121-235	$1.25	$1\frac{5}{16}$
121-265	1.10	$1\frac{3}{16}$
121-245	2.00	$1\frac{11}{16}$

. -235, and -265 were all designed for new "acorn" tubes. . -235 and -265 are similar except for size. No. -235 is more ged but requires slightly more mounting space. No. -245 is ated metal base and includes built-in by-pass condensers as integral part of each contact. Contacts insulated by mica. contacts silver plated beryllium copper.

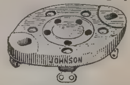
JOHNSON wafer sockets are insulated with grade L 4 steatite or better, top and sides glazed, underside impregnated in conformance with latest Army Navy specifications. Contacts are brass with steel spring, cadmium plated and are mounted against phenolic washers in molded recesses to prevent movement. Rivets are countersunk and mounting holes bossed to permit sub-panel mounting. Locating grooves facilitate tube insertion.



122-228



Cat. No.	List Price	D	H	M	Base
122-224	$.55	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	4 pin
122-225	.60	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	5 pin
122-226	.65	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	6 pin
122-227	.70	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	7 pin med.
122-217	.70	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	7 pin small
122-228	.75	$2\frac{5}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$-$1\frac{15}{16}$	Octal



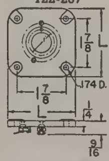
122-217, -224, -225, -226, -227

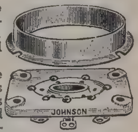
No. -237 is a 7 pin large steatite wafer socket for transmitting tubes having a GIANT 7 pin base such as the HK257, and RCA 813.

122-237

No. -247 is a 7 pin steatite wafer socket for transmitting tubes such as the 826. It is furnished with etched aluminum base shield.

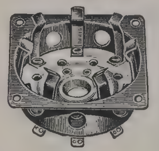
No. -248 is the same as the No. -247 except for its small "L" dimension, is also furnished with shield and has the same mounting dimensions.





122-247, -248

Cat. No.	List Price	Dimension L
122-237	$1.10	$2\frac{5}{8}$
122-247	1.25	$2\frac{5}{8}$
122-248	1.25	$2\frac{3}{8}$



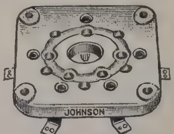
122-101

The 122-101 is a 7 pin steatite wafer socket of special design incorporating a base shield, retainer springs and provision for mounting button mica capacitors directly to the socket. Socket is specially designed for UHF use with tubes such as the 826, 829 and 832. Contacts and spring are silver plated and recessed to prevent movement. Grid terminals are designed so connecting wires may be isolated from other circuits and permit small grid coils to be mounted on the terminal ends. Four mounting holes are equally spaced 2.312 inches between centers.

Cat. No. 122-101..................List Price $3.00

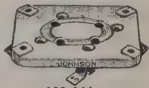
The 122-275 is a 5 pin steatite wafer socket for transmitting tubes having a GIANT 5 pin base such as the 4-125A and RK48. Contacts are of a superior construction, brass clip and steel spring, both cadmium plated, and are designed for high currents. Stray capacitance, each contact to ground, 2.1 mmf. (socket mounted on metal chassis). Adequate ventilation for tubes is provided by five 1/4" holes spaced between contacts. Four mounting holes are equally spaced $2\frac{1}{4}$" between centers.

Cat. No. 122-275 ....List Price $1.75

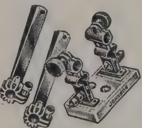


122-275

The 122-244 is a 4 pin wafer socket of steatite insulation, for transmitting tubes having a SUPER JUMBO base such as the 8008. Brass clip contacts and reinforcing steel springs are cadmium plated and are designed for high currents. Stray capacity contacts to ground, 1.25 mmf. Four mounting holes spaced $1\frac{7}{8}$" between centers.

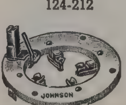


122-244



124-212

The No. -212 socket for RCA833 or 833A. Base of steatite. Filament clamps incorporate "springs" which minimize strains on the glass tube seals and prevent breakage. Plate leads include laminated phosphor bronze strips for flexibility. Regularly supplied with $5\frac{1}{8}$" plate leads. Other lengths available on special order.



124-234

No. -234 for Western Electric 5D21, 705A, 715A, 715B Raytheon, RKR72 and RK72 includes heavy steatite base and special locking device for retaining tube in socket.

Cat. No. 122-244........................List Price $1.50
Cat. No. 122-234........................List Price 3.00
Cat No. 124-212........................List Price 10.00

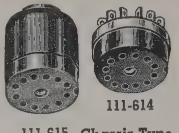
THE JOHNSON TUBE SOCKET GUIDE IS AVAILABLE UPON REQUEST.

MULTIPLE WIRE CONNECTORS

JOHNSON cable connectors provide a most efficient means of quickly connecting or disconnecting multiple electrical circuits in low-voltage control, audio and instrument service. Contacts accommodate No. 16 stranded wire, or No. 14 solid. Minimum surface creepage path for 12 connector types $\frac{1}{16}$'', for 7 connector types $\frac{3}{32}$''. Body material of molded black bakelite, back shells are brass dull black finished, shell liners are fibre. Plug and receptacle polarized for quick accurate insertion. The cadmium plated steel mounting yokes fit standard switch boxes and cover plates and are supplied with necessary hardware.

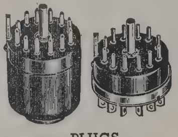
The multiple Wire connectors, tip plugs and jacks appearing on this page are former Mallory-Yaxley products.

RECEPTACLES


111-614

111-615 Chassis Type

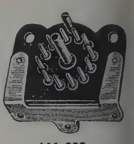
Cord Type


PLUGS

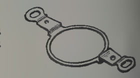
111-625 111-617

Catalog Number	List Price	No. of Contacts	Connector Type
RECEPTACLES			
111-614	$1.80	12	Chassis
111-615	2.10	12	Cord
111-644	1.00	7	Chassis
111-645	1.25	7	Cord
PLUGS			
111-617	1.80	12	Chassis
111-625	2.10	12	Cord
111-631	1.30	7	Chassis
111-635	1.60	7	Cord
PIN PLATE BRACKET MOUNTED			
111-680	1.10	7	
111-682	1.50	12	
MOUNTING YOKE			
111-6002	.25	for 7 wire connectors	
111-6003	.25	for 12 wire connectors	
MULTIPLE CONDUCTOR CABLE			
144-7	.30 per ft.	12 wire cable	
144-12	.60 per ft.	7 wire cable	

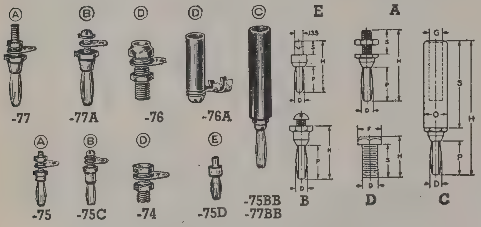
PIN PLATE Bracket Mounted


111-682

MOUNTING YOKES


111-6002, -6003

PLUGS AND JACKS



"BANANA SPRING" TYPE

Nickel-silver springs and high grade nickel plated brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs for added support.

75D is designed for riveting. Spring is beryllium copper.

75BB has 1⅜'' black plastic handle; 75BR same but red.

77BB has 1¾'' black plastic handle; 77BR same but red.

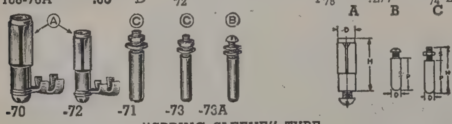
75 or 75A can be furnished with beryllium copper spring on special order, and all plugs can be furnished with nickel, cadmium or silver plating if required.

108-7451 is a red plastic insulated jack similar to the 108-74 and furnished with fibre washers. 108-7452 same but black.

If washers used for insulated mounting fits $\frac{5}{16}$'' holes, $\frac{9}{32}$'' maximum panel thinckness.

Cat. No. Plugs	List Price	Illus. Dwg.	S	P	D	H	G	O	Thread
108-75	$0.11	A	⅜	.53	.170	1.115			6-32
108-75A	.12	A	¾	.53	.170	1.490			6-32
108-75BB	.30	C	1⅜	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75BR	.30	C	1⅜	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75C	.12	B		.53	.170	.94			6-32
108-75D	.08	E	$\frac{7}{32}$	.40	.155	.81			
108-77	.25	A	⅝	.74	.300	1.77			¼-28
108-77A	.30	B	⅝	.74	.300	1.15			10-32
108-77BB	.45	C	1¾	.74	.300	2.90	$\frac{5}{16}$	⅝	
108-77BR	.45	C	1¾	.74	.300	2.90	$\frac{5}{16}$	⅝	

Jacks			F	D	S	H	B	Thread
108-74	.09	D	⅜	¼	$\frac{7}{32}$	⅝	.155	¼-28
108-7451	.18		$\frac{7}{16}$	¼	½	$\frac{21}{32}$	.166	¼-28
108-7452	.18		$\frac{7}{16}$	¼	½	$\frac{21}{32}$	.166	¼-28
108-76	.28	D	$\frac{9}{16}$	⅜	$\frac{15}{16}$	1$\frac{9}{32}$	.277	⅜-24
108-76A	.30	D	½			1⅜	.277	¼-20



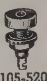
"SPRING SLEEVE" TYPE

These jacks have maximum current carrying capacity, minimum resistance, great mechanical strength, and snug fit. Wiping action of spring on insertion insures good electrical contact. Tension is maintained by phosphor bronze "spring sleeves." two sizes available. Furnished regularly nickel plated, but cadmium or silver can be supplied on special order.

Cat. No.	List Price	D	S	P	H	Thread
Plugs						
106-71	$0.18	.375	½	1⅛	1⅝	¼-28 screw
106-73	.11	.250	⅜	$\frac{15}{16}$	$\frac{15}{16}$	10-32 screw
106-73A	.14	.250		1$\frac{5}{16}$		10-32 tapped
Jacks						
106-70	.45	½			1½	¼-20 screw
106-72	.30	⅜			1⅛	10-32 screw

PLASTIC HEAD TIP JACKS

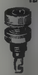
REMOVABLE ROUND HEAD TIP JACK


105-520

Removable plastic heads in choice of colors listed. Supplied with fibre shoulder bushing and nickel plated hex nut. Standard finish is nickel plate on body. Mounts in ⅜'' hole. Maximum panel thickness $\frac{5}{32}$'' where insulating washers are used, ¼'' where omitted. ¼''-32 thread.

Cat. No.	Color	List Price
105-520	Red	$0.20
105-521	Black	.20
105-522	Dark Green	.20
105-524	Brown	.20
105-525	Light Blue	.20
105-526	Orange	.20
105-527	Yellow	.2
105-528	Light Green	.2
105-529	Dark Blue	.2
105-530	Ivory	.2

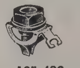
MOLDED ROUND HEAD TIP JACK


105-418

Description same as remvoable head type except that brass body is molded integral with head, and additional phenolic washer is furnished. $\frac{5}{16}$''-40 thread.

No. 105-418—Red **List $.25** **No. 105-419**—Black **List $.25**

INSULATED COMBINATION JACK

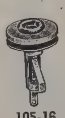

105-420

Supplied with shoulder bushing, phenolic washe and one piece contact and nut. Maximum chassi thickness ⅛''. Mounts in ⅜'' diameter hole. Provide insulated jack for phonetip plugs and No. 75 serie "Banana Spring" plugs.

No. 105-420—Red **List $.23** **No. 105-421**—Black **List $.2**

METAL HEAD TIP JACKS

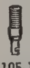
Large Round Head


105-16

Supplied with fibre shoulder bushing, phenolic washer and hex nut. Mounts in ½'' hole if shoulder bushing is used. $\frac{3}{16}$'' maximum panel thickness. Contact is phosphor bronze cadmium plated.

No. 105-16 List $0.40

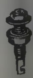
Headless Tip Jack


105-1

Metal parts brass. Body nickel plated. ¼-32'' thread.

No. 105-1......List $0.10

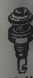
Small Round Head


105-41

Mounts in ⅜'' hole when using fibre shoulder bushing furnished. $\frac{11}{32}$'' maximum panel thickness.

No. 105-416
List $0.18

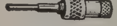
Small Hex Head


105-41

Same as 105-416 except has hex head.

No. 105-417
List $0.15

Long Solderless Tip Plug

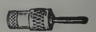

105-15

For use with tip jacks Nos. 105-16, and 105-420.

No. 105-15.........List Price $0.15

No. 105-14—Solderless Tip Plug Long Sharpened Point **List Price $0.20**

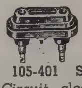
Short Solderless Tip Plug


105-415

For use with tip jacks No 105-416, 105-417, 105-418, a 105-529.

No. 105-415.........List Price $0.

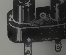
TWIN TIP JACKS


105-401

Mounting holes ⅞'' centers. Molded black phenolic.

Cat. No.	Marking	Li
105-401	Blank	$0.
105-4012	Speaker	
105-4015	Phono	

SHORTING TYPE TWIN TIP JACKS

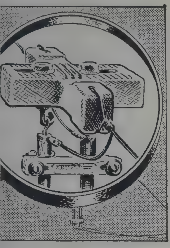

105-432

Circuit closes automatically when tips are removed.

No. 105-432—Black **No. 105-433**—Red

List Price $0.50

E. F. JOHNSON Company WASECA, MINNESOTA



THE JOHNSON "Q" AND JOHNSON "Q" BEAM

COMPLETE "Q" SYSTEMS

Cat. No.	Band (Meters)	List Price
137-2Q	2	$ 7.00
137-6Q	6	10.50
137-10Q	10	9.75
137-20Q	20	16.50
137-40Q	40	28.00

ALUMINUM "Q" TUBING

Cat. No.	Band (Meters)	Length	List Price
136-ST10	10	2-8'6"	$4.50
136-ST20	20	4-8'6"	9.50
136-ST40	40	8-8'6"	18.00

The consistent results obtained by the thousands o [redacted] NSON
Q antenna system are due to the extremely high s famous
antenna. Applications include half-wave doublet, al or ver-
tical, harmonic or "long wire" radiator, radiator-r r director,
"V" Beam, JOHNSON Q Beam and others.

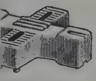
The JOHNSON Q Beam is a special application c It consists
of two half-wave Q antennas spaced 1-5 wave an nnected in
parallel at the bottom. In ordering specify two the lower
frequency of the two bands desired. For example Q Beam to
operate on 10 and 20 meters, order two JOHNSON eters.

The -2Q and -6Q use aluminum tubin ting portion
as well as for the matching section. be suspended
overhead in the conventional manner or are self supporting with their end terminal plugs plugged into a 136-35 Jack Strip mounted on the transmitter. The 136-35 Jack Strip and 136-36 Plug Strip make an ideal feeder connection at the transmitter when the antenna is suspended.

Mycalex insulated fittings for use as described in "Q" antenna discussion above.

Cat. No. 136-35—Mounting Jack Strip ....**List Price $2.00**
Cat. No. 136-36—Double Plug Strip ....**List Price 1.00**

"Q" SUSPENSION ASSEMBLY

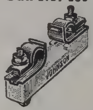


136-106

Includes new type insulator and all necessary hardware for connecting "Q" matching section to antenna and transmission line. Insulator may also be used to bring off "Zepp" feeders from the flat top.

Cat. No.		List Price
136-39	Suspension Assembly	$2.50
136-106	Antenna Feeder Insulator only..	.60

"Q" SPACING BARS



136-33

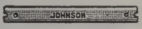
Made of dense, highly vitrified white glazed porcelain, with aluminum tubing clamps. Used for spacing tubing in matching transformer applications. Clamps are arranged so that spacing is continuously variable from 7/8" to 3 5/8" center to center.

No. 136-33—Spacing Bar.................................**List $0.45**

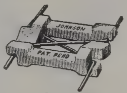
FEEDER INSULATORS

136-122, -124 and
are conventional
er spreaders of
grade low ab-
tion porcelain,
one impregnated
finest water repellent characteristics.
136-122 is provided with notches for
line spacing. All have 3/8x1/2" cross
on. No. 136-31 is a glazed porcelain
sposition nisulator which permits cross-
transmission lines at frequent inter-
to prevent radiation and provide 2"
spacing.

Cat.No.	Lgth.	List
136-122	2"	$.15
136-124	4"	.20
136-126	6"	.25
136-31		.16



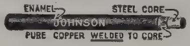
136-122, -124, -126



136-31

ENAMELLED COPPERWELD ANTENNA WIRE

JOHNSON Enameled Copperweld Antenna Wire is the ideal material for any system where the wire must not stretch nor sag. The steel core provides almost three times the strength of ordinary copper wire, the copper coating provides a low RF resistance and the enamel prevents corrosion. Prices are per 100 feet. Carried by most suppliers in bulk, it is available from the factory in any specified length.



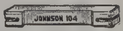
Cat. No.	B&S Gauge	Ft. per lb.	Breaking Strength	List per C'
144-348	10	34 1/2	1130 lbs.	$3.62
144-350	12	54	720 lbs.	2.49
144-352	14	85	400 lbs.	1.64

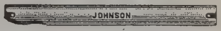
ANTENNA INSULATORS

e insulators are of genuine WET PROCESS porcelain,
smooth white glazing. The all-porcelain types are 1"
ameter. Their long leakage path, low capacity, and
lom from moisture absorption result in exceptional
ency. The Commercial Type is 1 1/2" in diameter, for
where much greater strength is necessary. End fit-
are of non-corrosive aluminum alloy. No. 136-104 is
process 4" antenna insulator, 5/8" square for service
e the strength of the 1" types is not required.

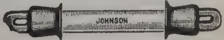
Cat. No.	Break Strength	Lgth.	List Price
136-104	400 lbs.	4"	$0.20
136-107	800 lbs.	7"	.80
136-112	800 lbs.	12"	.9

No.	Break Strength	Net	Overall	Lis
136-151	5000 lbs.	8"	15 1/2"	$9.0
136-152	5000 lbs.	12"	19 1/2"	10.7
136-153	5000 lbs.	20"	25 1/2"	15.0



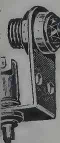


136-107, 136-112



136-151, -152, -153

PILOT LIGHTS

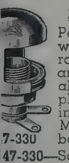


47-3081

Brackets are cadmium plated steel, assembled with faceted jewels in your choice of colors and miniature bayonet or miniature screw bases. Pilot lights accommodate number 50 and 52 miniature screw base and numbers 51, 53 and 356 miniature bayonet base panel lamps. Screw base supplied with two lug terminals, bayonet base with one lug and one rivet terminal. Both types supplied with center grounding lug. Pilot lights with smooth jewels available on special order.

Jewel Color	Catalog Number		List Price
	Screw Base	Bayonet Base	
Clear	147-3101	147-3081	$0.40
Red	147-3102	147-3082	.40
Green	147-3103	147-3083	.40
Amber	147-3104	147-3084	.40
Blue	147-3105	147-3085	.40
Opal	147-3106	147-3086	.40
Bkt. less Jewel	147-3109	147-3089	.20

PANEL LIGHT



7-330

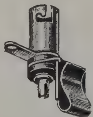
Polished nickel hood with friction snap rotates 360 degrees and is easily removable for lamp replacement. Mounts in single 1/2" hole. Miniature screw base.

47-330—Screw	List $.80
47-329—Bayonet	List .90

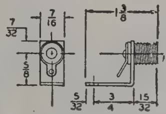
JEWEL ASSEMBLIES

Color	Faceted Cat. No.	Smooth Cat. No.	List Price
Clear	147-3111	147-3211	$0.20
Red	147-3112	147-3212	.20
Green	147-3113	147-3213	.20
Amber	147-3114	147-3214	.20
Blue	147-3115	147-3215	.20
Opal	147-3116	147-3216	.20

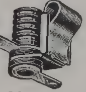
1/2" Jewel furnished smooth or faceted in colors listed. Jewel holder is brass nickel plated supplied with nut. 1/4" maximum panel thickness. Mounts in 7/16" hole. Jewels may be furnished with backside or both front and back frosted on special order.



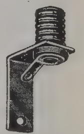
147-3022



147-3052



147-3031



147-3052

DIAL LIGHT SOCKET ASSEMBLIES

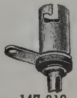
Cat. No.	Base	Bracket	Bracket Position	List Price
147-3031	Screw	Flanged	Up	$0.15
147-3011	Bayonet	Flanged	Up	.15
147-3032	Screw	Flanged	Down	.15
147-3012	Bayonet	Flanged	Down	.15
147-3041	Screw	Open Clip	Up	.15
147-3021	Bayonet	Open Clip	Up	.15
147-3042	Screw	Open Clip	Down	.15
147-3022	Bayonet	Open Clip	Down	.15
147-3051	Screw	Flat	Up	.15
147-3052	Screw	Flat	Down	.15
147-3061	Bayonet	Flat	Up	.15
147-3062	Bayonet	Flat	Down	.15

Sockets are nickel plated brass. Other metal parts cadmium plated. Bracket is insulated from terminal and socket.

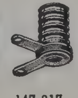
DIAL LIGHT SOCKETS ONLY

Miniature screw and miniature bayonet sockets and terminals of plated brass. Bayonet sockets have coil spring in base to assure positive contact.

Cat. No.	Socket Type	Terminals	List Price
147-317	Screw	2 solderlugs	$.10
147-318	Screw	1 solderlug 1 rivet	.10
147-319	Bayonet	1 solderlug 1 rivet	.15



147-319



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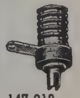
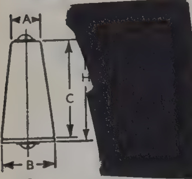
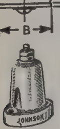
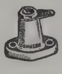


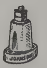
147-318

Pilot, dial and panel lights on this page are former Mallory-Yaxley products.




135-20


135-22J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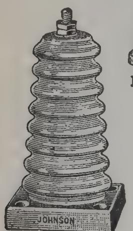
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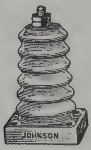
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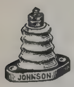
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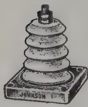
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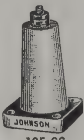
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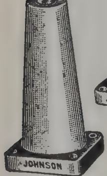
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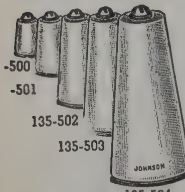
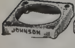
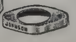

-500
-501
135-502
135-503
135-504


135-866, -867


135-865

STAND-OFF AND CONE INSULATORS

These stand-off insulators, a line originated by JOHNSON more than a decade ago, have gained world-wide acceptance as a result of their perfection of ceramic design, logical proportions, range of sizes, clean-cut accurate molding, high grade nickel plated brass hardware with milled (not stamped) nuts and most of all, a very superior grade of low absorption, well glazed electrical porcelain. Bases are heavy to resist breakage, with adequate "glaze grooves" around mounting screw holes. Nos. 135-65, 135-66 and 135-67 with unbreakable cadmium plated drawn steel bases, and Nos. 135-65B, 135-66B and 135-67B with brass bases are especially noteworthy. "B" suffix indicates brass base.

The No. 500 cone insulator series are steatite for better high frequency insulation. Threads are tapped directly into the ceramic. Furnished complete with machine screws, brass and cushion washers.

STAND-OFF INSULATORS

Cat. No.	List Price	Dimensions A	B	M*	H	Hardware
135-20	$0.16	3/4	1 3/4	1 5/16	1 9/16	10-32
135-20J	.20	3/4	1 3/4	1 5/16	1 9/16	74 Jack
135-22	.12	15/32	1 5/32	1 3/16	1	8-32
135-22J	.18	15/32	1 5/32	1 3/16	1	74 Jack
135-60	.75	1 3/16	2 1/2	1 7/8	4 1/2	1/4-20
135-62	.50	7/8	1 7/8	1 3/8	2 3/4	1/4-20

Metal Base Types

135-65	.25	5/8	1 7/8	1 1/2	1 3/8	10-32
135-65B	.30	5/8	1 7/8	1 1/2	1 3/8	10-32
135-65J	.30	5/8	1 7/8	1 1/2	1 3/8	74 Jack
135-63	.50	15/16	1 3/4	1 3/8	2 3/4	1/4-20
135-66B	.55	15/16	1 3/4	1 3/8	2 3/4	1/4-20
135-66J	.65	15/16	1 3/4	1 3/8	2 3/4	76 Jack
135-67	.80	1 1/16	2 1/4	1 3/4	4 1/2	1/4-20
135-67B	.85	1 1/16	2 1/4	1 3/4	4 1/2	1/4-20
135-67J	.90	1 1/16	2 1/4	1 3/4	4 1/2	76 Jack
135-68	.35	23/32	1 3/4	1 3/8	2	10-32
135-68B	.40	23/32	1 3/4	1 3/8	2	10-32
135-68J	.40	23/32	1 3/4	1 3/8	2	74 Jack

* Mounting centers.

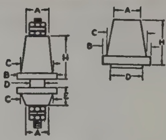
STEATITE CONE INSULATORS

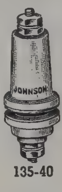
135-500	.20	7/16	5/8		5/8	6-32
135-501	.30	1/2	3/4		1	8-32
135-502	.55	1/2	1		1 1/2	8-32
135-503	.75	5/8	1 1/8		2	10-32
135-504	1.25	3/4	1 1/2		3	10-32

BRASS BASES

For outside use, particularly under corrosive conditions, lacquered brass bases are recommended, if necessary for replacement, on numbers -65, -66, -67 and -68 insulators.

Cat. No.	List Price	For Use With
135-865	$0.09	135-65
135-836	.14	135-63—135-68
135-837	.20	135-67

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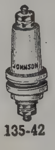
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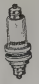
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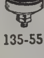
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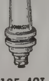
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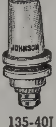
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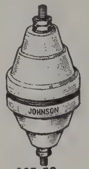
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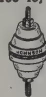
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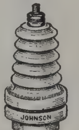
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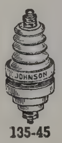
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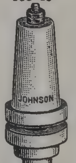
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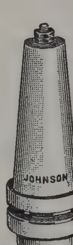
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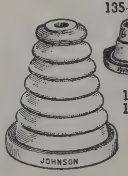
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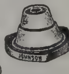

135-53
135-90

115-240, -241, -242

THRU-PANEL INSULATORS AND BUSHINGS

All of the superior features of material and design which make JOHNSON stand-off insulators the choice of discriminating engineers apply equally to the thru-panel and bushing series. Special attention has been given to obtaining high mechanical strength through heavier construction and at the same time increasing the breakdown voltage. Flat mounting surfaces with cushion washers eliminate breakage. Bottom pieces have long internal and external portions for higher breakdown voltage rating, and grooved surfaces to increase leakage path. Jack types have terminals permitting connection above as well as below the panel.

JOHNSON lead-in bushings are designed to have even greater mechanical strength and long leakage path in proportion to size. Nos. 135-50, 135-51, 135-52 and 135-55 are supplied complete with nickel plated threaded brass rod, washers, and milled nuts. Nos. 135-53 and 135-54 are supplied as single porcelain parts including cushion washer. Also available are cast aluminum mounting flanges Nos. 135-90 and 135-91 and threaded nickel plated brass rod, washers, and nuts in Nos. 115-240, 115-241 and 115-242. No. 135-55 is steatite with a special inter-locking feature which permits mounting on thin panels without extra spacing washers

THRU-PANEL INSULATORS

Cat. No.	List Price	Dimensions A	B	D	E	H	Hardware
135-40	$0.30	19/32	15/16	7/16	1/2	1 1/4	10-32
135-40J	.40	19/32	15/16	7/16	1/2	1 1/4	74 Jac
135-42	.28	1/2	3/4	.400	3/8	7/8	10-32
135-42J	.35	1/2	3/4	.400	3/8	7/8	74 Jac
135-44	.23	3/8	5/8	.305	5/16	5/8	6-32
135-45	.40	5/8	1 1/4	1/2	11/16	1 3/8	10-32
135-45J	.50	5/8	1 1/4	1/2	11/16	1 3/8	74 Jac
135-46	.80	15/16	1 5/8	11/16	1	2 3/4	1/4-20
135-46J	.95	15/16	1 5/8	11/16	1	2 3/4	76 Jac
135-47	1.20	1 1/16	2 1/8	31/32	1 1/2	4 1/2	1/4-20
135-47J	1.40	1 1/16	2 1/8	31/32	1 1/2	4 1/2	76 Jac
135-48	.50	23/32	1 5/8	11/16	7/8	2	10-32
135-48J	.60	23/32	1 5/8	11/16	7/8	2	74 Jac

LEAD-IN BUSHINGS

135-50	.28	3/8	3/4	15/32		1/2	6-32
135-51	.40	5/8	1 1/4	27/32		13/16	10-32
135-52	.65	7/8	1 3/4	1 7/32		1 1/8	1/4-20
135-53	.30	1 1/16	2 1/2	1 27/32		1 3/4	
135-54	.70	1	3 1/2	2 11/16		4	
135-55	.26	1/2	3/4	15/32		1/4	6-32

MOUNTING FLANGES

Stamped aluminum Mounting Flange cast aluminum for Lead-in Bushing 135-53 and 135-54.

Cat. No.	For Bushing No.	List Pri
135-90	135-53	$0.35
135-91	135-54	.70

THREADED BRASS ROD

Intended primarily for use with lea in bushings 135-053 and 135-054. Accu ately cut threads, heavy nickel platin complete with 4 washers and 4 nut 1/4" diameter, 1/4-20 thread. It has man other uses in radio construction.

Cat. No.	List Price	Leng
115-240	$0.40	8"
115-241	.45	10"
115-242	.55	15"

SOON!

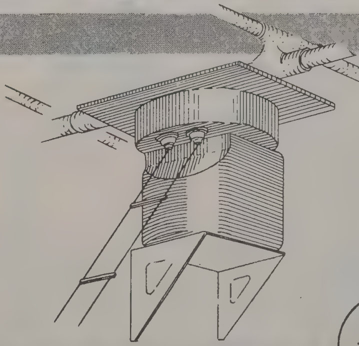
JOHNSON *for* Cabinets
Racks • Panels • Chassis

The ability of JOHNSON craftsmen to build fine steel cabinets may be verified with any of the many Broadcast stations whose Directional Antenna Equipment — Phasing, and Antenna Coupling units were JOHNSON designed and manufactured right down to the cabinets, many of which were custom built to match existing equipment. Now the skill of custom-builders, the economy of JOHNSON mass production, and the benefits of a careful market survey of your needs combine to produce a completely new line of metal cabinets for the Radio-Electronics industry with which you'll be genuinely pleased. Amateurs, industrial users and distributors will recognize and appreciate their distinctive features in appearance and utility. You'll find it a truly new line, professional in appearance, characteristically reasonable in price.

Also New!
ROTARY BEAMS

A completely redesigned Rotary Beam Antenna that's new from the Indicator and Control Cabinet to the Rotomatic Drive and Elements is being unwrapped in the JOHNSON laboratories. Rugged construction assures long life in a Rotomatic Drive and Indicator that operate continuously through 360° at 1½RPM. New radiating elements feature simplicity, freedom from multiple parts and insulators, and are designed with the new matching system for wide band operation. Two arrays may be operated using one Rotomatic Drive and transmission line.

JOHNSON distributors will be kept informed as we rush the Rotary Beam and the Cabinet line to Completion and availability.



E. F. JOHNSON COMPANY
WASECA, MINNESOTA

JOHNSON
a famous name in Radio

CARRON COILS

ANTENNA AND R.F. COILS

Important! Read This Before Ordering

The coils in the following list are so grouped that a selection may easily be made. Coils of the same group may be tracked together, and where used in a superheterodyne, choice of an oscillator coil having the same color code dot will result in proper tracking over the desired range.

Two general ranges are covered—1715-550 K.C. and 1500-540 K.C. In each case, some overlap is obtainable. The coils for the 1715-550 K.C. range (coded red dot) are usually tuned with a 410 mmfd. gang condenser, while the latter (coded green dot) are tuned with 365 mmfd. condenser.

SHIELDED LITZ WOUND HIGH GAIN SOLENOIDS

Employing a new type of bank winding, these coils give practically constant gain and selectivity over the broadcast band for the high impedance primary types. Wound on a ⅞" x 2¼" long impregnated tube, sealed against moisture absorption. Mounted in 1⅞" x 2¼" round cans with spade bolt mounting on 1¾" centers.

1500 to 540 K.C. Code "Green Dot"

S523	Ant. High Impedance Pri.	$1.00
S519	R.F. High Impedance Pri.	1.00
S531	Ant. Low Impedance Pri.	.87
S530	R.F. Low Impedance Pri.	.87

1715 to 550 K.C. Code "Red Dot"

S311	Ant. High Impedance Pri.	$1.00
S314	R.F. High Impedance Pri.	1.00
S319	Ant. Low Impedance Pri.	.94
S328	R.F. Low Impedance Pri.	.94

UNSHIELDED LITZ WOUND SOLENOIDS

1500 to 540 K.C. Code "Green Dot"

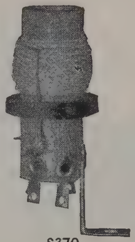
S335	Ant. High Impedance Pri.	$0.87
S336	R.F. High Impedance Pri.	.87
S645	Ant. Low Impedance Pri.	.75
S646	R.F. Low Impedance Pri.	.75

1715 to 550 K.C. Code "Red Dot"

S524	Ant. High Impedance Pri.	$0.87
S521	R.F. High Impedance Pri.	.87
S641	Ant. Low Impedance Pri.	.75
S644	R.F. Low Impedance Pri.	.75

MIDGET COILS

Furnished shielded or unshielded, these coils represent the latest trend in the design of small air core inductances. "Universal Progressive" bank wound with "litz" wire on impregnated tubes, high impedance primaries of silk enamel wire, and careful design make these coils exceptionally "hot." Even gain is obtained over the broadcast band due to the use of "litz" wire and the choice of winding type. **Oscillator Code "Green Dot."**



S370

Unshielded Type

S370	Ant.	$0.69
S371	R.F.	.69

Shielded Type

Can size 1⅜" x 1¾" long. Mounting centers 1¼".

S372	Ant.	$0.87
S373	R.F.	.87

OSCILLATOR COILS

Designed for operation with any tube using conventional feedback methods. Color coded for connection. Padder values furnished. **In choosing an oscillator coil be sure to choose the proper code to agree with the R.F. and antenna code, "red" or "green" dot.** Wound, on a special new form which we have developed, with cotton covered enamel wire thoroughly dehydrated, treated with Carron HQ711, and flash dipped in a high melting point wax.

S529

Cat. No.	I.F. Freq.	Approx. Padder Values	Code	List Price
S529	455/6	430 Mmfd.	Green	$0.94
S614	455/6	437 Mmfd.	Red	.94
S616	262	930 Mmfd.	Green	.94
S528	175	1350 Mmfd.	Green	.94
S618	175	1548 Mmfd.	Red	.94

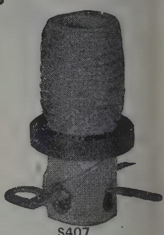
Tapped Oscillator Coil for "Electron Coupled" Converter Tubes

Designed particularly for use with converter tubes such as the 6SA7, these coils are for operation with 455/6 K.C. I.F. frequencies only.

S416	Green Dot	$0.94

Carron's 1946 complete catalog contains additional information and lists many other standard radio coils, phono pickup replacement coils and exact duplicate replacement coils for pre-war radios. Also complete list of approximately 700 models of cones, accessories, etc. WRITE FOR IT!

PEE-WEE COILS

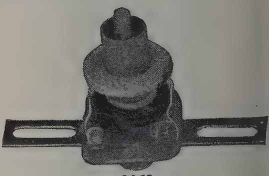


S407

Designed for the experimenter and for use in service replacement for the miniature sets which have become so popular. Secondaries are "progressive" wound with Litz wire on a ½" x 1½" impregnated form, high impedance primaries and coupling turns are provided to give maximum response throughout the broadcast band. "Ear" lug mounting is provided on the Antenna Coil and a bent bracket on the R.F. Coil. RMA color coded for ease in connection, mounting space (maximum over primary) ⅞" x 1½". Green dot oscillator code.

S407	Antenna. List	$0.69
S408	R.F. List	.69

ECONOMY TYPE UNSHIELDED UNIVERSAL ADJUSTABLE COILS



S469

For use in sets for which no exact duplicates are available. The secondary is adjustable with an iron core slug for all values of inductance usually encountered in replacement work. The primary is wound on a slip - over adjustable collar.

Color coded with Universal bracket for mounting in a can up to 2⅛" O.D. or may be used unshielded and mounted in a single hole. Complete instructions furnished.

Cat. No.	Type	List
S469	Antenna	$1.25
S471	R.F.	1.25
S472	Oscillator	1.25

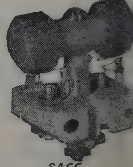
MIDGET I.F. TRANSFORMERS

Mica Tuned, Ceramic Base Trimmer—1⅛" x 1⅛" x 2½" Overall

Wound with the most suitable wire and winding for its particular frequency. A stable, non-warping, ceramic base trimmer is employed, impregnated winding forms and overall "flash" dip. Coupling and gain are set to the optimum value for "universal" application. May be used in either one or two stage amplifiers.

Cat. No.	Freq. K.C.	Position	List
		Midget Standard I.F.	
S356	455	Input—Int.	$1.55
S358	455	Output	1.55
S359	262	Input—Int.	1.55
S361	262	Output	1.55
S409	175	Input—Int.	1.55
S410	175	Output	1.55
		Midget Iron Core I.F.	
S362	455	Input—Int.	2.20
S364	455	Output	2.20

"CARTWHEEL" UNSHIELDED I.F.'s



S466

Designed for unshielded operation in midget radios. Should not be employed in cases where the original was furnished in a shield can nor should they be placed in a shield.

Cat. No.	Freq.	Position	List
S466	455	Input—Int.	$1.35
S429	455	Output	1.35

UNIVERSAL COIL REPLACEMENT KIT

Every service man should have one of these coil kits! Be in a position to give "Rush" service, save time and money on yo

repairs.

			List
1—S409	175 KC Input/Int. I.F. Midget		$1.5
1—S410	175 KC Output I.F. Midget		1.5
1—S359	262 KC Input/Int. I.F. Midget		1.5
1—S361	262 KC Output I.F. Midget		1.5
1—S356	455/6 KC Input/Int. I.F. Midget		1.5
1—S358	455/6 KC Output I.F. Midget		1.5
1—S321	455/6 KC Input/Int. I.F. Standard		1.8
1—S322	455/6 KC Output I.F. Standard		1.8
2—S469	Universal Antenna	1.25 Ea.	2.5
1—S471	Universal R.F.		1.2
2—S472	Universal Oscillator	1.25 Ea.	2.5
	List		19.2
Bought separately—less 40%			11.5
Kit Price			10.4

C A R R O N   M A N U F A C T U R I N G   C O

407 SOUTH ABERDEEN STREET - CHICAGO 7, ILLINOIS, U. S. A

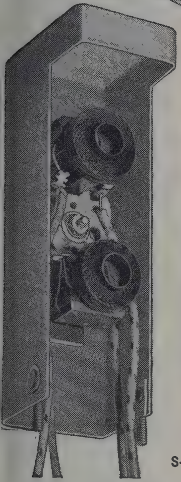
STANWYCK WINDING COMPANY, NEWBURGH, NEW YORK
STANWYCK
COIL
STANWYCK
STANWYCK
COIL
No.
Price
STANWYCK
COIL

STANWYCK COILS

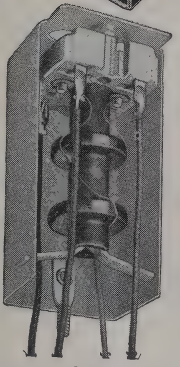
I.F.—ANTENNA—R.F.—OSCILLATOR COILS

"Precisely made for Precision Performance"

Mfrd. by STANWYCK WINDING CO., • NEWBURGH, N. Y.



S-101



S-102

455 K.C. I.F. TRANSFORMERS

No. S-101 Permeability (Ferrocart Iron Core) Tuned I. F. Transformer. High-gain, low-loss, universal wound with 7/41 Litz. Each coil is shunted by a small fixed "silver mica" condenser. These coils are exceedingly stable under all conditions. Tuning is easily accessible—adjusting screws on side. Aluminum shield can is 1⅞" x 1⅜" x 4½". Generous leads are RMA color coded. Coils moisture-proofed.

List Price **$3.50**

No. S-102 This is a standard air core 455 KC I.F. Transformer, compression tuned. Standard for general replacement and new set construction—particularly suited for small receivers. Coils wound of 3/41 Litz wire. It is also ideal for experimental work because good design and careful engineering provide greater I.F. gain. This transformer is double tuned with low-loss, steatite-base trimmers. Aluminum shield can is 1¼" x 1¼" x 2½" Generous leads are RMA color coded. Wax impregnated.

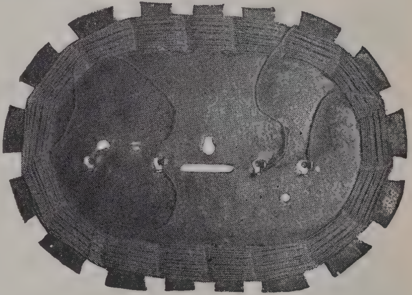
List Price **$1.50**

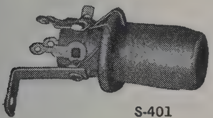
List Price S-103—Iron Core (otherwise like S-102) Input **$1.65**
List Price S-104—Iron Core (otherwise like S-102) Output **1.65**
Note: S-101 and S-102 available "input" or "output"—please specify when ordering.

BROADCAST LOOP No. S-501

A basket wound loop antenna of new design wherein the leads may be rearranged in various positions for adjustment and balancing of capacity. Wound on sturdy form; thoroughly wax impregnated. All leads firmly soldered to terminals securely mounted on form. Standard mounting perforations provided. Overall dimensions 8½" x 6". May be used as replacement or in new set construction.

List Price .... $.85



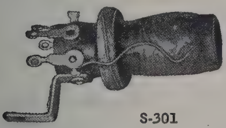


S-401

BROADCAST ANTENNA COIL

No. S-401 This broadcast antenna coil is similar to our S-301 RF coil. Although very compact and made for use in a small space, its excellent design provides same overall gain as larger coils. Complete broadcast band coverage with 365 mmf condenser. These coils are wound on forms ⅝" in diameter by 1½" long with tinned solder lugs and strong mounting bracket. Carefully wax impregnated.

List Price .... **$.65**



S-301

BROADCAST R.F. COIL

No. S-301 Standard type RF coil for replacement, experimental work and new construction particularly suited for small receivers. Designed especially for use in a small space. When used with a 365-mmf condenser it covers the broadcast band. High imedance primary, Litz secondary type wound on form ⅝" diameter, 1¼" long. Tinned solder lugs and strong mounting bracket. Wax impregnated.

List Price .... **$.65**

BROADCAST OSCILLATOR COILS

No. S-203 UNIVERSAL An adjustable coil with Ferrocart ironcore. Universal wound to replace broadcast band coils in almost any receiver. Eliminates the necessity of finding an exact replacement and can also be used in new set construction. This coil may be used in either padded or "cut-plate" tuning circuits and is variable over a wide range. Exact inductance is easily obtained by screw driver adjustment in head; no matter what the value of the tuning condenser. High gain and great selectivity is possible with this coil through intermediate frequencies between 175 and 520 kc. Aluminum shield measures 2½" x 1⅜" x 1⅜" with mounting studs 1$\frac{5}{16}$" on centers. Generous leads are RMA color coded.

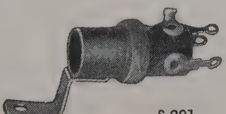
List Price **$2.10**

No. S-201 (Electron Coupled) . . . An unshielded standard type coil for replacement and new construction—particularly suited for small receivers. Carefully engineered to oscillate uniformly over the entire range. Coil is wound on form ½" in diameter by 1⅛" long, and furnished with mounting bracket and soldering lugs. Wax impregnated.

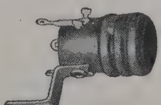
List Price .... **$.55**

No. S-202 (Feedback type) . . . This coil is similar in design to the S-201 but is engineered for Feedback circuits. Will oscillate uniformly over its entire range. Coil is wound on form 1" long by ⅝" in diameter. Tinned lugs provide easy soldering. Mounting bracket is securely riveted to form. Entire coil is carefully wax impregnated.

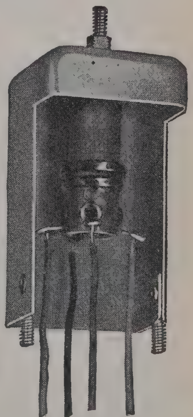
List Price .... **$.55**



S-201

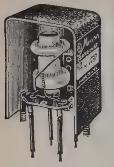


S-202



S-203

UNIVERSAL ADJUSTABLE COILS



These Adjustable - Inductance Ferrocart (iron-core) coils will replace the Broadcast band coils in practically any recever. It is no longer necessary to order hard-to-get "exact duplicates" when an Antenna, R.F. or Oscillator coil requires replacement.

Continuously variable in inductance over a wide range, these coils will accurately "track" with the other coils in the receiver when properly adjusted. The exact inductance of the old coil is easily matched by a simple screwdriver adjustment, regardless of the value of the tuning condenser.

Ferrocart iron cores used in these coils add gain and selectivity to the receiver. The oscillator coil provides complete adjustment for intermediate frequencies between 175 and 520 kc. May be used in either "cut-plate" tuning condenser or padded circuits. Available shielded or unshielded, furnished with complete instructions. Shields are black crackle finish, 1¾" square by 2½" high.

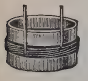
UNSHIELDED

No.	Description	List
14-1026	Universal Ant. Coil	$1.74
14-1027	Universal R.F. Coil	1.74
14-1028	Universal Osc. Coil	1.74

SHIELDED

No.	Description	List
14-7413	Universal Ant. Coil	$2.78
14-7558	Universal R.F. Coil	2.78
14-7560	Universal Osc. Coil	2.78

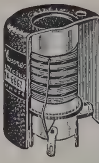
SLIP-OVER PRIMARIES



Designed to provide economical replacement of burned out primaries on all types of Antenna and R.F. coils. All windings are high-impedance type for improved performance. Sizes given below are outside diameter of coil over which the replacement winding will fit. Complete instructions for repair and replacement given.

No.	Size	List
14-6850	For 1¼" O.D. Coil	$0.42
14-6852	For 1" O.D. Coil	.35
14-6854	For ⅞" O.D. Coil	.35
14-6856	For ¾" O.D. Coil	.35
14-84.8	For ½" O.D. Coil	.28

STANDARD ANTENNA R. F. COILS



Standard type air-core coils of superior construction, designed to cover the Broadcast band from 545 to 1580 kc (190 to 550 meters) with a 365-mmfd. tuning condenser. These coils make excellent replacement units and are used as original parts by discriminating set-builders and experimenters in the design and construction of Broadcast receivers.

All coils have high-impedance primaries, wound with Litz wire, fully protected against humidity. Shielded coils are in black crackle-finished nonmagnetic cans, 1⅞" diameter by 2½" high.

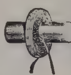
UNSHIELDED

No.	Type	List
14-1010	Standard Antenna Coil	$0.97
14-1011	Standard R.F. Coil	.97

SHIELDED

No.	Type	List
14-1004	Standard Antenna Coil	$1.25
14-1005	Standard R. F. Coil	1.25

DOWEL TYPE PRIMARY



Popular replacement for burned out primaries in high impedance antenna coils. Universal wound on ½" diam. by ½" long dowels moisture protected. Inductance 1700 uh.

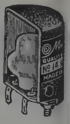
No. 14-6865 List Price...... .42

MAJESTIC REPLACEMENT

Exact duplicate of original assembly. Coil only, without can or trimmer. Exactly replace defective burned-out units. Used in 2nd I. F. Number 10253 or 11014 of the popular Majestic model 460.

No. 20-3457 List **$1.39**

STANDARD OSCILLATOR COILS



High-quality Broadcast band oscillator coils designed for use with any of the Antenna and R. F. coils listed above, using a 365-mmfd. tuning condenser. Frequency coverage is 545 to 1580 kc; units are provided for all popular intermediate frequencies.

Coils are mounted on bakelite base with tinned soldering lugs for connections. Unshielded coils have single-hole stud mounting. All coils are thoroughly impregnated to resist severe climatic conditions. Shielded coils are in cans, 1½" diameter by 1¾" high, black crackle finish.

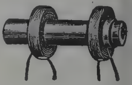
UNSHIELDED

No.	I.F. Freq.	Padder Required	List
14-3732	175 kc	900 mmf	$1.05
14-6590	262 kc	700 mmf	1.05
14-6592	370 kc	350 mmf	1.05
14-4034	456 kc	350 mmf	1.05

SHIELDED

No.	I.F. Freq.	Padder Required	List
14-4242	175 kc	900 mmf	$1.33
14-4243	456 kc	350 mmf	1.33
14-1033 Special Unshielded Osc. for 6SA7;	456 kc	350 mmf	$1.05

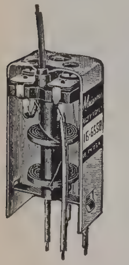
REPLACEMENT I. F. WINDINGS



Coils are wound on wood dowels, ⅜" diameter and 1¾" long; coupling is adjustable by sliding primary coil. Complete instructions furnished with each coil.

No.	Freq.	Type	List
16-6600	175	Standard	$0.83
16-6601	456	Standard	.83
16-6602	175	Center-tap	1.11
16-6603	456	Center-tap	1.11

"PLASTIC" I. F. TRANSFORMERS



Particularly suitable for use in small receivers, where space is at a premium and yet superior performance is required, these remarkable transformers are only 1¼" square and 2½" high! Made in a complete series of frequency ranges and positions, they will provide results second to none in any type of receiver.

The one-piece molded plastic coil-form and trimmer-base eliminates many separate parts that were required with other types of construction. The assembly is, therefore, simpler and more rigid. The iron core series are highly rcommended for use in compact receivers and auto sets where only one I-F stage is permitted. It is not recommended that they be used in a two-stage system because of their high-gain which would cause instability and oscillation.

No.	Freq. Range	Peak* Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-6649	140-200	175	71	8.5	18.5	39.2	Input
16-6550	148-250	175	16	7.0	16.0	21.2	Interstage
16-6651	140-200	175	70	10.0	27.1	41.8	Output
16-6652	200-310	262	50	7.5	21.1	32.2	Input
16-6653	200-310	262	16	6.1	17.2	24.3	Interstage
16-6654	200-310	262	70	15.0	45.8	65.1	Output
16-6655	305-480	370	53	14.2	33.3	49.0	Input
16-6656	305-480	370	20	9.7	25.2	37.3	Interstage
16-6657	305-480	370	80	18.0	49.1	74.6	Output
16-6658	400-550	456	52	14.3	32.1	46.0	Input
16-6659	400-550	456	21	9.7	25.8	37.3	Interstage
16-6660	400-550	456	72	16.8	43.2	66.1	Output

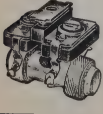
Air-Core "PLASTIC" I-F Transformers, List Price Each **$1.39**

FERROCART IRON-CORE "PLASTIC" I-F's

No.	Freq. Range	Peak* Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-6662	380-600	456	80	10.8	26.5	38.7	Input
16-6663	380-600	456	85	11.8	36.2	51.0	Output

Iron-Core "PLASTIC" I-F Transformers, List Price Each **$2.08**

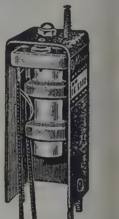
CARTWHEEL I. F. TRANSFORMER



A brand new, ultra-compact, unshielded I-F Transformer, complete with dual trimmers; finds useful application in many types of compact AC-DC or Midget type receivers. Only 1⅜" by 1 1/32" by 1¼" high; one-piece molded plastic trimmer base; for 456-kc only.

No. 16-6661 List Price **$1.39**

STANDARD I. F. TRANSFORMERS



The Meissner series of Air-Core I. F. Transformers has been accepted as "standard" for general replacement purposes. Gain characteristics have been designed to correspond closely with average values found in the majority of commercial receivers. All transformers are double-tuned with ceramic-base, mica-dielectric trimmers. Windings of high-grade Litz wire are fully impregnated. Well-insulated RMA color-coded lead wires. Black crackle-finish shield is 1⅜" square by 3½" high.

No.	Freq. Range	Peak Factory Setting	Use
16-5700	121-235	175	Input
16-5702	121-235	175	Output
16-3731	121-235	175	Output C. T.
16-5704	220-360	262	Input
16-5706	190-325	262	Output
16-5712	425-650	456	Input
16-6133	435-1000	456	Interstage
16-5714	425-650	456	Output
16-3736	255-550	456	Output C. T.

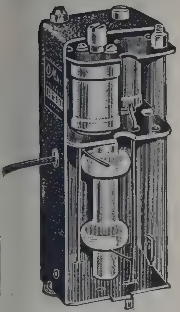
List Price Each **$2.08**

FERROCART I. F. TRANSFORMERS

Designed primarily as original parts in high-gain receivers of superior quality, these transformers find consistent application in stepping up the performance of old receivers. The special powdered-iron "Ferro-cart" core used in the coils permits higher "Q" with resultant increase in selectivity and gain. All units are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are of high-grade Litz wire, thoroughly impregnated. Shield is black crackle finish, 1⅜" square by 3½" high.

No.	Freq. Range	Peak Factory Setting	Use
16-5728	127-206	175	Input
16-5730	127-206	175	Output
16-5740	360-600	456	Input
16-5742	360-600	456	Output

List Price Each **$2.78**



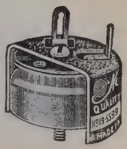
"ALIGN-AIRE" I-F TRANSFORMERS

The result of years of engineering experience in designing high grade transformers for the finest commercial receivers! The exacting requirements of modern high-fidelity and communications type receivers demand units that can be depended upon under any and all conditions. They must be absolutely stable under temperature and humidity variation and unaffected by vibration. These requirements are all met by the "Align-Aire" I-F Transformer! Provides 3600 degrees of micrometer smooth trimmer adjustment instead of the usual 180 degree rotation! Accurate trimming can thus be readily accomplished. Available with special "Iron-core" design for maximum gain and selectivity. Double-tuned and offered in a complete range of frequencies for any application. Shield cans are black crackle finish, 2″x2″x4¾″.

No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2X	10X	20X	Use
16-6643	415-540	456	77	7.0	16.0	22.0	Input
16-6123	415-540	456	29	7.0	18.0	24.4	Interstage
16-6645	415-540	456	105	9.0	25.6	36.2	Output
16-6139	415-540	456	100	9.5	23.2	33.5	Output C.T

LIST PRICE, EACH $6.95

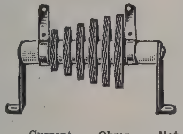
AIR-CORE R-F CHOKES



Accurately wound and individually tested; coils wound on specially treated forms, mounted on bakelite terminal base and thoroughly moisture proofed. Available in shields or without; both single-hole mounting. Shielded chokes have terminals thru top of can so unit may be mounted on inside wall of chassis. Shields are black crackle finish, 1½″ dia.

MH Induct.	Shielded No.	Shielded List	Unshielded No.	Unshielded List
2.5	19-5582	$0.91	19-1994	$0.63
5.5	19-5584	.91	19-4551	.63
8.0	19-5588	.97	19-2078	.69
10.0	19-1900	1.05	19-8770	.77
16.0	19-5590	1.11	19-1995	.83
30.0	19-5592	1.19	19-2330	.91
60.0	19-5594	1.33	19-3247	1.05
80.0	19-5596	1.39	19-2709	1.11

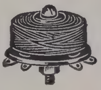
TRANSMITTER CHOKES



Highly efficient for Amateur and Commercial use; six lateral wound sections provide effective action over wide frequency range. Windings on ceramic form with tapped ends; mounting brackets included.

Cat. No.	Induct.	Current	Ohms	Net
19-3019	2.8 MH	1000 MA	5.0	$1.67
19-3022	5.5 MH	500 MA	12.5	1.47
19-3025	5.9 MH	200 MA	34.9	1.47

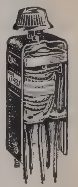
IRON-CORE R-F CHOKES



Universal-wound on special powdered-iron cores, these chokes provide maximum efficiency—lower DC resistance per MH. Coils are wax-impregnated; laminated bakelite terminal base; single-hole mounting; without shielding.

No.	MH	List	No.	MH	List
19-6834	2.5	$0.97	19-6844	60.0	$1.60
19-6840	10.0	1.19	19-6846	80.0	1.81
19-6842	30.0	1.39	19-6848	125.0	2.30

PHONO-OSCILLATOR COIL



For use in building either wireless or direct-connected phonograph-oscillator units for record reproduction through the radio receiver. Knob adjustment permits selection of clear frequency in the broadcast band. Coil is in black crackle shield, 1⅜″ square by 3½″ high.

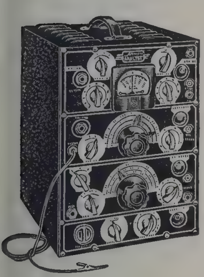
No. 17-9373 List **$2.78**

B. F. O. COIL

For use with standard I. F.'s in superhet receivers. They supply the "beat" note necessary to reception of C. W.; materially aid in tuning and locating weak stations. Mica trimmed. Freq. Range 290-650 KC. Peaked at 456 KC. In 1⅜″ sq. x 3½″ h. can with knob for pitch control.

No. 17-6753 Net Price **$1.47**

NEW MEISSNER "ANALYST"



THE MODERN SERVICE INSTRUMENT—Undoubtedly the most modern complete servicing instrument on the present day market. Handles the receivers of yesterday, today and tomorrow — with equal efficiency and facility! Entirely fundamental in its testing procedure. Will never become obsolete. **SAVES TIME — SAVES MONEY**—The use of the new Meissner ANALYST will not only permit you to make more money by handling a greater number of service jobs in a given time but it will give you additional assurance that these jobs will "stay sold." **SERVICES BY "SIGNAL TRACING"**—The new Meissner ANALYST tests receivers and locates faults by the "Signal tracing" method —proven to be the fastest and most reliable method known at the present time. It is NOT, however, just another signal tracer! It is completely equipped with all devices that might be needed to make simultaneous checks on various parts of the receiver circuit. Five separate and distinct "channels" provide as many different functions; all controls are accurately calibrated with functions clearly indicated.

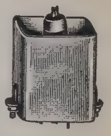
Complete—Ready to Go to Work

The new Meissner ANALYST is completely wired, aligned and laboratory tested Furnished complete with a full set of 12 tubes, it is all ready to be put into service the minute it is unpacked and connected to the 110-volt line! No alignment or adjustments are necessary—just read the instructions, hook it up and go to work!

Complete Book of Instructions, supplied with the new Meissner ANALYST, gives detailed directions for use of this instrument in locating all kinds of radio troubles.

No. 9-1040—New Meissner ANALYST, complete with tubes, prods, and Instruction Book; ready to operate. **Net Price**.........................$113.85*

F. M. COILS—I. F. TRANSFORMER



Permeability tuned; designed for use on newly assigned F. M. Frequencies. Mounted in 1-7/16″ x ⅞″ x 1-29/32″ can. Tuned to 10.7 mc.

No. 16-6665 List Price $3.75

DISCRIMINATOR TRANSFORMER

Mounted in same size can as I.F. Transformer listed above. Permeability tuned to 10.7 mc.

No. 17-3484 List Price **$5.00**

MANUALS

I. F. REPLACEMENT MANUAL

Meissner
I·F
TRANSFORMER
REPLACEMENT
MANUAL

This manual has 254 pages listing 9,981 models made by 224 manufacturers. Every superhetrodyne made on which data could be obtained is listed by name, model number, original part number and factory peak frequency, and recommended replacement. Will be a great help to any service man.

I-F Replacement Manual. **Price** $0.35

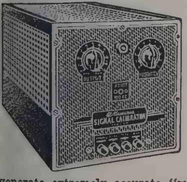
"HOW TO BUILD MANUAL"

Contains 168 pages of material including Charts, formulas, Theory of coils and circuit applications, Treatise on Frequency Modulation, Schematic and Pictorial wiring diagrams of Receveirs, P. A. Tuners, Test equipment, Amateur Gear.

Instruction Manual Price $0.50

SIGNAL CALIBRATOR

Precision Frequency Standard



100 KC, 50 KC and 10 KC "markers" up to 20,000 KC — Push-button control of frequency — Delivers modulated or unmodulated signal — Easily set . . . Instantly checked — Well ventilated cabinet — Precision accuracy

The Model 9-1076 Signal Calibrator is designed to operate from a 115 volt, single phase, 50/60 cycle AC power source. The power required is approximately 40 watts.

The Model 9-1076 Signal Calibrator is a portable self-contained unit designed to generate extremely accurate "marker" signals over the RF range of 10 KC to 20,000 KC. The "Signal Calibrator" is a secondary frequency standard against which unknown frequencies may be checked and accurately determined.

The Signal Calibrator provides the means for checking and adjusting radio transmitters, radio receivers, laboratory equipment etc., as follows:

A. To accurately adjust the radio transmitter to a desired frequency.
B. To accurately adjust the radio receivers to a desired frequency.
C. To accurately measure and determine the unknown frequency of an incoming signal.

The Model 9-1076 Signal Calibrator may also be used as a signal source for work on the test bench in servicing radio receivers and associated equipment.

Component parts are mounted on a single chassis to which the front panel is attached. Located on the front panel are all controls required in the operation of the unit. The function of each control is clearly designated on the front panel.

The Signal Calibrator is housed in a steel cabinet, 8¼″ wide, 8¼″ high and 12¼″ deep. The cabinet is finished in durable black wrinkle enamel.

The instrument incorporates a precision type, quartz crystal operating on 100 KC. This crystal is easily adjusted, by front panel control, to exact frequency as determned by "beat" against the Bureau of Standards station, WWV, or against other stations of known accuracy in frequency. Two multivibrators provide output on 50 KC, 10 KC and multiples thereof up to 20,000 KC.

The output signal, produced by the Signal Calibrator, may be amplitude-modulated if desired. Modulation, at 60 cycles per second, is controlled by the front panel "Modulation" control.

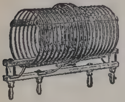
The tube completment of the Model 9-1076 Signal Calibrator is as follows: 3 type 6SJ7GT, 2 Type 6N7GT, 1 Type 6SK7GT and 1 Type 6X5GT.

No. 9-1076—Signal Calibrator, Complete with tubes......**Net Price $78.75***

B&W

AIR INDUCTORS

BARKER & WILLIAMSON • UPPER DARBY, PA.



ANTENNA INDUCTORS TYPES TA AND HDA

Wound with tinned copper wire for ease in tapping feeders to coils. Equipped with fixed center links for coupling to either fixed or variable linked final tank circuits through a low impedance line. Two tinned clips come with each coil. TYPE TA COILS for power input up to 500 watts. TYPE HDA COILS for power inputs of one kilowatt.

SPECIFICATIONS

Band	Stock No.	Type	Capacity to Res. L.F. End of Band mmfd.	Net Price
TA TYPES				
10	3601	10TA	20	$2.89
15	3602	15TA	23	2.96
20	3603	20TA	23	2.96
40	3604	40TA	34	3.30
80	3605	80TA	50	3.65

Stock No. 3321 Jack Bar Assembly for TA Inductors.

Band	Stock No.	Type	Capacity to Res. L.F. End of Band mmfd.	Net Price
HDA TYPES				
10	3607	10HDA	20	5.85
15	3608	15HDA	20	6.54
20	3609	20HDA	20	6.54
40	3610	40HDA	20	6.88
80	3611	80HDA	34	7.56

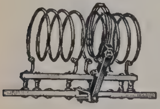
Stock No. 3721 Jack Bar Assembly for HDA Inductors.

B & W MINIDUCTORS

For use in limited space—can be cut to size. Amazingly high Q characteristic. Useful for tank circuit coils, R-F chokes, high-frequency I-F transformers, loading coils, etc.

SPECIFICATIONS

Catalog No.	Diameter	Turns per Inch	Length	Net Price
3001	½"	4	2"	$0.31
3004	½"	32	2"	.31
3002	½"	8	2"	.31
3003	½"	16	2"	.31
3005	⅝"	4	2"	.37
3006	⅝"	8	2"	.37
3007	⅝"	16	2"	.37
3008	⅝"	32	2"	.37
3009	¾"	4	3"	.44
3010	¾"	8	3"	.44
3011	¾"	16	3"	.44
3012	¾"	32	3"	.44
3013	1"	4	3"	.50
3014	1"	8	3"	.50
3015	1"	16	3"	.50
3016	1"	32	3"	.50



TYPE TVH INDUCTORS

For Powers up to 500 Watts Input

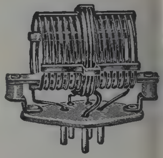
A special group of units with eight contact plug bars which gives greater flexibility than otherwise possible.

SPECIFICATIONS

Band	Stock No.	Type	*Capacity to Res. L.F. End of Band mmfd.	Net Price
10	3501	10TVH	11	$3.93
15	3502	15TVH	23	3.93
20	3503	20TVH	23	3.93
40	3504	40TVH	28	3.93
80	3505	80TVH	49	3.93
Stock No. 3507—Jack Bar Assembly for Type TVH Inductor				5.16

*Actual condenser capacity will be smaller by the sum of the tub output and wiring capacities, generally between 5 and 20 mmfd.

JUNIOR INDUCTORS



For Powers Up to 75 Watts Input

Fitted with standard five-prong steatite base. Small size for compact construction. May be used in the oscillator, buffer or final amplifier stage with input powers up to 75 watts and plate voltages up to 850. Three different assemblies provided, any of which may be used in capacity-coupled circuits by omitting connection to the links.

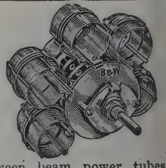
AMATEUR NET .... $1.38 ea.

SPECIFICATIONS

Band	Stock No.	Type	*Capacity to Res. L.F. End of Band mmfd.
End Linked Models			
5	3100	5JEL	15
10	3101	10JEL	22
15	3102	15JEL	22
20	3103	20JEL	34
40	3104	40JEL	47
80	3105	80JEL	60
Center Linked Models			
5	3107	5JCL	15
10	3108	10JCL	16
15	3109	15JCL	16
20	3110	20JCL	16
40	3111	40JCL	33
80	3112	80JCL	53
Variable Link Models			
5	3114	5JVL	15
10	3115	10JVL	22
15	3116	15JVL	27
20	3117	20JVL	21
40	3118	40JVL	31
80	3119	80JVL	46

*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

B & W TURRET ASSEMBLIES



Makes possible fast, positive band switching. Unique switching assembly allows unused coils to be shorted, thus eliminating absorption effects. All units cover 80, 40, 20, 15 and 10 meter bands.

B & W 75 WATT 2A "BAND HOPPERS" Uses same coil design as B & W Juniors. Unusually compact panel controlled unit. It may be used for interstage coupling between two beam power tubes or between beam power tubes and triodes.

Stock No. 3121 .... **Amateur Net $4.81**

B & W 75-WATT TURRETS—provide a means for link coupling single ended or push-pull low power stages. Complete assembly is mounted on a positive action switch arranged for panel mounting through a single ⅜" hole. Turrets may be used with tubes operating at voltages up to 850.

Stock No. 3810—Type JTCL—Center linked, center tapped coils. **Amateur Net $9.38**

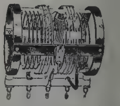
Stock No. 3811—Type JTEL—End linked, untapped coils. **Amateur Net $9.38**

B & W 150-WATT TURRETS—Supplied in both center and end link models for both single- and double-ended circuits. Operation is by a positive action switch arranged for panel mounting through a single ⅜" hole. Turrets may be used with tubes operating at voltages up to 1000 volts.

Stock No. 3812—Type BCL—Center linked, center tapped coils. **Amateur Net $11.69**

Stock No. 3813—Type BEL—End linked, untapped coils. **Amateur Net $11.69**

3400 SERIES INDUCTORS



FOR POWERS UP TO 500 WATTS

Give the utmost in sturdy construction and electrical flexibility. Same as those supplied by B & W to the armed forces during the war. Each coil has an individual internal center coupling, adjustable over 360°—permitting precise impedance matching up to 600 ohms, thus providing flexibility far in excess of any installation requirements.

Amateur Net $7.50 each

SPECIFICATIONS

Band	Stock No.	*Capacity to Res. L.F. End of Band mmfd.
10	3401	24
15	3402	25
20	3403	30
40	3404	30
80	3405	50

Stock No. 3321—Steatite Jack Bar Assembly.

*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

B&W

AIR INDUCTORS

BARKER & WILLIAMSON • UPPER DARBY, PA.

TYPE HD1
(Fixed Link)

- MINIMUM DIELECTRIC IN THE FIELD OF THE COIL
- EXTREMELY LOW LOSSES
- RUGGED CONSTRUCTION
- EXCELLENT APPEARANCE
- LOW COST

Each AIR INDUCTOR is a completely finished unit. All coils are equipped with banana type plugs . . . Type "B" is for use in oscillator and buffer—doubler stages developing up to 100 Watts power. Type "T" is especially suited for high powered neutralized buffer and final tank stages where powers of 500 Watts are developed. Type "HD" is for maximum power — handles a Kilowatt with ease.

SPECIFICATIONS

TYPE B

MODELS WITHOUT LINK—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3200	5B	$1.38
10	3201	10B	1.38
15	3202	15B	1.45
20	3203	20B	1.45
40	3204	40B	1.79
80	3205	80B	2.14

END LINK MODELS—WITHOUT TAP

Band	Stock No.	Type	Net Price
5	3207	5BEL	2.41
10	3208	10BEL	2.41
15	3209	15BEL	2.48
20	3210	20BEL	2.48
40	3211	40BEL	2.83
80	3212	80BEL	3.16

CENTER LINK MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3214	5BCL	2.41
10	3215	10BCL	2.41
15	3216	15BCL	2.48
20	3217	20BCL	2.48
40	3218	40BCL	2.83
80	3219	80BCL	3.16

VARIABLE LINK MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3221	5BVL	1.93
10	3222	10BVL	1.93
15	3223	15BVL	2.00
20	3224	20BVL	2.00
40	3225	40BVL	2.28
80	3226	80BVL	2.61

Stock No. 3228—Steatite Jack Bar Assembly for end or center link type B Inductors, old Type A56. **Stock No. 3229**—Jack Bar and Swinging Link for BVL Inductors.

TYPE T

Band	Stock No.	Type	Net Price
10	3301	10T	1.51
15	3302	15T	1.59
20	3303	20T	1.59
40	3304	40T	1.93
80	3305	80T	2.28

CENTER LINKED MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3308	10TCL	$2.89
15	3309	15TCL	2.96
20	3310	20TCL	2.96
40	3311	40TCL	3.30
80	3312	80TCL	3.65

VARIABLE LINKED—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3315	10TVL	2.20
15	3316	15TVL	2.28
20	3317	20TVL	2.28
40	3318	40TVL	2.61
80	3319	80TVL	2.96

Stock No. 3321—Steatite Jack Bar Assembly for end or center link Type T Inductors, old Type A54. **Stock No. 3322**—Base Assy. and Swinging Link for TVL Inductors.

TYPE HD

MODELS WITHOUT LINK—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3701	10HD	3.10
15	3702	15HD	3.79
20	3703	20HD	3.79
40	3704	40HD	4.13
80	3705	80HD	4.81

CENTER LINKED MODELS—CENTER TAPPED

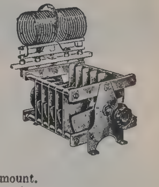
Band	Stock No.	Type	Net Price
10	3708	10HDCL	5.85
15	3709	15HDCL	6.54
20	3710	20HDCL	6.54
40	3711	40HDCL	6.88
80	3712	80HDCL	7.56

VARIABLE LINKED MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3715	10HDVL	4.48
15	3716	15HDVL	5.16
20	3717	20HDVL	5.16
40	3718	40HDVL	5.50
80	3719	80HDVL	6.19

Stock No. 3721—Jack Bar Assembly for HD and HDCL Inductors. **Stock No. 3722**—Base Assembly and SL for HDVL Inductors.

TYPE CX CONDENSER



Superior design! Only half the length of conventional units. Perfect electrical and mechanical symmetry. Designed for built-in neutralization. Integral mounting of B & W coils reduces lead lengths and resulting lead inductance to an absolute minimum.

Stock No. 3722-1—Type HD Jack Bar and SL assembly mounted on any type of condenser.
Stock No. 3721-1—Type HD or HDL Jack Bar mounted on condenser.
Stock No. 3507-1—Type TVH Jack Bar and SL mounted on condenser.
Stock No. 3930-1—Single Vacuum Condenser mount.
Stock No. 3930-2—Twin Vacuum Condenser mount.

NEUTRALIZING PLATES AVAILABLE IN FOUR TYPES, DESIGNATED N1, N2, N3, and N4.

N1—will neutralize the HY114, HK24, RK31, HK54, TW75, and similar tubes.
N2—will neutralize the 75T, 35T, 808, RK35, 852, and similar tubes.
N3—will neutralize the 801, T-TZ20, T-TZ40, RK18, HK154, 811, 812, T55, 100TH, 150TH, 806, 810, and similar tubes.
N4—will neutralize the 833, T200, 805, GL152, 838, 203A, RK52, and similar tubes

"A" TYPE—.500" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX11A	11	8	8	6	$12.52
CX20A	20	11	13	8	15.32
CX30A	30	14	18	10	17.59
CX40A	40	18	23	12	19.81
CX49A	49	21	28	14	22.08
CX59A	59	24	33	16	24.29
CX68A	68	27	38	18	26.50
CX77A	77	30	43	20	28.78
CX87A	87	34	48	22	30.99
CX96A	96	37	53	24	33.20
CX105A	105	40	58	26	35.47
CX115A	115	43	62	29	37.69
CX124A	124	46	68	30	39.96

"B" TYPE—.375" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX11B	11	8	9	6	12.17
CX22B	22	11	15	8	14.91
CX34B	34	14	21	10	17.18
CX45B	45	17	28	12	19.34
CX58B	58	20	33	13	21.49
CX70B	70	23	38	15	23.71
CX82B	82	26	45	17	25.80
CX94B	94	29	50	19	28.08
CX106B	106	32	56	20	30.17
CX118B	118	36	62	22	32.33
CX130B	130	39	68	24	34.60
CX141B	141	42	74	26	36.76
CX153B	153	45	80	27	38.91

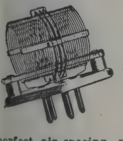
"C" TYPE—.250" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX13C	13	8	10	6	11.88
CX30C	30	11	18	8	14.56
CX45C	46	13	26	9	16.72
CX62C	62	16	34	11	18.81
CX78C	78	19	42	12	20.97
CX95C	95	22	50	14	23.13
CX111C	111	25	59	15	25.16
CX127C	127	28	67	17	27.32
CX143C	143	31	75	18	29.42
CX159C	159	33	83	20	31.46
CX175C	175	36	91	21	33.73
CX192C	192	39	100	23	35.82
CX208C	208	42	110	24	37.86

Standard plate thickness in all models, 1/16". • Available on special order, 3/32" plates at 10% additional. • Special features. • Explanation: The type of each condenser designates its capacity and plate spacing as follows: CX100 indicates 100 mmfd. per section. • Letters A, B, C, or D denotes plate spacing: A—.500", B—.375", C—250", D—.187". Following N# denotes Neutralizing plates.

"BABY" AIR INDUCTORS

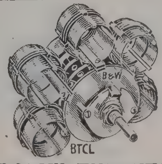
(25 WATT RATING)



Just the thing for crowded layouts, portables, field transmitters! The smallest, most efficient, most practical 25-Watt coils ever available to amateurs. "BABIES" measure only 1½" x 1¼", are made by a special B&W process which insures perfect air-spacing, maximum strength, fine appearance and ultra-high efficiency with an absolute minimum of insulating material. Available in five types, from 10 to 160 meters. **Conservatively** rated. Universal 5-prong Alsimag 196 bases. ....**Net Any Type $1.04**

Straight Coil	Center Tapped	End Linked	Center Linked	Inductance	*Capacity
80M	MC	MEL	MCL	40	50
40M	MC	MEL	MCL	14	35
20M	MC	MEL	MCL	3.5	35
15M	MC	MEL	MCL	2.7	35
10M	MC	MEL	MCL	1.1	30

*Total effective capacity required to effect resonance on low frequency end of specified band.

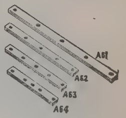


"BABY" TURRETS

35-WATT RATING

These compact 5-band switching units cover amateur bands from 10 to 80 meters. They may be tuned in all types of service with any of the 50 mmfd. midget condensers. Their sturdy construction and unique design assure permanent coil alignment and maximum efficiency with a minimum number of tubes. Four types—BTM, straight untapped BTCT, center tapped; BTEL, end linked and BTCL, center linked—provide vastly improved band-switching efficiency in low-power transmitters and exciter stages. **Net, Any Type** **$8.44**

B & W PLUG AND JACK BARS

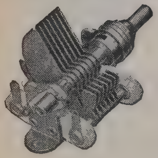


Made of high quality steatite. Ample size to insure excellent strength. They provide experimenter with the same units that are used in B & W inductors. Can also be used as spreaders for feeders and other parts of the antenna system.

SPECIFICATIONS

Stock No.	Type	Length	Width	Thickness	Mounting Dimension	Used on Series	Net Price
3914	Plug	3½"	½"	⅜"		B	$0.20
3915	Jack	4½"	⅝"	⅜"	4⅛"	B	.60
3916	Plug	5½"	½"	⅜"		T	.30
3917	Jack	7"	¾"	⅜"	6½"	T	1.00
3918	Plug	6½"	9/16"	⅜"		TVH	.60
3919	Jack	8¼"	11/16"	⅜"	7¾"	TVH	1.10
3920	Plug	8¼"	¾"	⅜"		HD	1.10
3921	Jack	10¾"	1"	½"	9⅝"	HD	1.25

HAMMARLUND

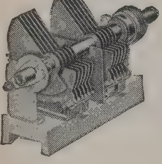


"MC" MIDGET CAPACITORS

Ideal variable for high and very high frequency tuning, laboratories, etc. Isolantite Insulation. All contacts riveted or soldered. Vibration proof. New improved Hammarlund split type rear bearing, and noiseless wiping contact. Cadmium plated soldered brass plates. Shaft—¼″.

Code	Capacity	List
MC-20-S	20 mmf.	$3.00
MC-35-S	35 mmf.	3.10
MC-50-S	50 mmf.	3.20
MC-50-M	50 mmf.	3.20
MC-75-S	80 mmf.	3.40
MC-75-M	80 mmf.	3.40
MC-100-S	100 mmf.	3.60
MC-100-M	100 mmf.	3.60
MC-140-S	140 mmf.	3.90
MC-140-M	140 mmf.	3.90
MC-200-M	200 mmf.	4.30
MC-250-M	260 mmf.	4.50
MC-325-M	320 mmf.	4.90

"M"—Midline Plates. "S"—Straight Line Cap. Plates.



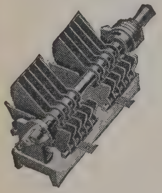
"MCD" SPLIT-STATOR CAPACITORS

Like single midgets, these incorporate every requirement imperative to highest quality. Specifications identical to single types except that shield plate is located between stator sections. Also equipped with new Hammarlund noiseless wiping contact and split type rear bearing. Overall length behind panel—3⅜″. Strong Isolantite base. Single hole panel mount.

Code	Capacity	List
MCD-50-M	50 mmf. per sect.	$6.00
MCD-100-S	100 mmf. per sect.	6.50
MCD-100-M	100 mmf. per sect.	6.50
MCD-140-M	140 mmf. per sect.	7.00

"M"—Midline Plates. "S"—Straight Line Cap. Plates.

"MCDX" DOUBLE SPACED CAPACITORS

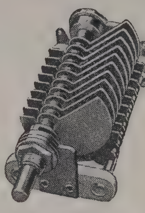


Identical to split stator capacitors except that plates are widely spaced—actual air gap between rotor and stator plates—.0715″. No shield between stators. Equipped with new Hammarlund noiseless wiping contact, and split type rear bearing. This capacitor is ideal for high and very high frequency transmitters using up to 1000 volts.

Code	Capacity	List
MCD-35-MX	31 mmf. per sect.	$6.80
MCD-35-SX	31 mmf. per sect.	6.80

"MX"—Midline Plates. "SX"—Straight Line Cap Plates.

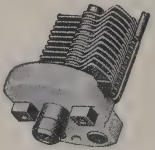
"MCX" DOUBLE SPACED CAPACITORS



Exceptional unit for ultra-s.w. receivers and transmitters particularly compact transmittters. Plate spacing — .0715″. Great for tuning crystal controlled transmitter amplifier stages or for neutralizers up to 1000 volts. In midline (MX) and straight line cap. types (SX).

Code	Capacity	List
MC-20-SX	20 mmf.	$3.40
MC-20-MX	20 mmf.	3.40
MC-35-MX	32 mmf.	3.70
MC-35-SX	32 mmf.	3.70
MC-50-MX	50 mmf.	4.20
MC-50-SX	50 mmf.	4.20
MC-100-SX	100 mmf.	4.90

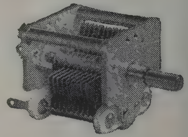
"APC" MICRO CAPACITORS



For H.F. and very H.F. For I.F. tuning, trimming R.F. Coils or gang capacitors, general padding, etc. Constant capacity under any condition of temperature or vibration. Size 100 mmf. 1$\frac{7}{32}$″ x $\frac{15}{16}$″ x 1$\frac{7}{32}$″. Isolantite base. Cadmium plated soldered brass plates.

Code	Capacity	List
APC-25	25 mmf.	$1.70
APC-50	50 mmf.	1.90
APC-75	75 mmf.	2.10
APC-100	100 mmf.	2.30
APC-140	140 mmf.	2.70

"RMC" CAPACITOR

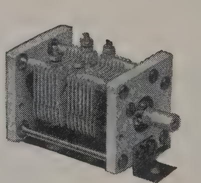


The new "RMC", Rugged Midget Capacitor, is particularly designed for use in applications where strength and solid construction is as important as sound electrical design. Its sturdy frame consists of $\frac{3}{32}$″ aluminum end plates reinforced by three horizontal bars or pillars which hold the assembly absolutely rigid.

Two low loss silicone treated ceramic insulated bars are used to support the stator. Bearings are hand-fitted sleeve in the front and single ball thrust in the rear—torque is smooth and uniform. Contact to the rotor is made through a silver-plated beryllium forked spring bearing on a wide disk on the rotor shaft. Brackets are provided for mounting either side down, or to a front panel with spacing pillars—threaded mounting holes are provided for panel mounting. Voltage rating—1000 V.

Code	Capacity	List
RMC-50-S	50. mmf.	$3.70
RMC-100-S	105. mmf.	4.25
RMC-140-S	143.5 mmf.	4.50
RMC-325-S	327. mmf.	5.65

"VU" UHF CAPACITOR



The capacitors listed below are available for use by manufacturers, engineers and amateurs for all types of communications equipment having tuned circuits operating as high as 500 mc. The many advantages of these new capacitors are of course due to the silent electrical operation made possible through the use of pyrex glass ball bearings. These new bearings completely eliminate sliding or wiping contacts and metal sleeve, or ball type bearings, commonly used in ordinary variable capacitors.

Elimination of the rotor contact further precludes the possibility of noise and permits a more symmetrical design of the capacitor itself and consequently allows better circuit layout. Two sets of contacts are provided, so that the vacuum tube can be mounted on one side and the inductor on the other side of the capacitor. Voltage rating—700 V.

Code	Capacity	List
VU-20	22.5 mmf.	$10.75
VU-30	31.5 mmf.	11.50
VU-45	45.0 mmf.	12.70

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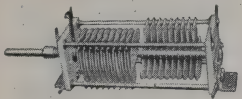
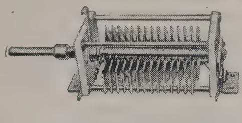
"HFBD" TRANSMITTING CAPACITORS



High efficiency, high frequency dual capacitors with isolated rotor. Both mounting brackets and control shafts are insulated. DC can be applied to rotor as well as stator. Isolantite end plates, soldered brass construction, cadmium plated. End plate size $1\frac{13}{16}$″. Type "E" has rounded edge plates.

Code	Capacity	Length	Air Gap	List
HFBD-50-C	50 mmf.	2⅞″	.050″	$9.00
HFBD-100-C	100 mmf.	4⅝″	.050″	10.60
HFBD-35-E	35 mmf.	3¼″	.070″	7.95
HFBD-65-E	65 mmf.	$4\frac{13}{16}$″	.070″	9.10

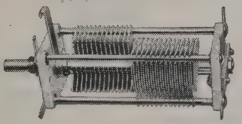
"HFB" CAPACITORS

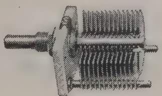


Same as above but single stator types. Stator is mounted at top to reduce capacity to chassis. The "HFB" has insulated mounting brackets and control shaft.

Code	Capacity	Length	Air Gap	List
HFB-50-C	50 mmf.	1⅞″	.050″	$7.00

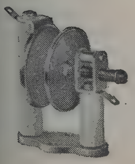
"HFA" AND "HFAD" CAPACITORS





"HFAD" has the same general construction as "HFBD" except that it is smaller in size and does not have the insulated control shaft. Ideal for high frequency operation. End panels 1⅜″ square. "HFA" same construction, except end panel $1\frac{13}{16}$″ x $1\frac{1}{32}$″. Both can be single hole panel mounted or can be mounted to the panel with stand-off bushings. Plain edge plates.

Code	Capacity	Type	Length	Air Gap	List
HFAD-25-B	25 mmf.	Dual	$1\frac{29}{32}$″	.030″	$6.00
HFA-100-A	100 mmf.	Single	$1\frac{13}{32}$″	.020″	3.30
HFA-140-A	140 mmf.	Single	1¾″	.020″	3.85
HFA-10-B	10 mmf.	Single	$\frac{25}{32}$″	.030″	2.55
HFA-15-B	15 mmf.	Single	⅞″	.030″	2.70
HFA-25-B	25 mmf.	Single	$\frac{31}{32}$″	.030″	2.80
HFA-50-B	50 mmf.	Single	1⅜″	.030″	3.10
HFA-100-B	100 mmf.	Single	$2\frac{11}{32}$″	.030″	4.10
HFA-15-E	15 mmf.	Single	1⅜″	.070″	2.80

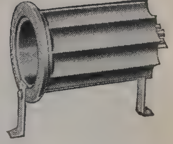


"NZ-10" NEUTRALIZING CAPACITOR

Rounded edges, Isolantite. Fine adjusting screw. Positive lock. Horizontal adjustment. Dimensions: $2\frac{15}{16}$″ high x $1\frac{13}{16}$″ deep.

Code	List
NZ-10—(2.3—10 mmf.)	$5.25

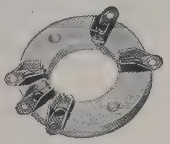
"TCF" COIL FORM



A transmitting coil form of XP-53 dielectric. This may be permanently mounted on special brackets supplied, or in plug-in coil fashion. 2¼″ diameter. 3⅞″ long exclusive of prongs.

Code	List
TCF-4—(4 prongs)	$0.85
TCF-5—(5 prongs)	.85

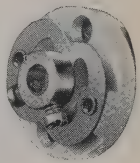
ACORN TUBE SOCKET



New "locking acorn tube socket for very high frequency acorn tubes—954 or 955. $1\frac{9}{16}$″ diameter. Five double grip silver plated Beryllium prongs. Top and sides glazed. Shield plate to reduce feedback.

Code	List
UHS-900	$1.10

FLEXIBLE COUPLINGS



These flexible couplings are designed for both insulated and non-insulated applications. The FC-46-S is insulated for 6000 volts with silicone treated ceramic, will compensate for considerable shaft misalignment, but will not give springy action. Overall depth $\frac{13}{16}$″, diameter 1¼″. The FNC-46-S is a non-insulated coupling for use where insulation is unnecessary. The general design is the same as the FC-46-S but has a heavy metal body instead of ceramic. Overall depth $\frac{23}{32}$″, diameter 1¼″.

Code	List
FC-46-S—Insulated	$1.10
FNC-46-S—Non-insulated	1.10

BUTTERFLY CAPACITOR

The new butterfly capacitor is designed for use in VHF and UHF applications where the butterfly design is indispensable. Can be used as a single series unit or as a split stator with grounded rotor. This new butterfly capacitor is ideal for use in transmitters as well as receivers. Has soldered rotor and stator assembly; is plated to resist corrosion; silver plated rotor contact; sleeve type bearing, low-loss ceramic end panel. Approximately 1⅜″ square. Depth behind panel depends on number of plates. Insulated mounting studs prevent rotor from being grounded when mounted to metal.

	MMF. Cap. per Sec.		Series Cap.		
Code	Max.	Min.	Max.	Min.	List
BFC-12	14.5	3.5	7.9	2.2	$2.50
BFC-25	27.5	5.0	14.5	3.0	2.80
BFC-38	40.5	6.3	21.0	3.7	3.30

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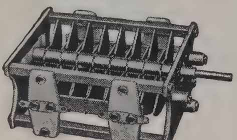
PRECISION PRODUCTS FOR BETTER RADIO

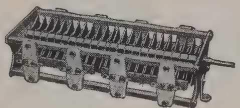
"TC" TRANSMITTING CAPACITORS



A moderately priced, heavy duty transmitting capacitor, featuring heavy aluminum end plates. Isolantite insulation, non-inductive, self-cleaning silver plated beryllium contacts, full floating rotor bearing, non-magnetic rotor assembly, polished heavy aluminum plates accurately spaced. All, except type "L", have round edge plates of .040" thickness. Type "L" has .025" plates with plain edges. Type "H" .171", 600 V. Type "J", .100" 4250 V. Type "K", .084" 3750 V. Type "L", .070", 2000 V. air gap. Available in a wide variety of capacities and working voltages, these capacitors are ideal for modern up-to-date transmitters with power output ranging from 200 watts to 1 kw.

Type	Capacity	Overall Length	List
TC-440-L	465 mmf	5⅞	$11.65
TC-220-K	225 mmf.	4⅝	10.25
TC-240-J	250 mmf	6½	13.00
TC-50-H	53 mmf.	4 1/16	7.65
TC-110-H	115 mmf.	6½	11.50
TC-100-G	110 mmf.	7½	14.30

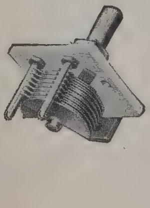
"TCD" SPLIT STATOR TYPES



These split-stator transmitting capacitors are identical to the singles shown above, except that the stator sections are individual. Ideal for push-pull power amplifiers ranging in power up to 1 kw. They are of convenient size and lend themselves to construction of compact apparatus. Overall dimensions in back of panel are given in the accompanying table. The capacity values listed are for each section. The last letter in the code represents plate spacing and working voltage and are identical to those given above. Type "M"—plain plates, .030" air gap.

Type	Capacity	Overall Length	List
TCD-500M	505 mmf.	4 1/16	$13.20
TCD-210-L	215 mmf.	5⅞	13.35
TCD-325-K	335 mmf.	11 1/16	26.15
TCD-240-J	250 mmf.	11 1/16	24.50
TCD-110-H	115 mmf.	11 1/16	20.50

"HF" MICRO CAPACITORS

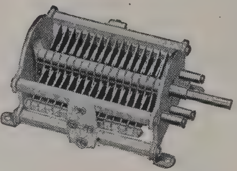


For tuning or trimming on high and very high frequencies. Cadmium plated soldered brass plates. Isolantite. Base mounting, single hole panel mount, or panel mounting with bushings. 140 mmf. size 1 9/32" high x 17/32" behind panel.

Code	Capacity	List
HF-15	17.5 mmf.	$1.70
HF-35	35 mmf.	1.95
HF-50	50 mmf.	2.05
HF-100	100 mmf.	2.55
HF-140	140 mmf.	2.90
*HF-15-X	15 mmf.	2.05
*HF-30-X	30 mmf.	2.30

*Double spaced.

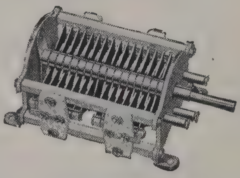
"MTC" TRANSMITTING CAPACITORS



Compact types. Isolantite insulation. Base or panel mounting. Polished aluminum plates. Stainless steel shaft. Size of 150 mmf. with .070" plate spacing only 4⅝" behind panel. "B" models have rounded plates. "C" types have plain plate edges. Self-cleaning wiping contact.

Code	Capacity	List
MTC-20-B	20 mmf.	$6.75
MTC-100-B	100 mmf.	8.75
MTC-150-C	150 mmf.	9.75
MTC-250-C	260 mmf.	7.75
MTC-350-C	365 mmf.	8.00

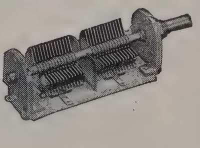
"MTCD" SPLIT-STATOR TYPES



Same outstanding features as MTC singles except that stator sections are separate. Model 100-B with .070" plate spacing, only 5¾" behind panel. "B" models have rounded plates.

Code	Capacity	List
MTCD-20-B	20 mmf. per sect.	$8.75
MTCD-35-B	35 mmf. per sect.	10.00
MTCD-100-B	100 mmf. per sect.	12.50

"HFD" MICRO DUAL CAPACITORS



A compact dual—ideal as a high frequency tuning capacitor, for tuning and neutralizing low-powered short wave and for very high frequency transmitters, etc. Heavy Isolantite base. Equipped with new outstanding Hammarlund split rear bearing and individual noiseless wiping contact for each section. Rotor contacts variable to several positions for shortest leads. Shield between sections for grounding. The 140 mmf. size is only 1½" high x 3¾" long behind panel. ¼" shaft. Cadmium plated soldered brass plates.

Code	Capacity	List
HFD-50	50 mmf. per sect.	$4.70
HFD-100	100 mmf. per sect.	5.30
HFD-140	140 mmf. per sect.	6.00
*HFD-15-X	15 mmf. per sect.	4.60
*HFD-30-X	28.5 mmf. per sect.	5.00

*Double-spaced.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

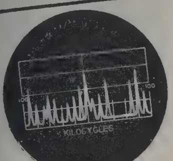
PANORAMIC RADIO CORPORATION

CABLE ADDRESS
PANORAMIC, NEW YORK

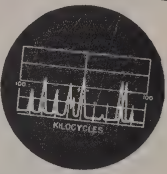
242-250 WEST 55TH ST *New York 19, N. Y.*

ANADAPTOR — "THE SEEING EYE OF RADIO!"

PANADAPTOR
BANDWIDTH
GAIN
CENTER FREQ.



IDENTIFIES instantly signals within a selectable bandwidth up to 200 KC wide.
SELECTS QRM-free spots for listening and transmitting.
UPS speed and accuracy in bringing in signals.
MEASURES instantaneous signal strength of 'phone and CW signals heard through the receiver (center "pip").

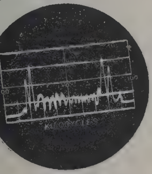


SPOTS replies to calls.
LOCATES those hard to find stations.
FACILITATES netting operations.
INDICATES direction and degree of frequency drift.
POINTS OUT stations causing splatter.

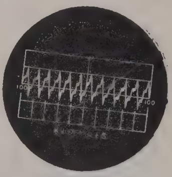
A highly versatile performer for the discriminating amateur, short wave listener, or professional operator, the PANADAPTOR enables the operator to see a continuous picture of band activity or examine the character of any signal, his own or another's.

Now . . . through the PANADAPTOR, it is possible to enjoy to the full the many unique advantages of Panoramic Reception as offered by the originator and pioneer of this invaluable new technique. Panoramic Reception, after most arduous tests and widest use, has earned for itself high endorsement by civil and military services alike.

The PANADAPTOR is easily connected and operated with any communications receiver having an I.F. between 450 KC and 470 KC.



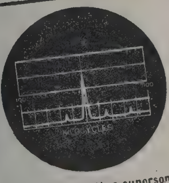
MEASURES frequency deviation of FM signals.
SHOWS residual AM on FM.
INDICATES carrier shift of FM signals.
MONITORS modulation of FM transmitters.



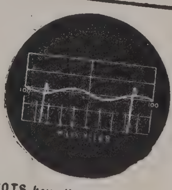
MEASURES percentage of modulation on AM signals, either received or transmitted.
INDICATES downward, upward, and overmodulation.

PLUS . . .

The **PANADAPTOR** acts as an additional tunable receiver for three corner or round robin contacts.



SPOTS modulating supersonics.
LOCATES spurious parasitcs.
ASSISTS in adjusting transmitters and directional antennas.



SPOTS key clicks on CW.
CHECKS carriers for residual hum and identifies hum as either FM or AM.

SPECIFICATIONS

- ★ Audio Output Jack
- ★ Pulse AVC
- ★ Clear sharp picture in a normally lighted room
- ★ Line synchronized sweep oscillator
- ★ Rubber floated Panoramic Indicator
- ★ Stabilized Power Supply
- ★ Simple Panoramic Connector for popular type receiver converter tubes.
- ★ Non-walking felt feet
- ★ Four simple operating controls
- ★ Sturdy steel cabinet and chassis
- ★ Panel and cabinet finished in standard black satin wrinkle
- ★ Overall dimensions: 11" wide, 9 3/8" deep, 6 3/16" high

The **PANADAPTOR,** Model PCA-2, is a 10 tube electronically tuned superheterodyne with a self contained 'scope, complete with accessories and full instructions, for 115V, 50-60 cycle operation at **only $99.75 net.**

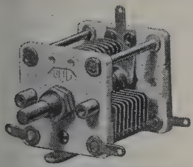
ONE YEAR GUARANTEE *against defects in parts or workmanship (excluding tubes). Panoramic Handbook with full installation, operating, application and maintenance instructions furnished with each* **PANADAPTOR.**

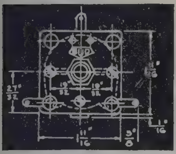
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

BUD "CE" MIDGET CONDENSERS—DOUBLE BEARING

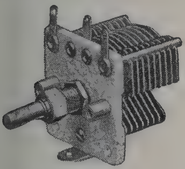


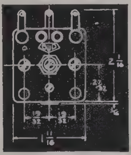


These Midget condensers were designed to meet the rigid requirements in design of efficient ultra-high frequency, electronic devices and precision laboratory equipment.

Brass rotor and stator plate stacks are assembled into permanent units by means of electro-soldering, which assures long life and accurate plate spacing. End-plates of solid Steatite, insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve and rear ball thrust bearing provide for smooth rotation. Wiper contact provides noise-free tuning. All other metal parts are corrosion-resisting cadmium plated. Rotor plates are semi-circular shaped. Provision for either panel or base mounting.

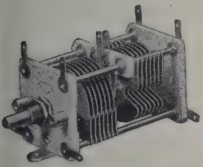
BUD "CE" TYPE SINGLE BEARING MIDGET CONDENSER





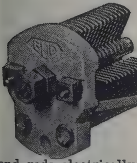
A rotor locking nut, provided especially, adapts these single bearing condensers to portable and mobile service. A screw-driver slot in rotor provides means of adjustment. Either insulated panel mounting or bracket mounting is incorporated. General construction is same as "CE" double bearing condensers.

BUD "CE" TYPE DUAL MIDGET CONDENSERS



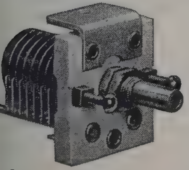
These well constructed dual condensers are similar in design to the double bearing types. They feature a rotor wiping contact placed at center of the rotor assembly to assure maximum efficiency at ultra-high frequency. Opposed rotors assure perfect counter-balance and provide even torque at any position of rotation. Steatite insulation eliminates any possibility of closed induction loop in frame.

BUD TINY MITE PADDERS



For applications requiring a constant padder capacity under all temperature and humidity conditions, these units are ideal. They lend themselves readily to I. F. transformer applications, fixed tuned circuits for exciters, ganged condenser air trimmer, and plug-in-coil padding as they fit inside of standard 1½" diameter coil forms. Rotor and stator assemblies are made up of brass plates and rods electrically soldered into a solid unit and then are bright cadmium plated. Insulation is Steatite.

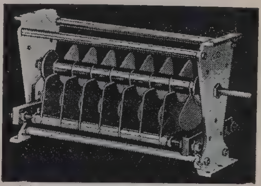
BUD TINY MITE TUNING CONDENSERS—Single Section



This series of condensers has been designed for applications where space or weight are limiting factors, and for tuning of ultra-high frequency circuits. Rigid construction, close fitting bearing, positive rotor contact, and Steatite insulation are the outstanding features. Cadmium plated soldered brass plates and rods insure high frequency efficiency.

Each unit may be mounted in any of three ways without additional hardware, namely (1) single hole panel mount, (2) insulated panel mount, and, (3) insulated base mount.

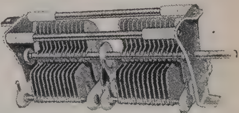
BUD GIANT TRANSMITTER CONDENSERS



These are built into a frame consisting of 3/16" thick aluminum end plates tied together by ⅝" diameter duralumimum rods. Formed brackets at top and bottom of end plates provide the means for mounting these units and permit the placing of associated inductances directly on the condenser.

The large two finger rotor contact spring assures positive contact with noise-free operation. These condensers are made in a variety of capacities with plate spacings for various voltages.

BUD JUNIOR SINGLE SECTION CONDENSERS



Construction of these condensers features BUD electro-soldered plate assemblies, assuring correct plate spacing, overall rigidity, and light weight. End-plates of the frame have formed angles at top and bottom for mounting the condenser in any position, allowing associated tuning inductance to be mounted on the condenser frame.

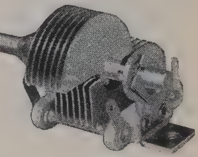
The lower minimum capacities of these units make them especially suitable for multi band applications where a high maximum-to-minimum capacity is required. Panel space for mounting, only 2¾" by 2⅞".

These are available in practically all capacities commonly used, with various air-gaps for various voltages.

BUD JUNIOR DUAL SECTION CONDENSERS

Rotor contact is made by a four fingered plate pressure spring placed at the center of the rotor shaft between the two sections, thereby providing perfect balance and improving the high frequency characteristics. The tie-rods are insulated at both ends with Steatite insulators to prevent the development of inductive loops in condenser frame.

BUD MIDGET CONDENSERS

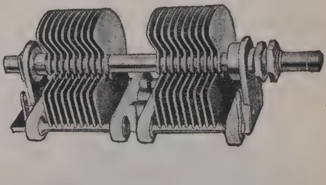


In high frequency and ultra high frequency receivers, low power transmitters, wave meters, monitors and many other electronic devices the small size of this unit makes it ideal.

Embodies such noteworthy features as: Steatite insulation; long, accurately fitted bearings which eliminate side motion; spring cup washers, large surface silver plated beryllium copper wiper contacts, which insure smooth, noise-free operation; Cadmium-plated electro-soldered brass rotor and stator plate assemblies, which ensure perfect plate spacing, and minimize series resistance; rigid construction, which minimizes vibration.

BUD DOUBLE BEARING MIDGET CONDENSERS may be had in either the mid-line type plates (straight line wave length) or semi-circular plates (straight line capacity). They can be single hole panel mounted or chassis mounted. The double and triple spaced units are ideally suited for use in exciter and low-power transmitter applications.

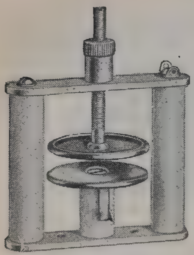
BUD DOUBLE GANG MIDGET CONDENSERS



Where space is at a premium and split-stator capacitors are called for by circuit layout, BUD DOUBLE GANG MIDGETS are desirable.

Plate construction and finish, workmanship and materials, are identical with other Midget Condensers. Panel mounting and chassis mounting are provided for in the design of the DOUBLE GANG MIDGETS. They are built in either mid-line or Semi-Circular type plates. These condensers are available in all commonly used capacities and in various air gaps.

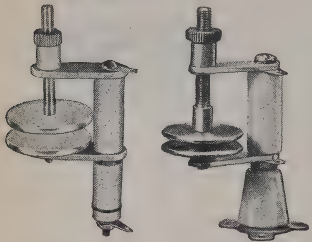
SEE YOUR JOBBER FOR PRICES —— MADE IN VARIOUS CAPACITIES AND AIR GAPS



BUD UNIVERSAL NEUTRALIZING AND HIGH FREQUENCY CONDENSERS

This type condenser is applicable to many neutralizing and high frequency tuning circuits. The advanced two pillar construction eliminates any capacity variation due to vibration. The movable plate is adjusted by means of a threaded shaft to which it is attached and is permanently locked in any position by a knurled lock nut. Eeach turn of the screw will advance plate $\frac{1}{32}$ inch.

Cat. No.	Plate dia.	Overall Length	MMFD Max.	Capacity Min.	Your Cost
NC-1000	$1\frac{27}{32}$	$3\frac{31}{32}$	11	.5	$2.49
NC-1001	$2\frac{13}{16}$	$4\frac{23}{32}$	24	1	3.60
NC-1002	4¾	$6\frac{11}{16}$	27	6	5.04

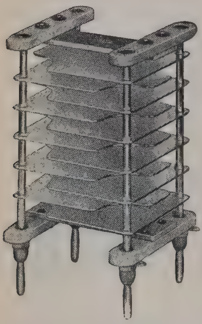


BUD FEED-THROUGH AND BASE MOUNTED NEUTRALIZING CONDENSERS

Feed through and base mounted neutralizing condensers particularly suited in circuits utilizing tubes with the grid leads terminating in the base. One hole required for mounting. Threaded brass rod holding condenser in place also brings the connection to the bottom plate through the chassis, thus simplifying wiring. Number 890 and number 852 are ideal neutralizers for popular low powered beam tubes. Number 890 base mounted only.

Cat. No.	Plate dia.	Size Hole For Mtg.	—MMFD. CAPACITY— Max.	Min.	Your Cost
NC-852	1″	$\frac{5}{16}$	6	.5	$1.08
NC-853	$1\frac{27}{32}$″	$\frac{13}{32}$	11	.5	2.49
NC-890	1″		6	.5	1.14

BUD STAT-AIR CONDENSERS



The difficulty of designing a radio frequency amplifier to cover any large frequency range and maintain a proper L/C ratio, is overcome by paralleling the proper Stat-Air Condenser with the tank condenser.

Soldered brass plates, bright cadmium plated and Steatite insulation insures maximum operating efficiency.

Junior Type

Cat. No.	Cap. MMFD	Air Gap	No. Plates	Dim. Above Panel	Ship. Wt. Approx.	Your Cost
FA-777	25	.144″	8	2¼″	2 lbs.	$3.21
FA-780	50	.144″	17	$3\frac{9}{16}$″	2 lbs.	3.66
FA-544	75	.144″	23	$4\frac{19}{32}$″	2 lbs.	4.35
FA-781	100	.144″	29	$5\frac{21}{32}$″	3 lbs.	4.71
FA-782	100	.078″	19	$2\frac{23}{32}$″	2 lbs.	4.05
FA-783	150	.078″	27	$3\frac{19}{32}$″	3 lbs.	4.75

Mounting Dimen.: 1¼″ x 1½″. Overall Dimen.: 1⅞″ x $1\frac{11}{16}$″.

Senior Type

Cat. No.	Cap. MMFD	Air Gap	No. Plates	Dim. Above Panel	Ship. Wt. Approx.	Your Cost
FA-778	25	.238″	5	$2\frac{5}{32}$″	2 lbs.	$3.72
FA-784	50	.238″	11	$3\frac{13}{16}$″	3 lbs.	4.32
FA-545	75	.238″	15	$4\frac{15}{16}$″	3 lbs.	4.80
FA-786	100	.238″	19	$6\frac{3}{64}$″	3 lbs.	5.34
FA-785	100	.100″	11	$2\frac{7}{16}$″	2 lbs.	3.63
FA-787	150	.100″	15	3″	2 lbs.	5.13

Mounting Dimen.: 2″ x 2¼″. Overall Dimen.: 2¾″ x 2¾″.

BUD COMPACT NEUTRALIZING CONDENSERS

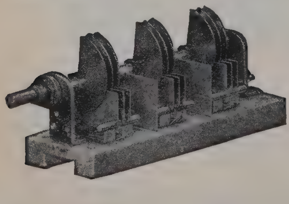
In applications where space is the prime factor, these units are ideal for neutralizing and high frequency tuning. Low loss steatite is used for dielectric. Mounting of these condensers features either one hole mounting or fastening to solder lugs provided. All brass parts are nickel plated. A knurled locknut permits locking of movable plate.

Cat. No.	Cap. Range in MMFD	Overall Lgth. Dimen.	Max. Diam. Dimen.	Ship. Wt. Approx.	Your Cost
NC-1928	.75 to 4	$2\frac{13}{16}$″	⅝″	1 lb.	$0.57
NC-1929	1 to 6	$2\frac{7}{16}$″	¾″	1 lb.	1.20
NC-1930	2 to 12	$3\frac{7}{16}$″	⅞″	2 lbs.	1.59

No. 1929

No. 1930

No. 1928

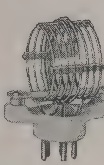


BUD TRIPLE SECTION MIDGET CONDENSERS

These condensers are mounted on a glazed ceramic base, offering perfect rigidity. General construction is the same as for other types of Midget Condensers. A shield plate is provided between each stator section. Base or panel mounting may be used.

Cat. No.	Cap. per Section Max.	Min.	Air Gap	Plates per Section	Length Behind Panel	Ship. Wt. Approx.	Your Cost
MC-886	20	4	.060″	8	5¼″	2½ lbs.	$3.81
MC-887	35	6	.060″	11	5¼″	2½ lbs.	4.08
MC-888	100	6	.024″	14	5¼″	2½ lbs.	4.32
MC-889	140	7	.024″	19	5¼″	2½ lbs.	4.65

BUD 75 WATT OSCILLATOR AND BUFFER COILS



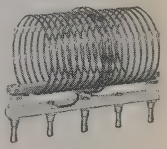
The ceramic mounting base keeps the coil a safe distance from the chassis when the coil socket is mounted on the chassis. It also permits easy coil removal without disturbing the winding. All coils are air-wound with bright tinned copper wire and mount in 5-prong tube sockets.

OEL Coils have fixed end link and are NOT center tapped. OCL Coils have fixed center link with main winding center tapped. OLS Coils have adjustable center link with main winding center tapped.

Cat. No.	Band	Capacity*	Length	Height	Width	Your Cost
		End Linked				
OEL-80	80 M	75 MMFD	1¾″	2¾″	1⅞″	$1.35
OEL-40	40 M	50 MMFD	1⅞″	2¾″	2″	1.35
OEL-20	20 M	33 MMFD	1½″	2¾″	2″	1.35
OEL-15	15 M	30 MMFD	1½″	2¼″	1⅝″	1.35
OEL-10	10 M	28 MMFD	1½″	2½″	1⅝″	1.32
OEL-5	5 M	18 MMFD	1½″	2⅛″	1½″	1.08
		Center Linked				
OCL-80	80 M	75 MMFD	1¾″	2⅝″	1⅞″	$1.35
OCL-40	40 M	50 MMFD	1¾″	2¾″	1⅞″	1.35
OCL-20	20 M	33 MMFD	1⅝″	2¾″	1⅞″	1.35
OCL-15	15 M	30 MMFD	1½″	2½″	1⅜″	1.35
OCL-10	10 M	28 MMFD	1½″	2½″	1⅝″	1.32
OCL-5	5 M	18 MMFD	1¼″	2¼″	1⅝″	1.08
		Adjustable Center Linked				
OLS-80	80 M	75 MMFD	2″	2⅞″	1⅞″	$1.35
OLS-40	40 M	50 MMFD	1⅞″	2⅞″	1¾″	1.35
OLS-20	20 M	33 MMFD	1⅝″	2⅞″	1⅞″	1.35
OLS-15	15 M	25 MMFD	1¾″	2⅞″	1¾″	1.35
OLS-10	10 M	21 MMFD	1¾″	2⅞″	1¾″	1.32

*TOTAL CIRCUIT capacity required to resonate at low frequency end of the band.

BUD AIR-WOUND TRANSMITTER COILS



The power ratings of these coils indicate the maximum input power allowable to the stage in which they are to be used. The "Air-wound" construction of all these coils, together with the bright tinned copper windings and Steatite mounting bars, make all three series unusually efficient. Coils are self-supporting but are rigidly held in place by fire-resistant locking strips. All units are center tapped and have semi-adjustable link at center.

150 Watt Rating

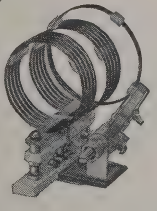
Cat. No.	Band	Capacity*	Length	Height	Width	Mounting Bar	Your Cost
RCL-80	80 M	68 MMFD	2⅜″	3½″	3″	3½″	$3.18
RCL-40	40 M	36 MMFD	2¼″	3½″	3″	3½″	2.88
RCL-20	20 M	27 MMFD	2½″	3½″	3″	3½″	2.49
RCL-15	15 M	27 MMFD	2½″	3½″	3″	3½″	2.49
RCL-10	10 M	25 MMFD	2″	3⅜″	2⅞″	3½″	2.01
AM-1932	Mounting Base for 150 Watt Coils						.72
		500 Watt Rating					
VCL-80	80 M	69 MMFD	3¾″	4¼″	3½″	5½″	$3.63
VCL-40	40 M	26 MMFD	3¼″	3⅞″	3⅛″	5½″	3.24
VCL-20	20 M	23 MMFD	3½″	3⅞″	3⅛″	5½″	2.85
VCL-15	15 M	23 MMFD	3″	3¾″	3⅛″	5½″	2.88
VCL-10	10 M	21 MMFD	2¼″	3⅝″	3″	5½″	2.73
VCL-5	5 M	14 MMFD	3″	3″	2⅜″	5½″	2.58
AM-1356	Mounting Base for 500 Watt Coils						.90
		One Kilowatt Rating					
MCL-80	80 M	73 MMFD	4¾″	5⅛″	4¼″	8⅛″	$7.41
MCL-40	40 M	37 MMFD	6″	5¼″	4½″	8⅛″	6.87
MCL-20	20 M	33 MMFD	5½″	4⅝″	3⅞″	8⅛″	6.36
MCL-15	15 M	30 MMFD	5″	4⅜″	3½″	8⅛″	6.36
MCL-10	10 M	24 MMFD	4½″	4⅛″	3⅛″	8⅛″	5.79
MCL-5	5 M	18 MMFD	4½″	4″	3⅛″	8⅛″	5.37
AM-1354	Mounting Base for One Kilowatt Coils						1.44

*TOTAL CIRCUIT capacity required to resonate at low frequency end of the band.

ADJUSTABLE LINK TRANSMITTER COILS

Since one of the most effective means of varying the oading of an R. F. Stage is by the use of a variable ink to the plate tank, these three lines of inductances have this feature incorporated in them. In each series the link winding is connected to the jack bar into which the coils are plugged. The one link may thus be used with any of the coils. This link winding is of the helical type and is so arranged that it may be readily controlled from the panel by means of an extension shaft if required.

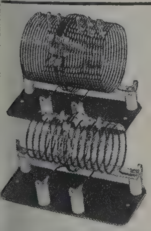
All coils in this series are of the "Air-wound" type, making them very efficient. Windings are made of bright inned copper wire, and the mounting and plug bars are made of Steatite to ensure a minimum of loss. Windings are held firmly and positively in place by fire-resistant locking strips to ensure constant inductance. The links couple to the coils at the center and all inductances are center apped.



150 Watt Rating

Cat. No.	Band	Capacity*	Length Mtg. Bar	Mtg. Hole	Length Coil	Height of Link	Swing of Link	½ Coil W	Your Cost
RLS-80	80 M	78 MMFD	3½″	3⅛″	2¾″	4¼″	4¼″	1½″	$2.67
RLS-40	40 M	38 MMFD	3½″	3⅛″	2¾″	4¼″	4¼″	1¼″	2.34
RLS-20	20 M	30 MMFD	3½″	3⅛″	2¼″	4¼″	4¼″	1¼″	2.04
RLS-15	15 M	30 MMFD	3½″	3⅛″	2¼″	4⅛″	4¼″	1¼″	2.04
RLS-10	10 M	28 MMFD	3½″	3⅛″	1½″	4¼″	4¼″	1 3/16″	1.98
AM-1339	Base and Link Assembly for 150 Watt Coils								2.85
		500 Watt Rating							
VLS-80	80 M	70 MMFD	5½″	5″	3⅞″	5½″	5¾″	1½″	$3.18
VLS-40	40 M	36 MMFD	5½″	5″	4″	5½″	5¾″	1 5/16″	2.67
VLS-20	20 M	28 MMFD	5½″	5″	4″	5½″	5¾″	1 5/16″	2.49
VLS-15	15 M	25 MMFD	5½″	5″	4″	5½″	5¾″	1 15/16″	2.49
VLS-10	10 M	21 MMFD	5½″	5″	3″	5½″	5¾″	1 5/16″	2.19
AM-1352	Base and Link Assembly for 500 Watt Coils								3.93
		One Kilowatt Rating							
MLS-80	80 M	65 MMFD	8⅛″	5⅝″	5¾″	5⅞″	6⅛″	2″	$6.18
MLS-40	40 M	37 MMFD	8⅛″	5⅝″	6″	5⅞″	6⅛″	2″	5.76
MLS-20	20 M	33 MMFD	8⅛″	5⅝″	6″	5⅞″	6⅛″	1⅝″	5.34
MLS-15	15 M	30 MMFD	8⅛″	5⅝″	6″	5⅞″	6⅛″	1⅝″	5.28
MLS-10	10 M	25 MMFD	8⅛″	5⅝″	5½″	5⅞″	6⅛″	1⅝″	4.44
AM-1340	Base and Link Assembly for Kilowatt Coils								5.55

*TOTAL CIRCUIT capacity required to resonate at low frequency end of the band.



BUD ANTENNA MATCHING NETWORK COILS

The low frequency coil in each rating is designed for operation from 160 meters to 40 meters, and the high frequency coil in each rating is designed for operation from 20 to 10 meters.

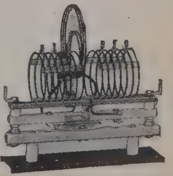
All coils and links have a sufficient number of taps provided to allow both the inductance and the coupling to be varied over a wide range.

The coils are supported on Steatite insulators, which are mounted on a **Black Crackled** base. This base is provided with two holes for convenience in mounting.

Cat. No.	Height	Range in Meters	Mtg. Hole Dim.	Length Base	Overall Width	Overall Height	Your Cost
ACV-1	500 W	160-40	6½″	7½″	5¼″	5¾″	$5.16
ACV-2	500 W	20-10	6½″	7½″	4¼″	4½″	4.14
ACM-1	1 Kilowatt	160-40	7½″	8½″	6⅛″	7⅜″	9.90
ACM-2	1 Kilowatt	20-10	7½″	8½″	4¾″	5¼″	8.16

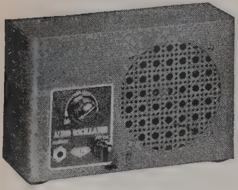
BUD ADJUSTABLE LINKED ANTENNA COILS

When the final amplifier plate coil has a fixed link, it is desirable to use adjustable linked coils in the antenna matching network. These coils are made in 500 watt and 1 kw. ratings. Two sizes of inductances are made in both ratings. Mounting hardware and complete instructions are included with each coil.



Cat. No.	Rating	Range	Coil Length	Mtg. Centers	Base Length	Height Link	½ Width Coil	Swing	Your Cost
VLA-1	500 W	160-40	6″	7¾″	8½″	7¾″	2″	6″	$4.53
VLA-2	500 W	20-10	5″	7¾″	8½″	7¾″	1⅜″	6″	3.45
MLA-1	1 K W	160-40	6½″	7¾″	8½″	9″	2⅝″	8″	8.25
MLA-2	1 K W	20-10	6¼″	7¾″	8½″	9″	1⅝″	8″	6.60

AM-1963 Mtg. Base and Link for VLA Types..**$3.57** AM-1964 Mtg. Base and Link for MLA Types 5.04



BUD CODE PRACTICE OSCILLATOR

This audio oscillator has a built-in dynamic speaker. Operates up to twenty earphones. Speaker is automatically cut out of the circuit when earphones are inserted. Ten phones may be connected in parallel. More than ten earphones, connect in series-parallel.

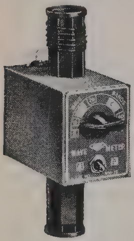
A volume control and a pitch control are provided. Any number of keys may be connected in parallel for group practice. Operates on 110 volts, A.C. or D.C.

Size 7⅛" x 4½" x 3¾".

No. CPO-124—Sh. wt. 6 lbs. **Your Cost $12.50**

BUD WAVE METER

The new Bud Wavemeter offers radio amateurs and experimenters positive waveband identification and ease of line-up of frequency multiplier and amplifier R. F. units in multi-stage transmitters. The sensitivity of this unit makes it useful as a neutralization indicator and for detecting weak R.F. currents when closely coupled to a circuit. Antenna tuning adjustments are simplified if this wave meter is used to determine position of standing waves on antenna feeder systems.



Wired and assembled in an attractive black crackled enameled steel case, this wavemeter is complete with indicator bulb and neat calibrated name plates with seven plotted bands from 160 meters to 5 meters, including the new 15 meter band.

Cat. No.	Ship. Wt.	Your Cost
WM-78	4 lbs.	$8.25

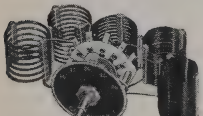
BUD WIRELESS PHONOGRAPH OSCILLATOR

Any standard record player easily converted to wireless operation. Record reproduction is then possible through a regular radio receiver without the necessity of cumbersome interconnecting wires. Easily installed. Instructions furnished.

Faithful reproduction. Unit wired and tested, includes tube. **Black Crackle** Enamel. Operates from 115 volts A.C. or D.C. Frequency range, approx. 1100 to 2150 K.C. 4½"x2½"x2⅛".

Cat. No. WO-6—Ship. wt. 5 lbs.......................**Your Cost $7.85**

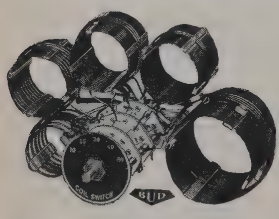
BUD 50 WATT BANDSWITCH ASSEMBLIES



This 50 watt bandswitch assembly with 10-15-20-40-80 meter coils is excellent for use in capacity coupled oscillator, buffer, or amplifier stages. The coils are mounted on a low-loss ceramic switch which is furnished with a suitable maker plate.

Cat. No. ONS-1 ....**Your Cost $4.29**

BUD 100 WATT BANDSWITCH ASSEMBLIES



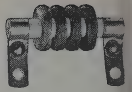
For pushpull plate or grid circuits or where plate neutralization is intended, use a Bud XCS-1 bandswitch coil assembly. Either a single section 100 mmfd condenser such as Bud C-1534, or a dual section 200 mmfd condenser, Bud JC-1569, should be used to tune all bands. Coils are center tapped and center linked and cover all bands 80 to 10 meters.

For single ended circuits use the Bud XES-2 end linked coil assembly with a Bud JC-1534 100 mmfd condenser.

Each assembly supplied complete with a band-marked dial plate and installation instruction.

Cat. No.	Width	Height	Depth	Ship. Wt.	Your Cost
ONS-1	5½"	2½"	3"	2 lbs.	$4.29
XCS-1	8"	4¼"	5"	3 lbs.	9.06
XES-2	8"	4¼"	5"	3 lbs.	7.92

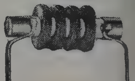
PIE-WOUND R.F. CHOKES
With Strap Leads



For radio receivers and transmitters. No. CH-876 is a heavy duty choke for transmitter plate circuits. 1½" x ⅝".

Cat. No.	Induct. in M.H.	D.C. Resist.	Cap.	Your Cost
CH-920S	2.5	45 ohms	125 ma	$0.36
CH-922S	5.5	60 ohms	125 ma	.45
CH-923S	8.0	72 ohms	100 ma	.60
CH-924S	10.0	78 ohms	100 ma	.66
CH-876S	2.5	16 ohms	250 ma	.66

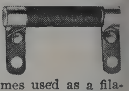
PIE-WOUND R.F. CHOKES
With Wire Leads



Same Specifications as Above

CH-920W	2.5	45 ohms	125 ma	$0.33
CH-922W	5.5	60 ohms	125 ma	.42
CH-923W	8.0	72 ohms	100 ma	.57
CH-924W	10.0	78 ohms	100 ma	.63
CH-876W	2.5	16 ohms	250 ma	.60

ULTRA HIGH FREQUENCY R.F. CHOKES



For ultra high frequency receivers and transmitters. Consists of a ceramic rod with a single layer winding. Suitable for use on 2½ or 5 meters. The CH-570 is sometimes used as a filament choke in certain types of ultra high frequency oscillator and amplifier circuits. CH-570 is supplied with a mounting foot.

Cat. No.	Inductance uh.	Max. Current ma.	D.C. Resistance ohms	L In.	Diam. In.	Ship. Wt.	Your Cost
CH-925	5.7	750	1.4	1½	9/32	3 oz.	$0.21
CH-570	15	1700	0.2	2¾	⅝	½ lb.	.87

BUD LATTICE WOUND R.F. CHOKES

Wound with silk-covered enameled copper wire on ceramic bobbin. Readily mounted with a 6-32 screw through the center. Thoroughly impregnated against moisture. Overall diam. 1 1/16", approx. ht. ¾".

Cat. No.	Ind. M.H.	D.C. Res. Ohms	Current M.A.	Your Cost
CH-1212	2.5	28	125	$0.33
CH-1213	3.4	36	125	.36
CH-1214	5.5	46	125	.39
CH-1215	8.	60	125	.39
CH-1216	10.	65	125	.42
CH-1217	16.	84	125	.45
CH-1218	30.	190	100	.48
CH-1219	60.	279	90	.69
CH-1220	80.	332	80	.72

BUD IRON CORE R.F. CHOKES

Circuit improves by use of these chokes. The improved "Q" results from the D.C. resistance being from 40 to 50% less for a given inductance than for regular air-core types. D.C. voltage drop through the choke is considerably less, yet the choking action is equally as good. Mounted in square shield cans 1⅜" x 1⅜ x 1 7/16".

Cat. No.	Ind. M.H.	D.C. Res. Ohms	Current M.A.	Your Cost
CH-1277	1.5	11.5	125	$0.72
CH-1278	2.5	16.	125	.75
CH-1279	3.4	19.5	125	.81
CH-1280	5.5	27.5	125	.81
CH-1281	8.	36.	125	.87
CH-1282	10.	42.5	125	.87
CH-1283	16.	53.	125	.96
CH-1284	30.	82.	100	.96
CH-1285	60.	131.	100	1.14
CH-1286	80.	163.	90	1.26
CH-1287	125.	221.	90	1.56
CH- 294	Shield Can Only			.21

BUD 5 METER INTERRUPTER COIL

An interrupter coil for use in the low frequency oscillator in 5 meter superregenerative circuits. Lattice wound on a ceramic form. Shipping weight, 4 oz. Size, 1¼" x 15/16".

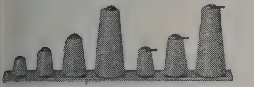
Cat. No. CH-452............**Your Cost $1.14**

BUD TRANSMITTING CHOKES

Heavy duty R.F. Chokes for high-power transmitter plate circuits. **Ceramic coating prevents moisture absorption. Withstands momentary overloads without collapsing the individual pies.** Intended to be used on 10, 15, 20, 40 and 80 meter bands. Design prevents any of the pies from being resonant, keeps distributed capacity at a minimum. Wt. ½ lb. Ht. 3¼".

Cat. No.	Induct. MH	Cap. MA	Resist. Ohms	Diam. In.	Your Cost
CH-568	2.2	1000	5	1¼	$1.38
CH-569	4.3	600	12	1½	1.20

BUD CONE STAND-OFF INSULATORS



All applications requiring insulated mountings and supports are readily accommodated by these various types and sizes of ceramic insulators. Each unit is made from high grade glazed porcelain having good mechanical strength. Nos. I-300 to I-303 are tapped at each end and are supplied with necessary hardware. Nos. I-304 to I-306 are supplied with No. PJ-949 Banana Plug Jack and accommodate standard banana and GR plugs.

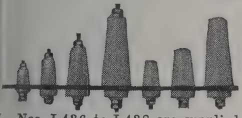
BUD REGULATOR CONE INSULATORS

Cat. No.	H	Top Dia.	Base Dia.	Thread	Approx. Ship. Wt.-25	Your Cost
I-300	⅝"	$\frac{7}{16}$"	⅝"	6-32	3 lbs.	$0.12
-301	1"	½"	¾"	8-32	4 lbs.	.15
I-302	1½"	⅝"	1"	10-32	5 lbs.	.21
I-303	2¾"	¾"	1¼"	10-32	6 lbs.	.30

BUD JACK TYPE CONE INSULATORS

Cat. No.	H	Top Dia.	Base Dia.	Thread	Approx. Ship. Wt.-25	Your Cost
-304	1"	½"	¾"	8-32	5½ lbs.	$0.21
I-305	1½"	⅝"	1"	10-32	5½ lbs.	.24
-306	2¾"	¾"	1¼"	10-32	6½ lbs.	.36

BUD CONE FEED-THROUGH INSULATORS



In bringing high voltage and R. F. leads through panels and chassis, and for numerous other uses, this line of two-piece insulators will be found indispensable. Made of the same ceramic material as the Stand-Off Insulators.

Nos. I-436 to I-438 are supplied with threaded rod and necessary hardware, while Nos. I-453 to I-455 are supplied with No. PJ-949 jack top attached to appropriate threaded rod.

BUD REGULAR CONE FEED-THROUGH INSULATORS

Cat. No.	Top Height	Bottom Height	Mounting Hole Dia.	Approx. Ship. Wt.-25	Your Cost
I-435	⅝"	$\frac{3}{16}$"	$\frac{11}{32}$"	3½ lbs.	$0.15
I-436	1"	$\frac{5}{16}$"	$\frac{15}{32}$"	4½ lbs.	.21
I-437	1½"	⅜"	$\frac{9}{16}$"	5½ lbs.	.24
I-438	2¾"	⅜"	$\frac{9}{16}$"	6½ lbs.	.45

BUD JACK TYPE CONE FEED-THROUGH INSULATORS

Cat. No.	Top Height	Bottom Height	Mounting Hole Dia.	Approx. Ship. Wt.-25	Your Cost
I-453	1"	$\frac{5}{16}$"	$\frac{15}{32}$"	4 lbs.	$0.24
I-454	1½"	⅜"	$\frac{9}{16}$"	5½ lbs.	.30
I-455	2¾"	⅜"	$\frac{9}{16}$"	6½ lbs.	.48

BUD PILLAR INSULATORS

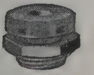
The need for a firm support for high voltage leads such as those going to plates of rectifier tubes or large transmitting tubes is adequately filled by these two numbers.

Each unit consists of a heavy lug on top of a glazed Steatite rod $\frac{7}{16}$" in diameter, with a convenient foot for mounting purposes. Fittings are nickel plated.

Cat. No.	Length	Approx. Ship. Wt.-25	Your Cost
I-738	1⅜"	3½ lbs.	$0.21
I-739	2⅞"	5½ lbs.	.30

BUD NEW TYPE FEED-THRU INSULATOR BUSHINGS

I-457

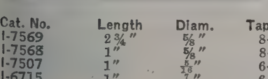


I-456

New type Bud feed-thru insulator bushing made from LUCITE, in two sizes to simplify insulation problems when high voltage wires are fed through chassis or panels. If wires are insulated, it is not necessary to remove insulation as the center holes are large enough to pass it. If larger size hole is required, material can be easily drilled. Each bushing supplied with nut for mounting on material up to ⅛" thick.

Cat. No.	Description	Your Cost
I-456	Diameter ½" with ⅛" wire hole	$0.11
I-457	Diameter ¾" with $\frac{3}{16}$" wire hole	.14

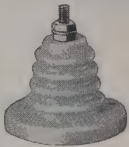
BUD CERAMIC RODS



These convenient sizes are available in glazed Steatite. Both ends of all rods are tapped for standard machine screws, to simplify mounting condensers, coils, and similar components.

Cat. No.	Length	Diam.	Tapped	Approx. Ship. Wt.-25	Your Cost
I-7569	2¾"	⅝"	8-32	3½ lbs.	$0.42
I-7568	1"	⅝"	8-32	3 lbs.	.36
I-7507	1"	$\frac{5}{16}$"	6-32	2½ lbs.	.15
I-6715	1"	$\frac{7}{16}$"	6-32	3 lbs.	.15
I-6716	2½"	$\frac{7}{16}$"	6-32	3½ lbs.	.29
I-7758	1⅝"	⅝"	10-32	3 lbs.	.42

BUD CERAMIC STAND-OFF INSULATORS



Apparatus requiring a rugged insulated mounting can be readily accommodated by one or more numbers in this series of white glazed insulators. All metal parts are nickel plated brass and the jack type insulators are designed for standard banana and GR plugs.

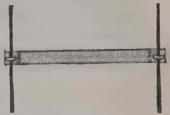
Cat. No.	Type	Descrip.	Base Size	H	Std. Pkg.	Ap.Sh.Wt. Std. Pkg.	Your Cost
I-234	Beehive	Stand-off	$2\frac{1}{16}$" dia.	$2\frac{1}{16}$"	10	3 lbs.	$0.21
I-933	Beehive	Jack-Type	$2\frac{1}{16}$" dia.	$2\frac{1}{16}$"	10	3 lbs.	.24
I-974	Senior	Stand-off	1" x 1½"	1¾"	20	3 lbs.	.12
I-932	Senior	Jack Type	1" x 1½"	1¾"	20	3 lbs.	.15
I-930	Junior	Stand-off	¾" x 1⅛"	1½"	25	3 lbs.	.11
I-931	Midget	Stand-off	½" x ⅞"	$\frac{15}{16}$"	50	3½ lbs.	.09

BUD LUCITE INSULATORS

Here is a new series of feeder spreaders, stand-off insulators, and feed-through insulators designed for applications that demand the finest type of insulation. They are made of DuPont Lucite, a new plastic that has extremely low losses at radio frequencies. It is water-clear, and all outside surfaces are highly polished.

In addition to their remarkable electrical properties, these insulators will greatly add to the finished appearance of any piece of equipment in which they are used.

BUD LUCITE FEEDER SPREADERS



Designed for all average feeder requirements. A 600 ohm line can be made with any size wire from No. 12 to No. 18 by using one of the spreaders listed below. The spreader used for this application depends on the wire size. Further data on this subject is available in any antenna handbook. These spreaders are furnished with locking screws to clamp the wire in place. All spreaders are ⅜" in diameter, and are drilled for No. 12 wire.

Cat. No.	Wire Spacing	Standard Package	Approx. Ship. Wt. Std. Pkg.	Your Cost
I-1900	2"	25	3½ lbs.	$0.21
I-1901	4"	25	4 lbs.	.27
I-1902	5"	25	4½ lbs.	.30
I-1903	6"	25	5 lbs.	.33

BUD LUCITE STAND-OFF INSULATORS

The Lucite pillar-type stand-off insulators listed below are made in a convenient number of sizes to fit a variety of applications. They are intended for chassis mounting in a single mounting hole. The ½" diameter insulators are supplied with 6-32 mounting screws. The ¾" diameter insulators are supplied with 10-32 mounting screws.

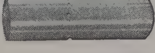
Cat. No.	H	Dia.	Std. Pkg.	App. Ship. Wt. Std. Pkg.	Your Cost
I-1904	1¼"	½"	25	3 lbs.	$0.21
I-1890	2"	½"	25	3½ lbs.	.30
I-1905	2¾"	½"	25	3½ lbs.	.33
I-1899	1¼"	¾"	25	3½ lbs.	.36
I-1906	2¼"	¾"	25	3½ lbs.	.42
I-1907	4¼"	¾"	25	4 lbs.	.60
I-1908	6¼"	¾"	25	5 lbs.	.84

BUD LUCITE FEED-THROUGH INSULATORS

These Lucite feed-through insulators are made in two diameters, and five convenient heights. They are ideal for bringing high-frequency leads through a chassis or shield and are superior to ceramic insulators for this purpose. The ½" diameter insulators are furnished with 6-32 hardware: The ¾" diameter insulators are furnished with 10-32 hardware.

Cat. No.	Rod Dia.	Bot. Hgt.	Top Hgt.	Mtg. Hole	Std. Pkg.	Ap.Sh.Wt. Std.Pkg.	Your Cost
I-1909	½"	¼"	¼"	$\frac{5}{16}$"	25	3 lbs.	$0.23
I-1910	½"	¼"	½"	$\frac{5}{16}$"	24	3 lbs.	.26
I-1911	½"	¼"	1"	$\frac{5}{16}$"	25	3½ lbs.	.30
I-1912	¾"	½"	1½"	$\frac{7}{16}$"	25	4 lbs.	.51
I-1913	¾"	½"	2"	$\frac{7}{16}$"	25	4 lbs.	.60

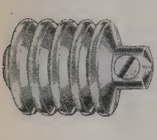
BUD LUCITE ROD



Cat. No.	Dia.	L	Ap.Sh.Wt. Std.Pkg.-5	Your Cost
I-1914	¼"	12"	1 lb.	$0.33
I-1915	⅜"	12"	1½ lbs.	.39
I-1916	½"	12"	1½ lbs.	.69
I-1917	¾"	12"	2 lbs.	1.17

Lucite Rod can be supplied on special order in any of the four diameters listed above, in lengths up to 48".

HEAT RADIATING CONNECTORS

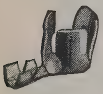


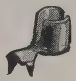
These connectors have been scientifically designed to aid dissipation of heat generated at the plate and grid terminals of transmitting tubes and to protect the glass seal at these points. TC-488 and TC-489 are for wire leads. TC-1920 and TC-1921 are for cap type leads.

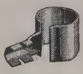
Lead size indicated in column is the maximum for each type.

Cat. No.	Tube Lead Size in.	Len. in.	Dia. in.	Ship. Wt. 10 lbs.	Your Cost
TC-488	.049	13/16	⅝	1½	$0.36
TC-489	.069	13/16	⅝	1½	.36
TC-1920	.360	15/16	15/16	2	.60
TC-1921	.560	15/16	15/16	2	.60
TC-1923	.110	15/16	15/16	2	.60

BUD TUBE CLIPS


TC-107


TC-108

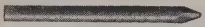

TC-490

Uses to which these clips may be put are clearly listed below. Made of heavy gauge spring brass, cadmium plated.

Cat. No.	Type Tube	Your Cost
TC-490	Transmitting	$0.06
TC-107	Glass	per C 1.29
TC-108	Metal	per C 1.29

BUD SOLDERING IRON TIPS

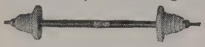
This tip is made of a special copper base rod. It is ⅜″ diameter x 4″ long and is made particularly as a replacement for American Beauty Irons. However, it will fit many other types of irons that are designed to accommodate ⅜″ diameter tips. Fits American Beauty No. 3183.



Cat. No. IT-372....................Your Cost $0.42

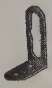
BUD WALL LEAD-IN

This Lead-In is used to facilitate bringing antennas or feeders through a wall or window casing with ease and safety. Unit consists of a 12″ threaded brass rod insulated with heavy fibre sleeving and two heavy ceramic insulators. Rod and insulation may be readily cut to any desired length.



Cat. No. I-742.......................Your Cost $0.60

SLOTTED MOUNTING BRACKET



This bracket is designed to permit the mounting of Midget Condensers, volume controls, etc., at any desired position under or on top of a chassis, at the proper distance from the chassis. Bracket is made of steel, cadmium-plated.

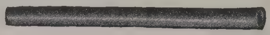
Cat. No. AB-549—Approx. ship. wt. 100—10 lbs. ....Your Cost $0.06

INSULATED ALIGNMENT TOOLS

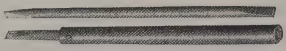
Nos. AT-254 to AT-256 are hard fibre trimmer wrenches with ¼″ hex. broaching through the entire length. Ends can be easily cut off as they become frayed or broken from wear.

No. AT-235 is a ¼″ diameter rod of a special tough fibre, beveled at each end to form screw-driver blades.

Nos. AT-236 to AT-237 are combination tools consisting of No. AT-235 driver inserted in an extra-heavy fibre tube which is hex. broached the entire length. Tools may be held at any length between specified limits by set screw provided.



AT-254 to AT-256



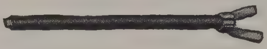
Top illus., AT-235; bottom AT-236, AT-237

Cat. No.	Length	Your Cost
AT-254	5½″	$0.21
AT-255	8″	.25
AT-256	12″	.33
AT-235	7″	.30
AT-236	7″ to 10″	.60
AT-237	11″ to 17″	.72

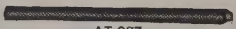
BUD ALIGNMENT TOOLS

No. AT-285 has a metal screw-driver tip at one end, and a metal alligator jaw at the other end for hex. head and knurled nuts.

No. AT-287 has a hard fibre handle with metal screw-driver at one end.



AT-285

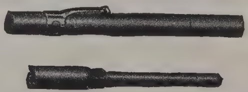


AT-287

Cat. No.	Your Cost
AT-285	$0.36
AT-287	.30

BUD 4-IN-1 TOOL

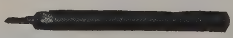
This handy alignment tool should be in the vest pocket of every service man. Consists of (1) insulated screw-driver, (2) Fin-type adjustment slot, (3) 5/16″ hex. wrench, and (4) ¼″ hex. wrench.



Cat. No. AT-118..................Your Cost $0.54

BUD TEST PRODS

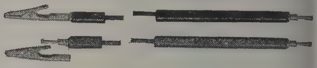
These tapered test prods are made of cast phenol resin. Tips screw into handle. Specify either Red or Black.



Cat. No.	Length	Your Cost
TL-187	5″	$0.30
PT-188	2″	.15
PT-189	2⅜″	.15
PT-190	1½″	.15

BUD DE LUXE TEST LEADS

TL-620 TEST LEADS illustrated are the New BUD Superior type Test Leads made from the finest type of very flexible kinkless rubber covered wire, with polished plastic handles at both ends. Also supplied with this pair of Test Leads are two alligator clips that can be slipped on the end of the phone tips.



TL-621 TEST LEADS are supplied with two sets of prods so that the user can interchange from needle point to phone tip point.

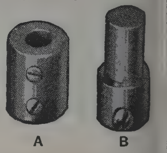
TL-186—Same as TL-620 less Alligator Clips.

TL-397S and TL-397P. Have Plastic Handles with special chuck points holding removable needle tips for piercing through insulation.

TL-398S and TL-398P. Are supplied with Plastic Handles and Standard Phone Tip Plugs that can be removed from insulated handle in case of wire breakage.

Cat. No.	Prod End	Terminals	Your Cost
TL-620	Phone Tip	Alligator Clip or Phone Tip	$1.05
TL-621	Needle Point or Phone Tip	Phone Tip	1.05
TL-186	Phone Tip	Phone Tip	.96
TL-397S	Needle Point	Spade Tip	.72
TL-397P	Needle Point	Phone Tip	.72
TL-398S	Phone Tip	Spade Tip	.72
TL-398P	Phone Tip	Phone Tip	.72

SHAFT COUPLINGS, REDUCERS, AND EXTENSIONS



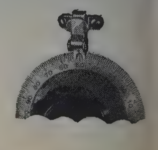
As indicated in the heading, these items are intended for connecting two shafts, changing diameter of shafts, or for increasing shaft lengths. Made of brass, nickel plated, packed 5 to a box.

Cat. No.	Description	Type	Your Cost
SE-1049	¼″ Coupling	A	$0.15
SE-1050	⅜″ Coupling	A	.15
SE-1051	¼″ to ⅜″ Coupling	A	.15
SE-1052	¼″ Hole to ¼″ Shaft Extension	B	.15
SE-1053	⅜″ Hole to ¼″ Shaft Reducer	B	.15
SE-1054	¼″ Hole to ⅜″ Shaft Increaser	B	.15
SE-1056	¼″ x 6″ Brass Shaft		.15
SE-796	¼″ x 12″ Brass Shaft		.30

INSULATED

Cat. No.	Description	Type	Your Cost
SE-1206	¼″ Coupling	A	$0.15
SE-1207	⅜″ Coupling	A	.15
SE-1208	¼″ to ⅜″ Coupling	A	.15
SE-1209	¼″ Hole to ¼″ Shaft Extension	B	.17
SE-1210	⅜″ Hole to ¼″ Shaft Reducer	B	.17
SE-1211	¼″ Hole to ⅜″ Shaft Increaser	B	.17
SE-1055	¼″ x 6″ Fibre Shaft		.21
SE-797	¼″ x 12″ Fibre Shaft		.39
SE-1978	¼″ x 6″ Bakelite Shaft		.36
SE-1979	¼″ x 12″ Bakelite Shaft		.60

BUD DIAL LOCK



An accurate, fast acting combination dial lock and tuning indicator. Indispensable on mobile installations and anywhere a positive dial adjustment must be maintained. Will fit a wide range of dial thicknesses and is easily installed.

Cat. No.	Your Cost
DL-1947	$0.18

BANANA PLUGS & JACKS

ntended for all purposes where it s desirable to make a coil, condenser, etc., easily removable. Plugs have heavy spring contacts which fit snugly into the jacks. No. PL-470 plug has $\frac{7}{16}$" shank, threaded 6-32, and No. PL-469 is tapped to accommodate a 6-32 screw. No. PJ-949 Jack fits into ¼" hole. All types packed 25 to a box.

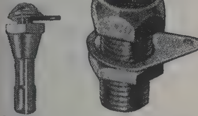
Cat. No.	Your Cost
PL-470	$0.09
PL-469	.09
PJ-949	.09

GIANT PLUGS AND JACKS

For applications requiring a heavy duty plug and jack having a large ontact area. Same jacks and plugs used with BUD Kilowatt coils.

No. PL-962 plug is made from one-piece spring brass with bright nickel plated finish. Spring action assures firm contact with the jack. Overall length is $1\frac{3}{16}$".

No. PJ-963 jack also made from brass, bright nickel plated. Each jack comes complete with nut and lug. Overall length is ⅞" and jack fits in ⅜" hole.



Cat. No.	Your Cost
PL-962	$0.23
PJ-963	.20

INSULATED GIANT PLUG

A substantial, insulated plug for terminating heavy single wire leads such as found on diathermy pads. Consists of a No. PL-962 Giant Plug attached to a removable bakelite handle and large soldering lug terminal. Overall length 2⅞". Plugs into No. PJ-963 jack.

Cat. No. PL-977..Your Cost $0.48

BUD PIN-PLUG AND JACK

This is a pin plug and jack combination that will fit into a multitude of applications: receivers, auto radio, recording and reproducing equipment, experimental units, etc.

Cat. No.	Description	Your Cost
PL-247	Plug	$0.09
JP-248	Jack	.15

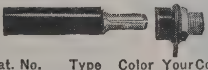
BUD INSULATED BANANA PLUG AND JACK

Positive spring action insures perfect contact.

Cat. No.	Type	Color	Your Cost
PL-477R	Plug	Red	$0.13
PL-477B	Plug	Black	.13
PJ-478R	Jack	Red	.12
PJ-478B	Jack	Black	.12

BUD GIANT INSULATED BANANA PLUG AND JACK

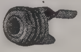
Excellent Plug and Jack for all heavy duty purposes. Plug has large wiping area, positive spring action making perfect contact.



Cat. No.	Type	Color	Your Cost
PL-475R	Plug	Red	$0.30
PL-475B	Plug	Black	.30
PJ-476R	Jack	Red	.24
PJ-476B	Jack	Black	.24

BUD MICROPHONE JACKS

These panel mounting jacks for control panels and similar applications where space is at a premium. Nickel plated finish, contacts of spring brass. Jacks come complete with insulated washers. Will accommodate standard plugs.



Cat. No.	Contacts	Your Cost
J-1038	2	$0.27
J-1058	3	.42

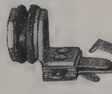
BUD PHONE PLUGS

Metal parts machined from brass, and nickel plated. Unshielded plugs have handles of black bakelite, and shielded types brass knurled handles, nickel plated. No. FP-1946 **Without Handle,** is used as an adapter between a female microphone cable connector and a regular phone plug jack.

Cat. No.	Contacts	Handle	Your Cost
FP-230	2	Bakelite	$0.33
FP-282	2	Shielded	.54
FP-1057	3	Bakelite	.66
FP-284	3	Shielded	.99
FP-1946	2	None	.24

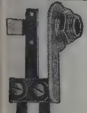
BUD MIDGET JACK

This jack has applications where there's limited space behind panel. Spring brass contact assures a good connection. Supplied with insulating washers. Accommodates standard phone plugs.



Cat. No.	Type	Your Cost
J-232	Open Circuit	$0.24
J-233	Closed Circuit	.30

BUD GENERAL PURPOSE JACKS

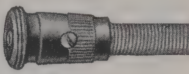


Although small in size, careful design and high quality materials assure dependable service. Spring is nickel silver; permits snap action and positive tension. Circuit opening contacts made of pure silver. Laminated bakelite insulation prevents breakdown between springs at all ordinary voltages. Supplied with panel insulating washers.

Cat. No.	Contact Arrangement	Your Cost
J-1324	Open circuit	$0.30
J-1325	Closed circuit	.36
J-1326	3-contact open circuit	.39
J-1327	Break contact on tip and ring spring	.42
J-1328	Separate make contact springs	.42
J-1329	Break contact on tip spring—separate make contact spring	.48
-1330	Break-make contact on tip spring	.45

BUD SINGLE CONTACT CABLE CONNECTORS

Unbreakable contacts for single-conductor microphone cable are provided by these shielded connectors. Made of brass, nickel plated. Accidental disconnections impossible by coupling ring which, when tightened, insures perfect contact between soldered connections. Cord protectors of steel spring wire will take cables up to ¼" in diameter.



CN-245

CN-244

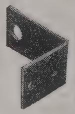
Cat. No.	Description	Your Cost
CN-244	S. C. Female	$0.33
CN-245	S. C. Male	.30

BUD CHASSIS UNITS

Male Connector designed for chassis mounting in connection with CN-244. Where ground to chassis is desired, mount in $\frac{13}{32}$" hole; for two circuits independent of chassis, mount in ½" hole; insulating washers are furnished.

Cat. No. CN-246..Your Cost $0.21

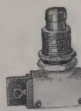
BUD INTERLOCK SWITCH-BRACKET



Every installation of high voltage equipment in a cabinet should be wired with interlock switches to break the primary current whenever the cabinet is opened for repair, adjustment or alteration. These brackets are supplied with mounting holes and a $\frac{15}{32}$" hole for the shank of a power switch such as the Bud SW-1270 switch.

Cat. No.	Your Cost
SB-1348	$0.39

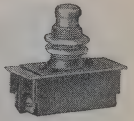
PUSH-BUTTON SWITCH



Two-circuit slow-make and quick-break momentary contact switch. One circuit is "ON" and the other is normally "OFF." Pushing the button reverses the position of the circuits. Same switch is used on a number of commercial test sets. Shank is ⅝" long.

Cat. No. SW-743..Your Cost $0.57

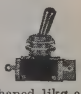
BUD POWER SWITCHES



Designed for interrupting heavy currents too great for ordinary switches. Both are double pole, single throw. Rated at 12 amps. at 125 volts or 6 amps. at 250 volts. By paralleling the contacts, making the switch single pole single throw, these ratings may be doubled. Made for BUD by H. & H. No. SW-1269 is a regular toggle type switch for all standard applications. No. SW-1270 is a push-button type with both contacts normally in the open position. Intended as a safety switch to be used in an interlock connection on rack cabinets, etc., to interrupt the primary current whenever the door is opened. Both switches are 1¾" long, ¾" wide, and ¾" high and have a threaded shank $\frac{15}{32}$" in diameter and $\frac{7}{16}$" long. No. SB-1348 is a bracket for holding No. SW-1270 switch in position in any rack cabinet.

Cat. No.	Your Cost
SW-1269	$0.90
SW-1270	1.50
SB-1348—Bracket	.39

BAT-HANDLED TOGGLE SWITCHES



Identical with the regular line of toggle switches listed below except that handle is longer and shaped like a baseball bat. Available only in nickel plated finish with $\frac{7}{16}$" shank. Packed 5 to a carton. Contacts are silver plated.

Cat. No.	Description	Your Cost
SW-1115	S. P. S. T.	$0.36
SW-1118	S. P. D. T.	.45
SW-1119	D. P. S. T.	.57
SW-1120	D. P. D. T.	.69

BUD ROTARY SWITCHES

Used where rotary action with a knob is desired instead of toggle action. Underwriter approved. Ratings same as for toggle switches. **No. DP-1230 listed below is an OFF-ON plate especially intended for these rotary switches.**

Cat. No.	Des.	L Shank	L Shaft	Your Cost
SW-499	SPST	⅜"	1⅛"	$0.45
SW-1070	SPST	1"	1½"	.48
SW-1071	SPDT	⅜"	1⅛"	.51
SW-1072	SPDT	1"	1½"	.60
SW-1073	DPST	⅜"	1⅛"	.69
SW-1074	DPST	1"	1½"	.81
SW-1075	DPDT	⅜"	1⅛"	.81
SW-1076	DPDT	1"	1½"	.90
DP-1230	OFF-ON Plate			.09

BUD ROTARY SWITCH
Off-On Plate

This plate serves as an indicator for a rotary type power switch when used with a small bar knob.

Cat. No. DP-1230, Your Cost $0.09

BUD TOGGLE SWITCHES

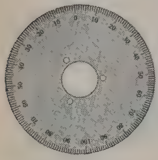
These standard type toggle switches. Underwriter approved. Rated at 3 amps. at 125 volts or 1 amp. at 250 volts. Heavy soldering connections. Made for BUD by H. & H. Nickel plated or bronze finish. Nickel supplied unless bronze is specified. Packed 5 to a carton.. Contacts silver plated, bakelite insulation.

Cat. No.	Des.	Shank Length	Your Cost
SW-1003	S.P.S.T	$\frac{15}{32}$"	$0.33
SW-1004	S.P.S.T.	¾"	.39
SW-1005	S.P.D.T.	$\frac{15}{32}$"	.42
SW-1006	S.P.D.T.	¾"	.48
SW-1007	D.P.S.T.	$\frac{15}{32}$"	.57
SW-1008	D.P.S.T.	¾"	.63
SW-1009	D.P.D.T.	$\frac{15}{32}$"	.66
SW-1010	D.P.D.T.	¾"	.72
SW-1077	Closes 3 circuits, for RCA, etc.	¼"	.60
SW-1036	"Off-On" Plate		.03

BUD ETCHED DIAL PLATES

Raised polished markings on black enameled background. The plate material is aluminum, and the center holes are $\frac{13}{32}$" in diameter.

Cat. No.	Arc	Calib.	Markings	Your Cost
DP-1276	180°	0 to 100	Tracking	.18
DP-1179	300°	0 to 100		.18
DP-1224	300°	0 to 100	Record	.18
DP-1225	300°	0 to 100	Microph.	.18
DP-1226	300°	0 to 100	Gain	.18
DP-1227	300°	0 to 100	Tone	.18
DP-1275	300°	0 to 100	R. F. Gain	.18
DP-1228			Tone Cont.	.18
DP-1229		Arrow	Volume	.18
DP-1273	Marked 1 to 5 for Rotary Sw.			.18
DP-1274	Marked 10 to 160 for Band Sw.			.18

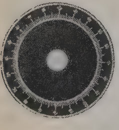


DIAL PLATES

For making up special types of tuning and indicating equipment. Numerals and divisions are die-stamped and filled with black enamel.

DP-719 and DP-721 are Universal Scale running 0 to 100 and 100 to 0.

Cat. No.	Dia.	Arc	Calibrated	Your Cost
DP-716	2¾"	360°	0 to 100	$0.35
DP-719	2¾"	360°	0 to 100 100 to 0	.60
DP-721	4"	360°	0 to 100 100 to 0	.85



BUD UNIVERSAL DIAL PLATES

Black enameled background on aluminum, etched plates, popular for all types of installations. Universal application; calibration over the whole 360° in two divisions—clockwise over 180° from 0 to 100, and counter-clockwise from 0 to 100, over the other 180°. Center hole is ⅜" in diam.

Cat. No.	Dia.	Arc	Calibrated	Your Cost
DP-714	2"	360°	0 to 100 to 0	$0.18
DP-715	3"	360°	0 to 100 to 0	.24

BUD RECTANGULAR DIAL PLATES

These Etched Dial Plates, can be used when a more "streamlined" effect is desired. All plates are calibrated for 300° rotation, measure 1$\frac{11}{16}$" x 2¼".

Cat. No.	Marking	Your Cost
DP-978	Record	$0.18
DP-979	Microphone	.18
DP-980	Gain	.18
DP-981	Tone	.18
DP-982		.18

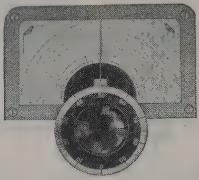
JACK NAME PLATES

For identifying input and output circuits. Nos. DP-1262 and DP-1271 are toggle switch identification nameplates. Polished letters on black enameled background. Diameter of all plates 1⅛".

Cat. No.	Marking	HoleSize	YourCost
DP-1180	Microphone	$\frac{13}{32}$"	$0.12
DP-1181	Phono Pick Up	$\frac{13}{32}$"	.12
DP-1182	Phones	$\frac{13}{32}$"	.12
DP-1272	Key	$\frac{13}{32}$"	.12
DP-1271	On—Off	.475"	.12
DP-1262	High—Low	.475"	.12

BUD VERNIER DIAL—*GEARED TYPE*

This new and improved precision-built, vernier dial of attractive appearance, has been designed for industrial, laboratory and amateur radio applications. Many uses can be found for this gear-driven dial on electron-coupled oscillators, frequency meters, receivers and many other types of instruments and laboratory equipment which requires ease of tuning and accuracy of calibration.

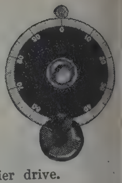


Freedom from back-lash is obtained by the use of spring-loaded laminated steel gears which are of the ratio ten to one. Each dial comes furnished with three paper dial scales upon which calibration marks can be imprinted. These dial scales are printed with five calibration arcs for wave band identification and each arc is divided into five equal sections over 180 degrees, which makes each section the equivalent of one rotation of the circular dial or 100 dial divisions. This enables a calibration of 500 divisions over the entire scale.

The dial is furnished complete with all hardware. An attractive gray crackle frame outlines the dial scale which is further protected by a "Plastacele" window. The whole dial scale assembly mounts independent of the gear unit and may be removed any time desired without disturbing the dial drive. Mounting area of the dial is 5¼" x 5¾". Depth behind panel is 1½".

Cat. No. D-1729....................Your Cost $3.18

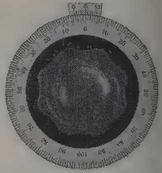
VERNIER DIALS—*FRICTION TYPE*



Friction drive gives smooth vernier action. Dials calibrated 0 to 100 clockwise over 360 degrees. The face of dial is glossy black enamel; rim and numerals are polished metal. Dials fit ¼" shafts. Included are a single line indicator and a black knob on the vernier drive.

Cat. No.	Div.	Dial Dia.	Plate Height	Mtg. Holes	Your Cost
D-1944	0-100	2¾"	3⅝"	1⅝"	$1.44
D-1945	0-100	4"	4⅞"	2¼"	1.77
D-1919	Vernier Dial Drive				.21

TUNING DIALS



Outstanding appearance; accurate calibration for transmitters, receivers, and instruments Knobs are fluted for easy finger grip; made of bakelite. Dials are universal calibrated to read 0-100 or 100 to 0 over 180°. Runs perfectly concentric with the shaft and is well insulated. Nos. D-1732 and D-1734 supplied with a single line indicator. Nos. D-1895 and D-1897 supplied with vernier indicators which enable readings of one part in 1000 to be made accurately.

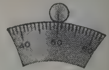
WITH VERNIER INDICATOR

Cat. No.	Dial Div.	Diam.	Your Cost
D-1895	0-100-0	2¾"	$1.32
D-1897	0-100-0	4"	1.77

WITH SINGLE LINE INDICATOR

Cat. No.	Dial Div.	Diam.	Your Cost
D-1732	0-100-0	2¾"	$1.17
D 1734	0-100-0	4"	1.59

INDICATORS ONLY



Cat. No.	Type	Wid.	Ht.	Your Cost
IN-723	Vernier for 2¾" Dial	$\frac{11}{16}$"	¾"	$0.30
IN-725	Vernier for 4" Dial	⅞"	¾"	.30
IN-1736	Single Line			.12

BUD NAME PLATES

Made of aluminum with polished letters on black enameled background. Plates are ⅜" x 1½". Shipping weight of 10—½ lb.

FIL. VOLTS
OFF - ON
OUTPUT
AMPLIFIER
SCREEN CURRENT

Cat. No. Name

N-1130—Oscillator
N-1131—Plate Volts
N-1132—Microphone
N-1133—Input
N-1134—Monitor
N-1135—D. C. Volts
N-1136—Send
N-1137—Selector
N-1138—Buffer
N-1139—Crystal Osc.
N-1140—C. W. Phone
N-1141—200 Ohm
N-1142—500 Ohm
N-1143—Tone Control
N-1144—Fil. Volts
N-1145—Rectifier
N-1146—Output
N-1147—Freq. Meter
N-1148—Beat Osc.
N-1149—Receive
N-1150—Send—Receive
N-1151—Plate
N-1152—Power Amp.
N-1153—Neutralizer
N-1154—Fader
N-1155—Antenna
N-1156—Key
N-1157—A. C. Input
N-1158—Transceiver

Your Cost — $0.07

Cat. No. Name

N-1159—A. C. Volts
N-1160—Speech Amp.
N-1161—Gain Control
N-1162—Tritet Osc.
N-1163—Grid
N-1164—Modulator
N-1165—Doubler
N-1166—Transmitter
N-1167—Amplifier
N-1168—Plate Volt.
N-1169—Off—On
N-1170—Class "B" Mod.
N-1171—Grid Current
N-1172—Ground
N-1173—Crystal Osc. Plate
N-1174—Buffer Plate
N-1183—Buffer Grid
N-1184—Power Amp. Plate
N-1185—Power Amp. Grid
N-1186—Screen Current
N-1231—Modulator Plate
N-1232—Modulator Grid
N-1233—Microphone Cur.
N-1234—200 Ohm Input
N-1235—200 Ohm Output
N-1236—500 Ohm Input
N-1237—500 Ohm Output
N-1238—Radio
N-1239—Record

Your Cost — $0.07

Cat. No. Name

N-1240—Speaker
N-1700—5 Meters
N-1701—10 Meters
N-1702—20 Meters
N-1703—40 Meters
N-1704—80 Meters
N-1705—160 Meters
N-1706—Line
N-1707—Silencer
N-1708—Xtal Filter
N-1709—Phasing
N-1710—Bandset
N-1711—Band Switch
N-1712—Preselector
N-1713—Regeneration
N-1714—Volume
N-1715—R. F. Gain
N-1716—A. F. Gain
N-1717—E. C. Oscillator
N-1718—"R" Meter
N-1719—Phones
N-1720—Exciter
N-1721—Plate Current
N-1722—Mod. Current
N-1723—Ant. Current
N-1724—Xtal Current
N-1725—Doubler Current
N-1726—Buffer Current

Your Cost — $0.07

BUD DE LUXE STREAMLINED PROFESSIONAL RELAY RACKS

Ideal for housing your **Transmitter, P. A. System,** or other **Electronic Equipment,** this large, sturdy cabinet is of modern design, featuring rounded vertical front corners and handsome red-striped, chrome-trim at bottom. Top has louvres in front and rear for additional ventilation.

These **Relay Racks** are of **rugged construction** being fabricated from 16-gauge (1/16″) cold rolled steel; the panel mounting supports, which are welded to each side of the cabinet, are of ⅛″ steel, accurately punched to accommodate rack panels. The holes are tapped 10-32. These panel mounting supports are recessed so that no edges are exposed.

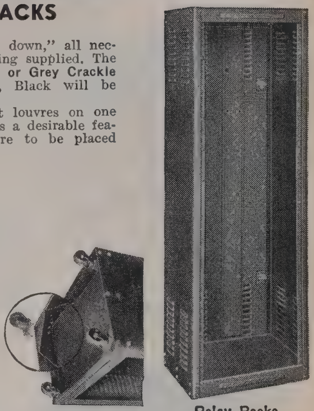
The rear door is hung on loose-joint hinges, and is held securely in place by two snap catches. The construction and application of this door enables it to be easily removed when equipment repairs are necessary. An **Interlocking Switch Bracket** is provided with each cabinet.

The cabinets are shipped "knocked down," all necessary hardware for easy assembly being supplied. The cabinets are available in either **Black or Grey Crackle** finish. When color is not specified, Black will be furnished.

The cabinet can be supplied without louvres on one or both sides at no extra cost. This is a desirable feature when two or more cabinets are to be placed side by side.

Base of cabinet has four supports welded into each corner. These supports are tapped so that our RC-7756 casters can be easily attached to these cabinets and thereby eliminating the necessity for using cabinet rack Dollies. Casters are not included in price of these cabinets.

Catalog Number	Overall Height	Panel Space	Ship. Wt.	Your Cost
CR-1774	42 1/16″	36¾″	90 lbs.	$30.00
CR-1771	47 5/16″	42″	100 lbs.	36.24
CR-1772	66 9/16″	61¼″	135 lbs.	44.70
CR-1773	82 5/16″	77″	155 lbs.	51.75



Relay Racks

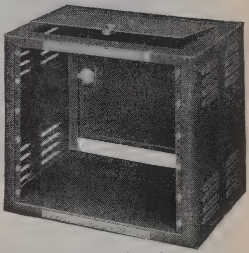
BUD DE LUXE STREAMLINED PROFESSIONAL CABINET RACKS

Builders of Commercial and Amateur **Transmitters, P. A. Systems** and other apparatus requiring one or more chassis and panel units will find this series of modernistic **Cabinets** the most handsome line available.

In keeping with **De Luxe Relay Racks** the front vertical corners are attractively rounded. Top and bottom are trimmed with red-striped chrome-finished moldings. Panels fit into a recess so that no edges are exposed. All **Cabinets** have recessed hinged door on top, provided with a snap catch. The three large sizes have hinged rear doors, making all equipment on shelves readily accessible. Panel mounting holes are accurately drilled and tapped. The back is terminated two inches above the bottom to give access to various terminals, and to permit switching, keying, and A. C. leads to be brought out. These **Cabinets** are constructed from 16-gauge (1/16″) thick cold rolled steel, with all joints electrically welded, then smoothly ground. **Cabinets** shipped set up ready for use, available in either **Black or Grey Crackle** Enamel finish. Ample ventilation is possible by louvres and opening in back. Panel mounting screws and cup washers for fastening panels to cabinet are furnished.

ALL CABINETS IN THIS SERIES ARE PROVIDED WITH EXTENDED METAL FEET, ENABLING CABINETS TO BE PLACED ON DESK OR TABLE, WITHOUT FEAR OF ENDANGERING OR INJURING THE FINISH ON TABLE OR DESK.

Catalog Number	Overall Height	Panel Space	Ship. Wt.	Your Cost
CR-1741	10 9/16″	8¾″	29 lbs.	$10.35
CR-1742	14 1/16″	12¼″	32 lbs.	12.60
CR-1739	15 13/16″	14″	36 lbs.	15.18
CR-1743	19 5/16″	17½″	40 lbs.	16.77
CR-1744	28 3/16″	26¼″	50 lbs.	19.32
CR-1745	36 13/16″	35″	60 lbs.	21.57



Cabinet Racks

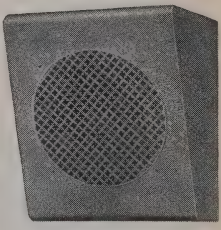
BUD IMPROVED WALL OR TABLE TYPE SPEAKER CABINETS

Bud Radio Engineers have developed a distinctive line of new metal speaker cabinets with reproduction capabilities equal to the finest wood housings. All troubles with wood warping and splitting are eliminated.

Keyway Holes are provided for wall mounting, and four embossed feet on the bottom to prevent damaging table surfaces. Finish, **Brown** Enamel.

Sizes available to house 4″ to 12″ speakers.

Catalog Number	Hole Size	Speaker Size	Height	Width	Depth	Your Cost
CS-1939	4″	4″ & 5″	7½″	6½″	4¼″	$3.24
CS-1940	4¾″	6″	9½″	8″	5⅝″	3.60
CS-1941	6½″	8″	11½″	9½″	7″	4.29
CS-1942	8½″	10″	13½″	11½″	8¼″	5.01
CS-1943	10½″	12″	15½″	13½″	9¾″	5.76



Speaker Cabinets

BUD STEEL RELAY RACK PANELS

Made of high grade steel ⅛″ thick, 19″ long, and finished in beautiful baked **Black** or **Grey Crackle** Enamel, these panels afford rigid support for all types of relay rack units. Available in **Western Electric Notching** (first notch ¼″ or 1½″ from edge). **Black Crackle** finish supplied unless **Grey** is specified.

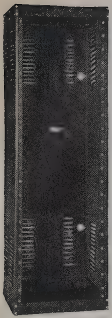
PS-1250	1¾	2	$0.69	PS-1254	8¾	7	$1.20	PS-1258	15¾	12	$2.25
PS-1251	3½	3	.75	PS-1255	10½	8	1.38	PS-1259	17½	13	2.40
PS-1252	5¼	4	.90	PS-1256	12¼	9	1.68	PS-1260	19¼	14	2.52
PS-1253	7	5	.96	PS-1257	14	10	1.92	PS-1261	21	15	2.94

Rack Panels

BUD MASONITE RELAY RACK PANELS

Where light, non-magnetic, insulated panels are desirable, this line, made of Tempered Masonite, may be utilized to good advantage. While strong and tough, these panels are readily worked with ordinary wood-working tools. Panels are 3/16″ thick and 19″ long, and are finished in beautiful and durable baked **Black** or **Grey Crackle** Enamel. **Available in Western Electric notching. Black** finish will be supplied unless **Grey** is specified.

PM-1588	1¾	1	$0.50	PM-1592	8¾	2	$1.20	PM-1596	15¾	4	$1.86
PM-1589	3½	1	.66	PM-1593	10½	3	1.35	PM-1597	17½	5	2.16
PM-1590	5¼	2	.87	PM-1594	12¼	3	1.50	PM-1598	19¼	5	2.40
PM-1591	7	2	.96	PM-1595	14	4	1.68	PM-1599	21	6	2.61



BUD PROFESSIONAL RELAY RACKS

Professional appearance will be added to any **Transmitter, P. A. System** or any **Electronic Equipment** when housed in one of these excellent Cabinet Relay Racks. Complete protection from damage and dust is provided for equipment.

The enclosed rack is substantially constructed from 16-gauge (1/16″) cold rolled steel. Panel mounting supports which are welded to the sides are ⅛″ thick, and are accurately punched; holes are tapped 10-32. Holes are spaced to accommodate either **Western Electric** or **Amateur Standard Notched Panels.** The panels fit into a recess, so that the edges are not exposed. The removable rear door is provided with two snap catches. An interlock switch bracket is provided with each cabinet.

These Relay Racks are painted in either **Black** or **Grey Crackle** Enamel finish. They are shipped **"Knocked Down,"** supplied with all necessary hardware for assembly. We also supply a sufficient number of 10-32 screws and cup washers for mounting of panels.

Cat. No.	Overall Size Height	Width	Depth	Panel Space Height	Width	Ship. Wt.	Your Cost
CR-873	42 1/16″	21″	17″	36¾″	19″	90 lbs.	$25.50
CR-874	47 5/16″	21″	17″	42″	19″	95 lbs.	31.20
CR-875	66 9/16″	21″	17″	61¼″	19″	128 lbs.	38.40
CR-884	82 5/16″	21″	17″	77″	19″	144 lbs.	47.10

BUD GENERAL CABINET RACKS

For **Electronic, Amateur** and **Commercial** applications requiring neat housing at reasonable costs, this unusually fine line of cabinets is recommended. Constructed from 16-gauge (1/16″) cold rolled steel, all joints welded, and ground smooth. Cabinets shipped set up and ready for use, available in either **Black** or **Grey Crackle** Enamel finish.

Ample ventilation is provided by louvres and opening in back. Hinged rear door with snap catch is furnished on three larger sizes. All others have solid back welded to sides. Hinged top door with snap catch lock is supplied on all cabinets of this line.

These cabinets are designed so that they will accommodate either **Western Electric** or **Amateur Standard Notched** Panels. Screws and cup washers are furnished to fasten panels to cabinets.

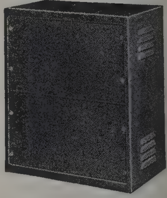
Cat. No.	Overall Size Height	Width	Depth	Panel Space Height	Width	Ship. Wt.	Your Cost
CR-694	9″	20 13/16″	14¾″	8¾″	19″	22 lbs.	$7.50
CR-695	10¾″	20 13/16″	14¾″	10½″	19″	24 lbs.	9.51
CR-693	12½″	20 13/16″	14¾″	12¼″	19″	27 lbs.	10.95
CR-696	18½″	20 13/16″	14¾″	17½″	19″	32 lbs.	14.10
CR-697	27¼″	20 13/16″	14¾″	26¼″	19″	44 lbs.	15.45
CR-698	36″	20 13/16″	14¾″	35″	19″	55 lbs.	18.81

BUD SMALL CABINET RACK

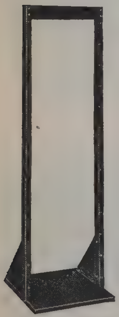
The long-felt need for a small and inexpensive cabinet rack to house low power transmitters and similar apparatus is filled with the introduction of this new addition to the **Bud** line. This cabinet is constructed to accommodate two panels, one 10½″ and one 8¾″. Cabinet height 20¼″, width 19⅛″, depth 10½″.

The rear of the cabinet is covered by a hinged door with an efficient locking device, and the sides are louvred for ventilation. The entire unit is formed from **Black Crackled** steel and is furnished complete with panels.

Cat. No. RC-1749..Ship. Wt. 25 lbs..**Your Cost $14.10**



BUD STANDARD RELAY RACKS



Where a sturdy mounting for a number of panel and chassis units such as in a transmitter, public address system, etc., is desired, allowing complete accessibility to all parts, this line of **Relay Racks** is indispensable. The one-eighth inch steel channels, three inches deep, are held together by angle cross-pieces of the same material. The base design has been improved to incorporate a chassis-type bottom, together with the usual side angles, making the rack stronger and more stable.

These units are intended to accommodate standard 19-inch panels with either **Western Electric** or **Amateur Notching.** Holes are drilled and tapped for 10-32 thread. The finish of these racks is baked **Black Crackle** Enamel, and they are shipped "knocked down." Assembly is very easy, and all necessary nuts, bolts, and washers are included.

The No. **RR-1265 Rack** is a professional heavy duty rack for heavier types of commercial installations. Uprights are heavy channel iron, supported by a heavy ⅜″ thick angle-iron base. Finish and drilling same as above.

Cat. No.	Overall Size H	W	D	Panel Size H	W	Ship.Wt.	Your Cost
RR-1263	35½″	20″	22″	31½″	19″	38 lbs.	$15.00
RR-1264	70½″	20″	22″	66½″	19″	48 lbs.	18.00
RR-1265	72½″	20″	15″	66½″	19″	104 lbs.	31.50

BUD DESK TYPE RELAY RACKS

These small relay racks are perfectly suited for table mounting of low and medium power transmitters, public address systems, and other electronic instruments. Each rack is built around a heavy chassis on which the side uprights mount. This type construction permits the rack to hold great weights. Racks come "knocked down" but are complete with all necessary hardware and are easily assembled. Finish is **Black Crackle** Enamel. Either **Western Electric** or **Amateur Standard** notched panels can be used. Panels set in a recess so that no edges are exposed.

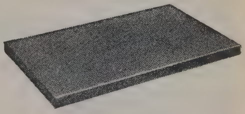
Cat. No.	Overall Size H	W	D	Panel Size H	W	Ship.Wt.	Your Cost
RR-1248	24″	20⅜″	12″	21″	19″	15 lbs.	$5.76
RR-1249	31″	20⅜″	12″	28″	19″	20 lbs.	7.20

NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

BUD RACK SHELVES

Heavy power supplies, modulator units, etc., can be mounted on these rack shelves which are supported in the cabinet by the chassis-supporting angles listed below. They are designed to slide in from the rear of the cabinet. Made of heavy gauge steel and finished in **Black Crackle Enamel.**

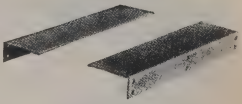
Cat. No.	H	L	D	Ship. Wt.	Your Cost
CB-1976	1″	19″	15″	6 lbs.	$2.94
CB-1977	1″	19″	12″	5 lbs.	2.55


Rack Shelf

BUD CHASSIS SUPPORTING ANGLES

In a relay rack it is frequently desirable to have some support in addition to the panel for an unusually heavy panel-an-chassis unit. To fill this need, these Supporting Brackets may be screwed on the sides of a relay rack cabinet in such a manner that the chassis may slide and rest on them in much the same way as a desk drawer does. The angles No. SA-1349 are 14½″ long and projeet 3″ from each side of cabinet. The angles No. SA-1350 are 12″ long and project 3″ from each side of cabinet. Afford ample support for a standard 17″ width chassis. These brackets are sold in pairs, finished in durable Black Crackle Enamel, and come complete with necessary mounting hardware.

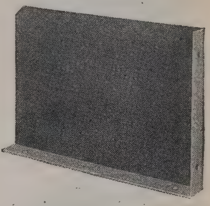
Cat. No.	Ship. Wt.	Your Cost
SA-1349	4 lbs.	$1.29
SA-1350	4 lbs.	1.29


Chassis Supporting Angles

BUD INTERSTAGE SHIELDS

These shields find many uses on receiver and transmitter chassis for eliminating interstage coupling and isolating individual circuits. Construction is of 20-gauge steel. Formed angles on front and bottom facilitate mounting on either chassis or panel. Both angles punched with two mounting holes.

Cat. No.	H	D	Ship. Wt.	Your Cost
IS-1246	5½″	7″	1 lb.	$0.36
IS-1247	5½″	10″	1 lb.	.42
IS-1245	6½″	10″	1 lb.	.45

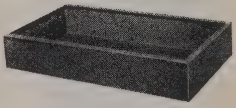

Interstage Shield

BUD STEEL CHASSIS BASES

These rugged steel chassis are made from one piece of steel, and all corners are spot-welded. The sides are folded over on the bottom for additional strength, and this also permits bottom plates to be attached to the chassis if desired. These bases are furnished in either **Black Crackle Enamel** or **Electro-zinc Plated Finish.**

Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Metal Ga.	Ship. Wt. lbs.	Your Cost
CB- 628	CB- 629	5	7	2	20	2	$0.63
CB- 644	CB- 645	5	9½	2½	20	2	.75
CB- 788	CB- 776	5	9½	1½	20	2	.69
CB- 604	CB- 605	5	10	3	20	2	.90
CB- 789	CB-1191	7	7	2	20	2	.81
CB- 790	CB-1192	7	9	2	20	2	.90
CB- 791	CB-1193	7	11	2	20	2	.96
CB- 792	CB- 793	7	12	3	20	3	1.14
CB- 646	CB-1194	7	13	2	20	3	1.08
CB- 647	CB-1198	5	13½	2½	20	2	1.08
CB- 649	CB-1189	7	15	3	20	3	1.32
CB- 665	CB- 666	8½	15	3	20	3	1.41
CB-1068	CB-1066	4	17	3	20	3	1.11
CB- 648	CB-1199	7	17	2½	20	4	1.29
CB- 701	CB- 702	8	10	2½	20	3	1.17
CB- 703	CB- 704	8	12	2½	20	3	1.26
CB- 650	CB- 774	8	17	2	20	4	1.44
CB- 651*	CB- 775*	8	17	3	20	5	$1.47
CB- 652	CB-1195	10	12	3	20	5	1.44
CB- 653	CB- 779	10	14	3	20	5	1.47
CB- 654*	CB- 769*	10	17	2	20	5	1.41
CB- 636*	CB- 637*	10	17	3	20	6	1.29
CB- 655*	CB-1196*	10	17	3	18	6	1.47
CB- 656	CB-1197	10	23	3	18	7	2.01
CB- 657*	CB- 770*	11	17	2	18	5	1.80
CB- 658*	CB- 771*	11	17	3	18	6	2.01
CB- 663*	CB- 661*	12	17	2	18	5	1.86
CB- 664*	CB- 662*	12	17	3	18	6	2.01
CB- 659*	CB- 772*	13	17	2	18	6	2.16
CB- 660*	CB- 773*	13	17	3	18	6	2.46
CB- 640*	CB- 641*	10	17	4	18	7½	2.07
CB- 642*	CB- 643*	13	17	4	18	8½	2.79
CB- 623	CB- 624	10	17	5	18	8½	3.15
CB- 625	CB- 626	13	17	5	18	9½	3.54

* Indicates chassis which are punched to accommodate Chassis Mounting Brackets.

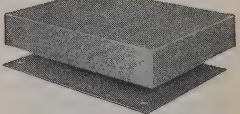

Steel Chassis Base

BUD HEAVY DUTY CHASSIS BASES

(FURNISHED WITH BOTTOM PLATES)

The construction of this line of bases is identical with the line of regular Steel Chassis Bases with the exception that they are formed from heavy 1/16″ steel and intended for applications requiring unusual sturdiness and where large weights are involved. All sizes are available in either **Black Crackle** or **Electro-zinc Plated Finishes** and come complete with bottom plates and mounting screws.

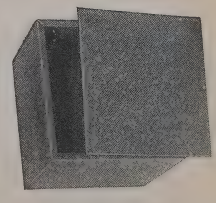
Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Ship. Wt. lbs.	Your Cost
CB-1757	CB-1764	8	17	2	8	$2.58
CB-1758	CB-1765	8	17	3	8½	2.85
CB-1759	CB-1766	11	17	2	10	2.85
CB-1760	CB-1767	11	17	3	11	3.09
CB-1761	CB-1768	13	17	2	11	3.33
CB-1762	CB-1769	13	17	3	12	3.60
CB-1763	CB-1770	13	17	4	13	4.08

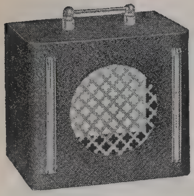

Heavy Duty Chassis Base

BUD METAL UTILITY CABINETS

The construction of this line of cabinets is identical with the Metal Carrying Cases with the exception that the handle is omitted. The large number of sizes available makes this line useful for all sorts of **Electronic Equipment, Monitors, Frequency Meters, etc.** Furnished complete with screws.

Cat. No.	D In.	W In.	H In.	Ship.Wt. lbs.	Your Cost
CU- 883	2	4	4	1	$0.81
CU- 728	3	5	4	2	.87
CU- 729	4	5	6	3	1.08
CU-1098	6	6	6	3	1.08
CU-1099	5	6	9	3	1.53
CU- 879	7	8	10	5	1.95
CU-1124	6	7	12	5	2.10
CU- 880	8	10	10	7	2.40
CU- 881	8	11	12	8	2.61
CU- 882	7	9	15	9	2.88


Metal Utility Cabinet



Streamlined Speaker Case

BUD STREAMLINED SPEAKER CASES

Since many communications receivers are furnished with external and unmounted speakers, this line of speaker housings was introduced to provide an attractive enclosure for such units. In addition, these cabinets are ideally suited for many more types of installations where speakers must be placed in a conspicuous place. Each cabinet has the front vertical corners rounded, and the speaker opening is covered with an artistic metal grille. Two strips of chromium trim are located vertically on each side of the speaker opening, and each case is furnished with a carrying handle which may be removed if desired. These cases are available with either **Black** or **Grey Crackle** finish. **Black** will be supplied unless **Grey** is specified.

Cat. No.	Hole Size In.	Speaker Size In.	H In.	W In.	D In.	Ship. Wt. lbs.	Your Cost
CS-1935	4¾	6	8	9	6	5	$3.36
CS-1936	6½	8	9¾	11	7	6½	4.20
CS-1937	8$\frac{13}{16}$	10	11½	13	8	10	5.70
CS-1938	11	12	13½	15	8	12½	7.50

Metal Carrying Case

BUD METAL CARRYING CASE

Designed primarily for all types of small portable equipment, this line of Carrying Cases finds many uses in housing transceivers, field strength meters, oscilloscopes, test oscillators, etc. An easy-grip handle is riveted on the top. The removable front and rear panels are fastened to the case by means of 6-32 screws. The steel welded construction assures maximum strength at a minimum weight—very important for portable work. Finish is **Black Crackle.**

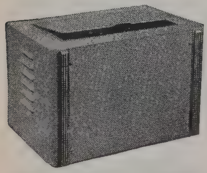
The line of Chassis Decks contains an appropriate size for each of these cabinets.

Cat. No.	Depth In.	Width In.	Height In.	Wt. lbs.	Your Cost
CC-1095	5	6	9	3	$2.16
CC-1091	5	9	6	3	2.16
CC-1096	6	7	12	5	2.73
CC-1092	6	12	7	5	2.94
CC-1097	7	7¾	15	7	3.12
CC-1100	7	10	10	6	2.94
CC-1093	7	15	9	9	4.32

BUD STREAMLINED CABINETS

This latest development in housings for receivers, electronic instruments, etc., is this new line of metal cabinets. Their distinctive features are the rounded front vertical corners and the recessed hinged tops. These two factors make a unit built in one of these cabinets very modern in appearance. All parts are completely accessible. The panel of each cabinet is removable and fits flush with the rounded corners. The rear of the cabinet is stopped 2″ above the bottom, allowing all necessary leads to the chassis to be readily brought out without drilling the cabinet itself. Both sides are louvred for ventilation, and the bottom of each cabinet has four embossed feet. These cabinets are furnished in **Black Crackle** Enamel finish.

Cat. No.	W Panel In.	W In.	Ship. Wt. lbs.	Your Cost
C-1746	10	12½	8	$3.27
C-1747	12	14½	8½	3.75
C-1748	14	16½	9½	4.32

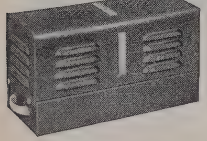


De Luxe Streamlined Cabinet

BUD DE LUXE STREAMLINED CABINETS

These cabinets are identical with those listed above, except that they have a ½″ vertical chrome strip at each side of the panel, and are supplied in **Grey Crackle** Enamel **only.**

Cat. No.	W Panel In.	W In.	Ship. Wt. lbs.	Your Cost
C-1781	10	12½	8	$4.32
C-1782	12	14½	8½	4.80
C-1783	14	16½	9½	5.40



Streamlined Amplifier Foundation

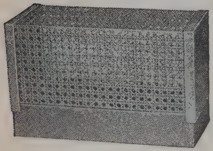
BUD STREAMLINED AMPLIFIER FOUNDATIONS

The utility of these new Amplifier Foundations can be appreciated only after they have been seen. Intended to house public address amplifiers, speech amplifiers, and similar apparatus, these units present a handsome appearance heretofore not available for such apparatus.

Each of these foundations consists of a standard chassis on which is mounted a removable cover held on by screws. This cover has the front and rear horizontal corners rounded; sides and ends are attractively louvred; and top contains grilled cutouts. Chromium trim is used on top and sides, and handles are used on ends of chassis. All chassis are 3″ high, and all units are 9″ overall height.

Standard finish for this series is either **Black** or **Grey Crackle** Enamel. **Black** will be supplied unless **Grey** is specified.

Cat. No.	W In.	D In.	Ship. Wt. lbs.	Your Cost
CA-1750	10$\frac{1}{16}$	5	6	$3.48
CA-1751	12$\frac{1}{16}$	7	7	4.11
CA-1752	17$\frac{1}{16}$	7	10	5.01
CA-1753	17$\frac{1}{16}$	10	11	5.70

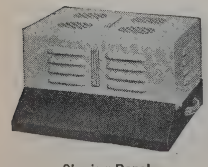


Amplifier Foundation

BUD AMPLIFIER FOUNDATIONS

Almost all types of speech and amplifier equipment are readily adapted to this very neat line of ventilated housings. Each unit consists of a regular chassis on which is attached the shield cover. This shield cover has cane design sides and top and solid ends, assuring strong construction and, at the same time, adequate protection and ventilation. Material used is cold rolled steel, **Black Crackled,** and all joints are spot welded.

Cat. No.	H In.	W In.	D In.	H Chass. In.	Ship. Wt. lbs.	Your Cost
CA- 699	8$\frac{5}{16}$	9⅝	5⅛	2½	4	$2.34
CA-1125	8$\frac{5}{16}$	13⅝	5⅛	2½	5	2.79
CA-1126	8$\frac{5}{16}$	17⅛	7⅛	2½	7	3.45
CA-1127	8$\frac{13}{16}$	17⅛	10⅛	3	10	4.32
CA-1128	8$\frac{13}{16}$	12⅛	10⅛	3	8	3.81



Sloping Panel Amplifier Foundation

BUD SLOPING PANEL AMPLIFIER FOUNDATIONS

These foundations add a real "Commercial" appearance to any amplifier. The 4″ sloping front on the amplifier chassis provides adequate space and easy visibility for controls and indicators.

Each foundation consists of a sloping front chassis on which is mounted a removable top cover. The top horizontal corners of this cover are rounded and the sides and ends are louvred. The top contains grilled cutouts for adequate ventilation. This cover is attractively finished with red striped chromium trim. Handles are placed on both ends of the chassis. All chassis are 3½″ high and all units are 9½″ over-all height.

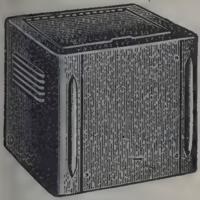
The appearance of these foundations is further enhanced by the two-tone finish. The cover is finished in **Grey Crackle** Enamel and the chassis is finished in **Black Crackle** Enamel.

Cat. No.	D of Top In.	Overall D In.	Overall W In.	Ship. Wt. lbs.	Your Cost
CA-1980	5	8	10$\frac{1}{16}$	6½	$4.65
CA-1981	7	10	12$\frac{1}{16}$	8	5.40
CA-1982	7	10	17$\frac{1}{16}$	11	6.24
CA-1983	10	13	17$\frac{1}{16}$	13	6.90

NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

ICA INSULINE ICA
RADIO PRODUCTS

ICA DE LUXE HINGED STEEL CABINETS



The cabinets have rounded corners with specially designed Chrome plated "Air-Gate" ventilators on sides; and vertical Chrome Plated Trim moulding on front. Modern grille type ventilators are provided on the back panels which also have an opening on the bottom to allow for leads, cable connections, etc.

Bottoms have 4 embossed feet.

Finished in a beautiful Marine Gray Ripple Enamel.

No.	H. L. D.	Panel Size	Net
3860	8" x 10" x 8"	8" x 8"	$4.35
3861	8" x 12" x 8"	8" x 10"	4.50
3862	8" x 14" x 8"	8" x 12"	5.40
3863	12" x 20" x 12"	12" x 18"	8.40

ICA STANDARD HINGED STEEL CABINETS

Designed in the same style and appearance as the De Luxe cabinets shown above except that the Chrome trim in eliminated. Sides and backs have ventilating louvres. Backs have opening for cable connections, etc. Top panel hangs on full sized piano type hinge. Bottoms have 4 embossed feet. Finished in Marine Gray Ripple Enamel.

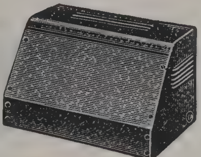
No.	H. W. D.	Panel Size	Net
3925	8" x 10" x 8"	8" x 8"	$2.70
3926	8" x 12" x 8"	8" x 10"	3.15
3927	8" x 14" x 8"	8" x 12"	3.96
3928	12" x 20" x 12"	12" x 18"	7.20

CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Numbers	Net
4024	7" x 7" x 2	3860 and 3925	$0.78
4004	7" x 9" x 2"	3861 and 3926	.84
4005	7" x 11" x 2"	3862 and 3927	.90
4033	10" x 17" x 3"	3863 and 3928	1.23

ICA DE LUXE SLOPING PANEL CABINETS

The top corners are rounded and trimmed with an attractive red striped chrome trim. The sides of the cabinets have the beautiful "Air-Gate" Chrome ventilators. The front panel is removable so that the chassis can be attached to it and used as one unit. Beautifully finished in Marine Gray Ripple Enamel.

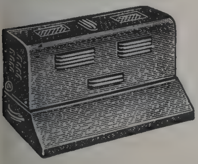


No.	H. W. D.	Net
3990	8" x 8" x 8"	$3.96
3991	8" x 10" x 8"	4.35
3992	8" x 14" x 8"	5.25
3993	12" x 18" x 8"	7.65

CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Number	Net
4024	7" x 7" x 2"	3990	$0.78
4004	7" x 9" x 2"	3991	.84
4007	7" x 13" x 2"	3992	.99
4033	10" x 17" x 3"	3993	1.23

ICE DE LUXE SLOPING CHASSIS AMPLIFIER UNITS

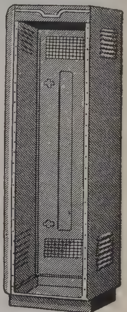


Chassis are sloped and are equipped with beautiful chrome trimmed handles. Slope provides ample space for mounting instruments. The top covers have beautiful Chrome Plated "Air-Gate" Ventilators with red striped chrome trim. Supplied with ventilating louvres on sides and back. Have raised rectangular screen opening on the tops, embellished with red striped chrome moulding. Marine Gray Ripple finish.

No.	Overall Size	Chassis Bottom	Chassis Height	Slope Size	Net
3962	7" x 17" x 9½"	10" x 17"	3½"	4"	$5.46
3963	10" x 14" x 9½"	13" x 14"	3½"	4"	6.15
3964	10" x 17" x 9½"	13" x 17"	3½"	4"	6.60

ENCLOSED RELAY RACKS

A beautifully streamlined designed rack for transmitters and public address systems. Front vertical; corners rounded. Rack is fabricated of 1/16" cold rolled steel; panel mounting angles of 1/8" steel. Universally drilled for either Amateur or Western Electric type panels. Panels fit into recess so edges are not exposed. Screen ventilators on rear door and louvres on sides afford proper ventilation. Rear door hung on sturdy hinges and equipped with two flush snap catches. Shipped "KNOCKED DOWN" with all necessary hardware. Finished in Marine gray ripple finish. Black Ripple furnished only if specified.



No. 3870 **Net $26.10**	Overall Size	42"x22"x16½"
	Panel Space	36¾"x19"
	Interior Width	17⅝"
	Interior Depth	15¼"

Shipping Weight 97 Lbs.

No. 3871 **Net $34.50**	Overall Size	66½"x22"x16½"
	Panel Space	61¼"x19"
	Interior Width	17⅝"
	Interior Depth	15¼"

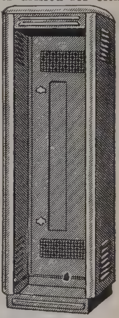
Shipping Weight 145 Lbs.

No. 3872 **Net $40.50**	Overall Size	82¼"x22"x16½"
	Panel Space	77"x19"
	Interior Width	17⅝"
	Interior Depth	15¼"

Shipping Weight 172 Lbs.

ICA DE LUXE TRANSMITTER RACKS

New modern design, streamlined transmitter and public address racks. Removable vertical corner mouldings are rounded and completely cover panel edges and mounting screws. Chrome trim. Rack is made of 1/16" cold rolled steel. Panel mounting angles drilled for either Amateur or Western Electric type panels. Screen ventilators on rear door and louvres afford ample ventilation. Easily assembled. Supplied in Marine gray ripple finish. Black ripple finish furnished only on specification.



No. 3865 **Net $33.00**	Overall Size	43¼"x22"x18"
	Panel Space	36¾"x19"
	Interior Width	17⅝"
	Interior Depth	16¾"

Shipping Weight 110 Lbs.

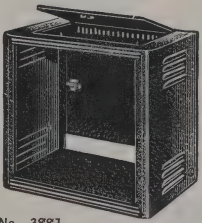
No. 3866 **Net $40.50**	Overall Size	67¾"x22"x18"
	Panel Space	61¼"x19"
	Interior Width	17⅝"
	Interior Depth	16¾"

Shipping Weight 162 Lbs.

No. 3867 **Net $48.00**	Overall Size	83½"x22"x18"
	Panel Space	77"x19"
	Interior Width	17⅝"
	Interior Depth	16¾"

Shipping Weight 190 Lbs.

ICA MULTI-USE METAL CABINETS



An ideal unit for public address systems, transmitters, receivers, test equipment, etc. Has rounded corners on front of Cabinet. Trimmed with handsome red striped chrome trim moulding. Equipped with hinge doors, and nickel brass snap locks. Completely assembled, ready for use. Finished in Black or Marine Gray Ripple Enamel. Black will be supplied unless Gray is specified.

SINGLE UNITS — Net

No. 3880 .... **$9.90**
Size 10½" x 21" x 13½" Deep.
Door on top only. Panel space 8¾" x 19".

No. 3881 .... 12.00
Size 14" x 21" x 13½" Deep.
Door on top only. Panel space 12¼" x 19".

DOUBLE UNIT

No. 3882 .... 16.65
Size 19¼" x 21" x 13½" Deep.
Doors on top and rear. Panel space 17½" x 19".

TRIPLE UNIT

No. 3883 .... 18.60
Size 28" x 21" x 13½" Deep.
Door on rear panel only. Panel space 26¼" x 19".

QUADRUPLE UNIT

No. 3884 .... 20.70
Size 36¾" x 21" x 13½" Deep.
Door on rear panel only. Panel space 35" x 19".

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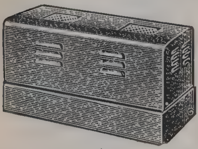
SPECIAL SIZE CABINETS AND CHASSIS MADE TO MANUFACTURERS' SPECIFICATIONS——ABOVE PRICES INDICATE SUGGESTED DEALER NET PRICES——ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ICA INSULINE ICA

RADIO PRODUCTS

ICA STANDARD AMPLIFIER FOUNDATION UNITS

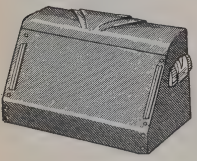


Top covers have rounded corners. The front, sides and back are equipped with louvre ventilators. The tops have raised screen openings for additional ventilation.

Finished in beautiful Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	Net
3980	5½" x 10" x 9"	3"	$2.16
3981	8" x 12" x 9"	3"	3.15
3982	7" x 17" x 9"	3"	3.24
3983	10" x 14" x 9"	3"	3.51
3984	10" x 17" x 9"	3"	3.69

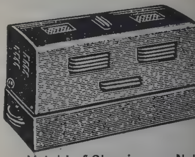
FUTURA STREAMLINED SLOPING PANEL CABINETS



Can be used as instrument cases in studios, laboratories, etc. Raised "Futura" design — streamlined corners. Ventilator openings for cable connectors. Removable front chassis. Finished in Marine Gray Ripple enamel with chrome moulding.

No.	H.	W.	D.	Net
3840	8"	8"	8"	$4.80
3841	8"	10"	8"	5.40
3842	8"	14"	8"	6.60
3843	8"	18"	8"	8.10
3844	12"	18"	12"	9.00

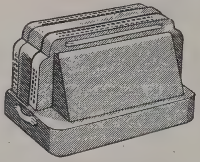
ICA DE LUXE AMPLIFIER FOUNDATION CHASSIS



Top covers have rounded corners and fronts are embellished with the newly created Chrome plated "Air-Gate" Ventilators. Additional ventilation is obtained through the raised screen openings on the top as well as louvres on both sides and back.
Have beautiful red striped Chrome mouldings and Chrome handles. Finished in Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	Net
3971	5½" x 10" x 9"	3"	$3.69
3972	8" x 12" x 9"	3"	4.80
3973	7" x 17" x 9"	3"	4.95
3974	10" x 14" x 9"	3"	5.40
3975	10" x 17" x 9"	3"	5.70

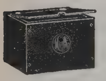
"SUPER" STREAMLINED SLOPING-FRONT AMPLIFIER CHASSIS



New, modern design amplifier chassis. Front panel sloped with streamlined top cover. Removable front panel Marine Gray Ripple finish with Chrome trim. Bottom plates supplied. Top cover 6½" high.

No.	Chassis Size	Net
3930	10" x 12" x 3"	$6.00
3931	10" x 17" x 3"	6.90
3932	13" x 17" x 3"	7.80

ICA HINGED COVER CABINETS



Supplied in knocked-down form for easy handling. Easily assembled.

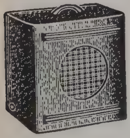
Finished in Black Ripple Enamel.

No.	W.	L.	H.	Net
3825	9"	5"	6"	$2.40
3826	10"	8"	7"	3.00
3828	12"	8"	7"	3.45
3829	12"	11"	8"	4.11
3830	14"	8"	7"	3.66
3831	18"	12"	9"	5.16

CHASSIS FOR ICA CABINETS

No.	W.	D.	H.	For Cabinet Number	Net
4000	8½"	4¾"	1½"	3825	$.60
4004	9"	7"	2"	3826	.84
4005	11"	7"	2"	3828	.90
4015	11"	10"	2½"	3829	1.32
4007	13"	7"	2"	3830	.99
4023	17"	11"	3"	3831	1.86

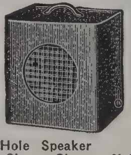
ICA DE LUXE SPEAKER CABINETS



Trimmed with red striped chrome trim. Has beautiful red striped chrome handle on top. Marine Gray Ripple finish.

No.	Size	Hole Size	Speaker Size	Net
3935	10" x 10" x 6"	4¾"	6"	$4.20
3936	12" x 12" x 7"	6½"	8"	5.28
3937	14" x 14" x 8"	9"	10"	6.60
3938	16" x 16" x 8"	11"	12"	8.70

ICA STANDARD SPEAKER CABINETS

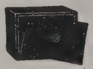


Finished in Black Ripple Enamel with plain back steel handles to match.

No.	Size	Hole Size	Speaker Size	Net
3942	10" x 10" x 6"	4¾"	6"	$3.06
3943	12" x 12" x 7"	6½"	8"	3.66
3944	14" x 14" x 8"	9"	10"	4.80
3945	16" x 16" x 8"	11"	12"	6.45

ICA METAL CABINETS

Black Ripple Finish

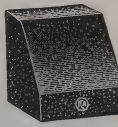


Have various uses such as input stages, mixers, transceivers, amplifiers, monitors, etc. Front and back covers are removable and can be fastened to cabinet with self tapping machine screws. Finished in Black Ripple Enamel.

No.	L.	W.	H.	Net
3810	4"	2"	4"	$ .78
3811	4"	3"	5"	.84
3800	6"	6"	6"	.93
3801	9"	5"	6"	1.50
3802	10"	8"	7"	1.89
3803	10"	8"	10"	2.31
3804	12"	11"	8"	2.49

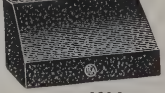
ICA SLOPING PANEL CABINETS

Small—Compact



3905

New streamlined cabinets, rugged, small and compact, have various uses such as speaker cabinets, oscillator cases, input stages, small receivers, teletalk systems, monitors, etc.

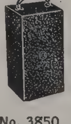


3906

Beautifully designed, with rounded corners and finished in marine gray ripple.

No.	W.	H.	D.	Net
3905	4¼"	4½"	4¼"	$1.29
3906	7½"	4½"	4¼"	2.31

ICA PORTABLE STEEL CABINETS



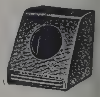
Ideal for housing oscillators, transceivers, test equipment, etc. Both front and back panels are removable and are held with self-tapping screws which are supplied. Equipped with leather handle. Finished in black ripple.

No.	Size	Net
No. 3850	12" x 7¾" x 7"	$2.31
No. 3851	15" x 7¾" x 7"	2.70

Chassis for above

No.	Size	Net
No. 4025	7½" x 6¾" x 2½"	.45

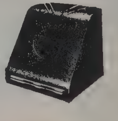
ICA DE LUXE METER CASES



Finished in Marine Gray Ripple Enamel with rounded tops and trimmed with beautiful red striped Chrome band. Available for 2" or 3" meters.

No.	D.	W.	H.	Meter Hole	Net
3995	4¼"	4$\frac{3}{16}$"	4½"	2$\frac{3}{16}$"	$1.35
3996	4¼"	4$\frac{3}{16}$"	4½"	2$\frac{13}{16}$"	1.35

STREAMLINED METER CASES



Modern streamlined cases, with raised "futura" design on top of cabinet. Finished in Marine Gray Ripple Enamel and trimmed with red striped chrome band.

No.	D.	W.	H.	Meter Hole	Net
3997	4¼"	4$\frac{3}{16}$"	4½"	2$\frac{3}{16}$"	$1.80
3998	4¼"	4$\frac{3}{16}$"	4½"	2$\frac{13}{16}$"	1.80

ICA CHROME TRIM MOULDING

Beautiful chrome trim mouldings to dress up any cabinet, chassis, receiver, speaker cabinet, transmitter, etc. Furnished with mounting tracks or clips.

No.		Net
3510	Chrome Moulding with single Red Stripe—size $\frac{5}{16}$" w. by 4" l.	$.36
3513	Chrome Moulding with double Red Stripe—size ¾" w. by 8" l.	.60
3514	Chrome Moulding with double Red Stripe—size ¾" w. by 12" l.	.69
3515	Chrome Moulding with double Red Stripe—size ¾" w. by 18⅞" l.	.84
3505	Bullet Shape all Chrome Moulding—size $\frac{5}{16}$" w. by 6" l.	.36

ICA CHROME HANDLES

No. 3500—Length 4"; width $\frac{11}{16}$"......Net $.42
No. 3501—Length 5½"; width ½" Net .42

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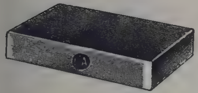
ICA INSULINE RADIO PRODUCTS

ICA STEEL CHASSIS BASES

HEAVY DUTY



One-piece steel chassis bases. Solidly constructed! Suitable for receivers, transmitters, amplifiers, etc. Chassis bases are folded over on bottom for additional strength. They are also drilled to allow for the attaching of bottom plates.

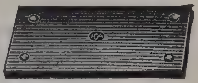
Zinc Plated Finish

No.	Size—In.	Gauge No.	Net
1560	4½x 8 x1½	20	$0.63
1530	5 x 9½x1½	20	.66
1565	5 x 9½x3	20	.87
1582	5½x10 x3	20	.93
1566	5 x13 x3	20	1.05
1526	7 x 7 x2	20	.84
1569	7 x 9 x2	20	.90
1570	7 x11 x2	20	.99
1527	7 x12 x3	20	1.17
1571	7 x13 x2	20	1.08
1572	7 x15 x3	20	1.29
1528	7 x17 x3	20	1.29
1567	8 x12 x3	20	1.29
1573	8 x17 x2	20	1.38
1575	8 x17 x3	20	1.47
1562	10 x11 x2½	20	1.38
1520	10 x12 x3	20	1.41
1568	10 x14 x3	20	1.47
1583	10 x17 x3	20	1.32
1521	10 x17 x3	18	1.59
1522	10 x23 x3	18	1.98
1577	11 x17 x2	18	1.80
1519	11 x17 x3	18	1.98
1574	12 x17 x2	18	1.80
1578	12 x17 x3	18	1.98
1579	13 x17 x2	18	2.16
1524	13 x17 x3	18	2.49
1580	10 x17 x4	18	2.10
1581	13 x17 x4	18	2.82

Black Ripple Finish

No.	Size—In.	Gauge No.	Net
4000	4½x 8 x1½	20	$0.60
4001	5 x 9½x1½	20	.63
4002	5 x 9½x3	20	.84
4032	5½x10 x3	20	.84
4003	5 x13 x3	20	.99
4024	7 x 7 x2	20	.78
4004	7 x 9 x2	20	.84
4005	7 x11 x2	20	.90
4006	7 x12 x3	20	1.05
4007	7 x13 x2	20	.99
4008	7 x15 x3	20	1.23
4009	7 x17 x3	20	1.23
4013	8 x12 x3	20	1.23
4014	8 x17 x2	20	1.32
4035	8 x17 x3	20	1.41
4015	10 x11 x2½	20	1.32
4016	10 x12 x3	20	1.32
4017	10 x14 x3	20	1.38
4033	10 x17 x3	20	1.23
4018	10 x17 x3	18	1.50
4019	10 x23 x3	18	1.86
4027	11 x17 x2	18	1.65
4023	11 x17 x3	18	1.86
4020	12 x17 x2	18	1.71
4028	12 x17 x3	18	1.86
4029	13 x17 x2	18	2.07
4021	13 x17 x3	18	2.31
4030	10 x17 x4	18	1.93
4031	13 x17 x4	18	2.64

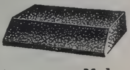
ICA CHASSIS BOTTOM PLATES



Designed to fit all ICA Chassis Bases and amplifier units listed to the left. Equipped with four raised bosses which prevent marring or scratching.

Zinc Plated No.	Black Ripple No.	Size	Net
1601	4051	5″ x 9½″	$.39
1602	4052	5″ x 13″	.48
1623	4073	7″ x 7″	.48
1603	4053	7″ x 9″	.48
1604	4054	7″ x 11″	.54
1605	4055	7″ x 12″	.57
1606	4056	7″ x 13″	.57
1607	4057	7″ x 15″	.63
1608	4058	7″ x 17″	.66
1612	4062	8″ x 12″	.66
1613	4063	8″ x 17″	.69
1614	4064	10″ x 11″	.69
1615	4065	10″ x 12″	.69
1616	4066	10″ x 14″	.75
1617	4067	10″ x 17″	.84
1618	4068	10″ x 23″	1.08
1622	4072	11″ x 17″	.84
1619	4069	12″ x 17″	.90
1620	4070	13″ x 17″	1.08
1624	4074	13″ x 14″	.90

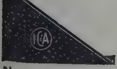
ICA SLOPING FRONT CHASSIS



Has a sloping front for mounting instruments. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Made of Heavy Duty Steel, finished in Black Ripple Enamel.

No.	Top of Base	Bottom of Base	Hgt.	Size of Slope	List
3320	7x17″	10x17″	3½″	4″	$1.65
3321	10x14″	13x14″	3½″	4″	1.80
3322	10x17″	13x17″	3½″	4″	1.98

ICA CHASSIS MOUNTING BRACKETS



Made to fit on 17″ relay rack chassis. Panels must be at least 7″ high.

Black ripple finish.

No.		Net
3955—For 8″ base	Per Pair	$0.75
3956—For 11″ base	Per Pair	1.14
3957—For 13″ base	Per Pair	1.32

ICA MASONITE RELAY RACK PANELS

Made of Tempered Masonite—a non-magnetic material, sturdy and tough yet easily drilled and worked with ordinary wood-working tools and punches. Finished in Black or Gray. Supplied in Black Ripple finish unless Gray is specified.

No.	Size	List
3662	1¾″ x 19″	$.48
3663	3½″ x 19″	.60
3664	5¼″ x 19″	.75
3665	7″ x 19″	.87
3666	8¾″ x 19″	1.05
3667	10½″ x 19″	1.20
3668	12¼″ x 19″	1.20
3669	14″ x 19″	1.50
3670	15¾″ x 19″	1.65
3671	17½″ x 19″	1.92
3672	19¼″ x 19″	2.07
3673	21″ x 19″	2.31

SPECIAL SIZES RACK PANELS TO ORDER

We can supply Rack Panels in any thickness from ⅛″ to ¼″ in Steel, Aluminum or Masonite; in any finish to specifications.

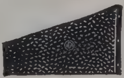
ICA STANDARD RELAY RACK PANELS

ICA relay rack panels are supplied in ⅛″ thickness, completely slotted and finished in a beautiful Baked Black or Marine Gray Ripple Finish.

Supplied in Amateur Rack notching, first notch ⅞″ from edge of Panel and 1¾″ between centers. 19″ long.

Black No.	Steel Ripple Finish Size	Net	Gray No.	Steel Ripple Finish Size	Net
3600	1¾″	$.66	3612	1¾″	$.66
3601	3½″	.75	3613	3½″	.75
3602	5¼″	.87	3614	5¼″	.87
3603	7″	.93	3615	7″	.93
3604	8¾″	1.17	3616	8¾″	1.17
3605	10½″	1.32	3617	10½″	1.32
3606	12¼″	1.62	3618	12¼″	1.62
3607	14″	1.86	3619	14″	1.86
3608	15¾″	2.16	3620	15¾″	2.16
3609	17½″	2.31	3621	17½″	2.31
3610	19¼″	2.49	3622	19¼″	2.49
3611	21″	2.82	3623	21″	2.82

ICA RELAY RACK BRACKETS



Black Ripple Finish.

Used to reinforce racks and for mounting of panels, shelves, chassis, etc.

No.		Net
3950— 5″ Base Brackets	Per Pair	$0.63
3951— 8″ Base Brackets	Per Pair	.90
3952—11″ Base Brackets	Per Pair	1.20

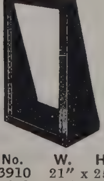
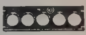


TABLE MOUNT RELAY RACKS

Sturdily constructed heavy duty table rack with one piece base. Accurately drilled mounting holes. Finished in black ripple. Supplied "KNOCKED DOWN" with all necessary hardware.

No.	W.	H.	D.	Panel Space	Net
3910	21″	x 25″	x 12″	21″ x 19″	$4.80
3911	21″	x 32″	x 12″	28″ x 19″	6.00

ICA METER PANELS



Slotted to fit all standard racks. Finished in Baked Black or Gray Ripple. Size 5¼″ x 19″.

Black will be shipped unless Gray is specified.

STEEL PANELS

No.	No. Holes	Meter Size	Net
3651	5	2″	$2.16
3652	3	2″	1.50
3653	5	3″	2.16
3654	3	3″	1.50

MASONITE PANELS

No.	No. Holes	Meter Size	Net
3641	3	2¼″	$1.20
3642	4	2¼″	1.32
3643	3	2 3/16″	1.20
3644	4	2 3/16″	1.32

ICA METAL PANELS

Thickness of Panels 1/16″

Black Ripple Finish

No.	Size	Net
3175	7″ x 10″	$.48
3176	7″ x 12″	.54
3177	7″ x 14″	.63
3178	7″ x 18″	.84
3183	8″ x 12″	.66
3184	8″ x 14″	.72
3186	8″ x 18″	.84
3191	10″ x 14″	1.17
3192	10″ x 18″	1.32
3194	10″ x 24″	1.65

ICA MASONITE PANELS

Black Ripple Finish

Thickness of panel 3/16″

No.	Size	Net
810	7″ x 10″	$.60
811	7″ x 12″	.66
812	7″ x 14″	.75
813	7″ x 18″	.90
814	7″ x 21″	.99
815	8″ x 12″	.81
816	8″ x 14″	.87
817	8″ x 16″	.99
818	8″ x 18″	1.08

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PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "C" CABINET RACKS

These are professional type racks that have been used on many commercial installations, and make a DeLuxe job of any amateur or broadcast transmitter. The racks are of all-steel construction, welded into an integral unit, to give a lifetime of service.

All panel mounting screws are concealed by means of a full length corner trim on each side at the front. In keeping with modern design, this front trim is rounded on the vertical corners. The rear corners are finished with regular angle trim. The front of the rack is trimmed with chrome moulding top and bottom. The door has a grille at top and bottom, and is hung on sturdy loose-joint hinges; it is held closed by two flush snap-action catches. Additional ventilation is provided by louvres at the sides. The panel mounting angle irons are 3/16″ thick, with mounting holes accurately drilled and tapped 12/24 thread on multiple 1¼″—½″ spacings. The rack is made from 1/16″ thick cold rolled steel, rigidly braced and reinforced throughout; the bottom is $\frac{7}{64}$″ thick steel. A rectangular opening is provided in the bottom for conduits, leads, etc. A duplex receptacle and outlet box are provided in the back under the door.

FINISHES: Either black ripple or slate grey ripple enamel. Corner trims are supplied in dull black or slate grey smooth enamel to match.

RACKS WITHOUT LOUVRES: To permit racks to be set up in gangs or rows of two or more, the louvres at sides are omitted. Racks may be joined by a flat trim fastened to front of adjacent racks, overlapping both racks. Shipped with corner trim as illustrated; where specified, front joining trim will be substituted in place of corner trim at same price. Front joining Trims cannot be used on racks with front doors.

WITH LOUVRES

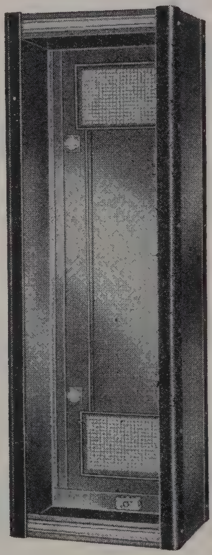
*BLACK RIPPLE ENAMEL

15¼″ Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
R-3675	42⅞x22x15¼″	36¾″	150	$49.50
R-6625	67⅜x22x15¼″	61¼″	210	66.00
R-8325	83⅛x22x15¼″	77″	240	87.00
	18″ Deep Racks			
R-3618	42⅞x22x18″	36¾″	160	54.00
R-6618	67⅜x22x18″	61¼″	230	72.00
R-8318	83⅛x22x18″	77″	280	93.00

*If slate grey ripple enamel is required substitute letters "RG" instead of "R" when ordering.

WITHOUT LOUVRES



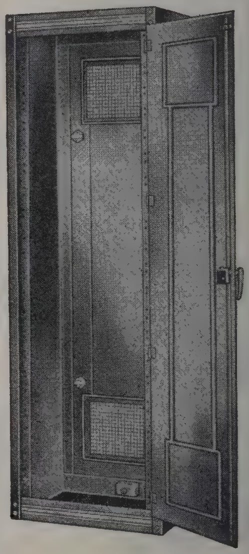
*BLACK RIPPLE ENAMEL

15¼″ Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
P-3675	42⅞x22x15¼″	36¾″	150	$49.50
P-6625	67⅜x22x15¼″	61¼″	210	66.00
P-8325	83⅛x22x15¼″	77″	240	87.00
	18″ Deep Racks			
P-3618	42⅞x22x18″	36¾″	160	$54.00
P-6618	67⅜x22x18″	61¼″	230	72.00
P-8318	83⅛x22x18″	77″	270	93.00

*If slate grey ripple enamel is required, substitute letters "PG" instead of "P" when ordering.

WITH FRONT DOORS



*BLACK RIPPLE ENAMEL

Racks are 22″ wide, 18″ deep. Panels mount 2″ from front allowing 14″ clear inside depth behind panels to rear door.

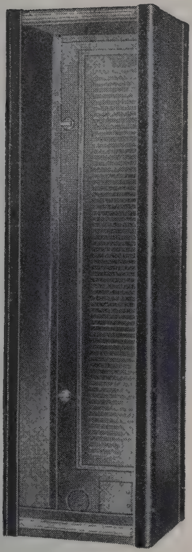
	Catalog F-6618	Number F-8318
Overall Height	67⅜	83⅛
Available panel space	61¼	77
Clear inside width (front)	19⅛	19⅛
Clear inside width (rear)	17¾	17¾
Net Price	$96.00	$120.00

*If slate grey ripple enamel is required, substitute letters "FG" instead of "F" when ordering.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "C" TRANSMITTER RACKS

STANDARD TYPE



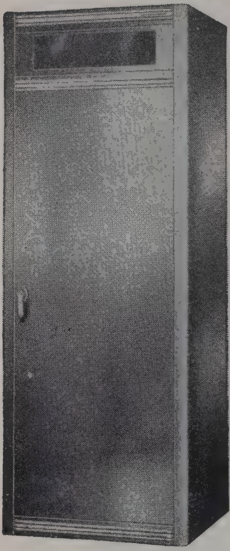
Similar to standard type "C" racks listed on page J-98 except that they have been reinforced at rear corners for use with heavier apparatus. At the rear, knockouts are provided for conduit and 4" square duct, as well as a double convenience outlet with receptacle. Knockouts are also supplied at sides for conduit, suitable for entry of cables when units are ganged. The rear door, which is removable, has ample louvres for ventilation, and is covered on the inside with mesh screening. Front trim rounded on vertical corners. Racks are regularly supplied with corner trim for use as a single unit, but will be furnished with suitable front connecting strips for ganging in rows of two or more without additional charge.

FINISH: Black ripple enamel with dull black corner trim is standard. Slate grey ripple enamel furnished without additional charge, if so specified. For grey lacquer finish, add 8% to prices.

PANELS: Type "C" panels to fit the G-2218 and G-2219 racks are listed on page J-102. For cost of 30" blank panels to fit the G-3024 rack, add 100% to prices of 19" panels on page J-102.

Catalog No.	Overall Size	Panel Space	Clear Depth	Ship. Wt. Lbs.	Net Price
G-2218	76⅛ x 22 x 18"	70 x 19"	16⅞"	270	$91.50
G-2219	83⅛ x 22 x 18"	77 x 19"	16⅞"	290	102.00
G-3024	76⅛ x 33 x 24"	70 x 30"	22⅞"	450	153.00

DELUXE TYPE



This rack is undoubtedly the finest standard transmitter rack which we have ever made. It is constructed of 1/16" sheet steel, with a base of ⅛" steel, and is reinforced for use with heavy duty apparatus. The meter panel at the top is 7" high, has a glass front, and is provided with a blank bakelite sub-panel. The inner sides of the rack are reinforced with ⅛" steel channels, to which may be attached angle brackets to support the chassis. These channels may also be used as wiring ducts.

The rack will accommodate panels 24" wide; the front panel mounting angles are recessed to allow 2" clearance behind the front door for dials, knobs, etc. The front door is mounted on concealed hinges; the rear door has loose-joint hinges so that it may be removed. Both doors are equipped with handles, and the front door also has a lock. The rack will accommodate chassis up to and including those 26" wide by 22" deep, listed on page J-103. Blank panels 24" wide can be supplied at prices listed on page J-102 plus 50%.

No. G-8024

Overall dimensions: 83⅛" x 30½" x 27".
Available panel space: 70" x 24".
Clear inside width at front: 24"
Clear inside width at rear: 26½".
Clear inside depth behind front panels: 23".
Shipping weight: 540 lbs.
Net Price: **$213.00.**

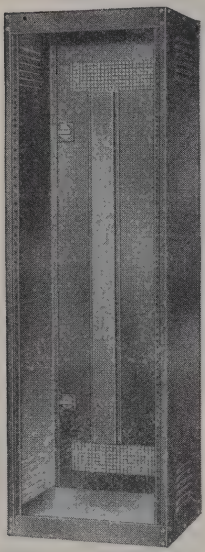
Black ripple enamel finish is optional.

PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

TYPE "A" ENCLOSED RELAY RACKS

All of the racks on this page are shipped "knocked-down" for easy assembly with all necessary bolts supplied. Made for standard 19" wide panels, they are substantially constructed from 1/16" cold rolled steel; panel mounting angles are of 7/64" steel, accurately drilled on universal centers for either "Amateur" or type "C" panels, tapped for 10/32 machine screws. Panels fit into a recess, so that edges are not exposed. Louvres in sides and screen sections in rear door provide ample ventilation. Rear door is hung on sturdy loose-joint hinges, and closed by a flush snap catch. Ample panel mounting screws and washers supplied with each rack.

STANDARD TYPE



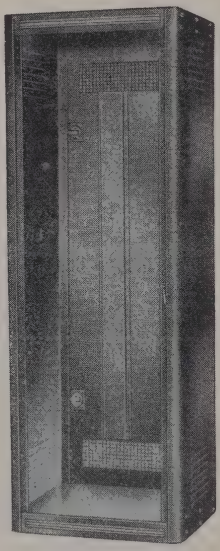
This completely enclosed rack will give your job the "professional appearance" so desirable on transmitters, test equipment, public address systems, etc. It is made in three heights in accordance with specifications below:

*BLACK RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER203	42 x21x16½"	36¾"	75	$24.00
ER205	66½x21x16½"	61¼"	135	34.50
ER207	82¼x21x16½"	77	165	42.00

*Slate grey ripple is optional

ROUNDED CORNER TYPE



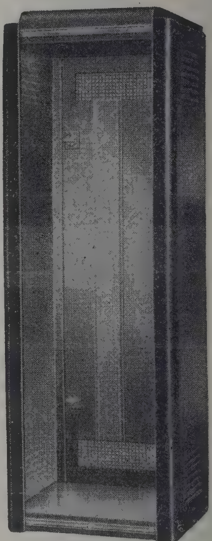
The ideal streamlined rack for your next transmitter or P.A. system. The vertical corners at the front of the rack are rounded, and the top and bottom are nicely trimmed with red striped chrome finished mouldings. The uniform slate grey ripple finish gives the assembly a superb exterior appearance. Combines modern styling and an attractive price.

*SLATE GREY RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER213	42 x22x16½"	36¼"	100	$28.50
ER215	66½x22x16½"	61¼"	150	40.50
ER217	82¼x22x16½"	77"	175	48.00

*Black ripple is optional.

DELUXE TYPE



Produced in the new "streamlined" style, this rack is fully in keeping with modern design. The removable vertical corner mouldings are rounded and cover the panel mounting screws, the same as is used on our Type "C" commercial racks. The top, which has also been "streamlined," is perforated at the back to provide additional ventilation. The top and bottom are trimmed with red striped chrome finished mouldings.

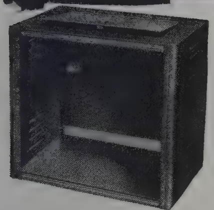
*SLATE GREY RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER223	43¼x22x18"	36¾"	105	$37.50
ER225	67¾x22x18"	61¼"	160	47.70
ER227	83½x22x18"	77"	185	57.00

*Black ripple is optional.

PAR-[illegible]AL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

DELU[illegible]
ESK PA[illegible]
For Sta[illegible]



reamlined styling. In keeping with our ıer Deluxe racks, the vertical front rners are rounded and the top and ttom are trimmed with chrome finished ıuldings. Panels fit into a recess, so ıt the edges are not exposed. Panel ounting holes accurately drilled on iversal centers, for either "Amateur" type "C" panels; holes are tapped for /32 machine screws. May be used with y chassis up to 13" x 17" in size. All binets constructed of 1/16" thick sheet eel. Louvres provide ample ventilation rough sides and back. Piano type hinges used on the top doors, which are ovided with snap catches. Panel mounting screws and washers are furnished. ack ripple enamel is standard. Slate ey is optional at same price.

at. No.	Overall Size	Panel Space	Net Price
	With door in top only		
.128	10½ x 21½ x 15" deep	8¾"	$9.60
.1225	14 x 21½ x 15" deep	12¼"	11.70
.1413	15¾ x 21½ x 15" deep	14"	13.20
	ith door in top and door on rear panel		
.1713	19¼ x 21½ x 15" deep	17½"	16.20
.2613	28 x 21½ x 15" deep	26¼"	18.30
.3513	36¾ x 21½ x 15" deep	35"	20.70

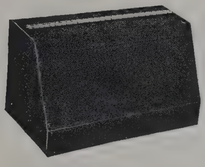
TYPE "A" CHANNEL RELAY RACKS
For Standard 19" Rack Panels

Black Ripple Finish

Ideal for use on all types of transmitters and public address systems. Substantially constructed of 7/64" pressed steel. Vertical members and top cross-brace securely welded together. Base is 22" deep and extends both front and rear on the RR-195 rack; it is 19" deep on the RR-193 rack. Panel mounting holes accurately drilled on universal centers for either "Amateur" or type "C" panels, tapped for 10/32 machine screws. Ample supply of panel mounting screws and finishing washers supplied.

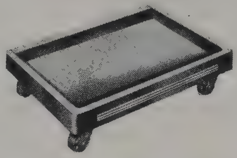
Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
R-195	73¼ x 20 x 22"	71¾"	85	$16.50
R-193	38¼ x 20 x 19"	36¾"	57	13.20

SLOPING FRONT CABINETS



May be readily adapted as instrument cases for use in studios, laboratories, etc. Top corner is rounded and trimmed with a chrome moulding, and with the slate grey ripple finish makes a very attractive case. A chassis may be mounted to front panel and removed as a unit. Rear of case is ventilated, with an opening for connections. Prices do not include chassis.

Cat. No.	H. W. D.	Size of Chassis	Net Price
SF-500	8 x 8 x 8"	7 x 7 x 2"	$3.15
SF-501	8 x 10 x 8"	7 x 9 x 2"	3.39
SF-502	8 x 14 x 8"	7 x 13 x 2"	3.75
SF-503	9 x 18 x 8"	7 x 17 x 3"	5.40
SF-504	12 x 18 x 12"	10 x 17 x 3"	6.90



These trucks are designed for use on our racks. Overall size is about 3" wider than the racks for better distribution of weight. Castors are swivel type with rubber composition wheels. Finished in slate grey ripple enamel, with chrome trim.

Cat. No.	Will Fit Rack No.	Price
RT-410	DL-2613, DL-3513	$8.25
RT-411	ER-213, ER-215, ER-217	9.30
RT-412	All 18" deep racks	10.50
RT-415	All 15¼" deep racks	10.65

TABLE TYPE RELAY RACKS

Useful where a regular floor type heavy duty rack is not required. Mounting holes accurately drilled on universal centers. Tapped for 10/32 screws. Finished in black ripple enamel and shipped "knocked-down" with all necessary screws. Shipping weight of rack is 20 pounds.

Cat. No.	Overall Size	Panel Space	Net Price
TR-2520	25 x 21 x 12"	21 x 19"	$5.25
TR-3220	32 x 21 x 12"	28 x 19"	6.60

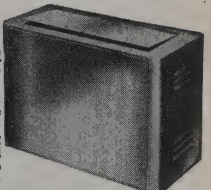
SHELVES FOR CABINET RACKS

All shelves are 1" high and finished in black enamel. Shipping wt. 15 lbs.

Cat. No.	Will Fit Rack No.	Net Price
ER-2012	ER-203, 205, 207; DL-128, 1225, 1413, 1713, 2613, 3513	$2.25
ER-2112	ER-213, 215, 217	2.85
ER-2212	ER-223, 225, 227	2.85
R-2015	R & P-3675, 6625, 8825	4.05
R-2018	R & P-3618, 6618, 8318	4.20

HINGED STEEL CABINETS

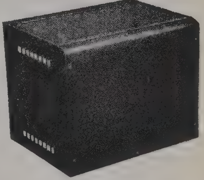
DELUXE TYPE



Front vertical corners are streamlined, and a panel type door is provided, hung on a full length piano hinge. Ventilating louvres at sides. Opening at rear allows for necessary leads, cables, etc. Finished in slate grey ripple enamel. Prices do not include chassis.

Cat. No.	H. L. D.	Panel Size	For Chassis	Net Price
CA-200	8 x 10 x 8"	8 x 8"	7 x 7 x 2"	$3.00
CA-201	8 x 12 x 8"	8 x 10"	7 x 9 x 2"	3.15
CA-202	8 x 16 x 8"	8 x 14"	7 x 13 x 2"	4.05
CA-203	9 x 17 x 11"	9 x 15"	10 x 14 x 3"	6.30
CA-204	12 x 20 x 12"	12 x 18"	10 x 17 x 3"	7.50

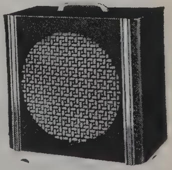
STANDARD TYPE



Excellent for housing monitors, oscillators, etc. Full piano hinged doors, front panels removable. Modern grille type ventilation at sides and back; top corner at front is rounded to give attractive appearance. Finished in black ripple enamel. Prices do not include chassis bases.

Cat. No.	H. L. D.	For Chassis	Net Price
CA-100	7¼ x 10½ x 6"	5½ x 9½ x 1½"	$2.40
CA-101	7¼ x 8 x 8"	7 x 7 x 2"	2.40
CA-102	7¼ x 10 x 8"	7 x 9 x 2"	2.73
CA-103	7¼ x 14 x 8"	7 x 13 x 2"	3.09
CA-104	9 x 15 x 10¾"	10 x 14 x 3"	4.95
CA-105	12 x 18 x 12"	10 x 17 x 3"	5.70

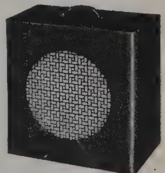
De Luxe Speaker Cabinets



To match streamlined metal equipment. Rounded corners with chrome mouldings and handles. New modern grille. Finished in slate gray ripple enamel. Removable back cover.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
SC1060	4¾"	6"	10 x 10 x 6"	8 lbs.	$3.75
SC1270	6½"	8"	12 x 12 x 7"	9 lbs.	4.50
SC1480	9"	10"	14 x 14 x 8"	15 lbs.	5.85
SC1680	11"	12"	16 x 16 x 8"	20 lbs.	7.50

Standard Speaker Cabinets



These cabinets are given a streamline appearance by rounded front corners. They are substantially made from sheet steel, with a louvred back cover. Keyhole slots are provided in back cover for wall hanging. Finished in black ripple enamel.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
C- 996	4¾"	6"	10 x 10 x 6"	8 lbs.	$2.88
C-1170	6½"	8"	12 x 12 x 7"	9 lbs.	3.60
C-1350	9"	10"	14 x 14 x 8"	15 lbs.	4.65
C-1580	11"	12"	16 x 16 x 8"	20 lbs.	6.15

PAR-METAL RACKS · C CABINETS
for ELECTR RATUS

TYPE "C" RACK PANELS

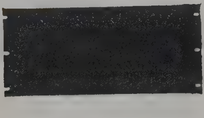
Unless otherwise indicated, these panels are made from ⅛" thick steel and are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1¼" - ½" spac
"W.E. spacing."
ripple enamel or
termed
her bla

BLANK PANELS
⅛" STEEL

These panels are made from ⅛" thick steel and are uniformly slotted to fit type "C" cabinet racks made for 19" panels, and all type "A" racks. They will also fit any other rack equipment having multiple 1¼x"½ spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel.

Cat. No. Black	Cat. No. Grey	Height	Net Price
6600	G-6600	1¾"	$0.60
6601	G-6601	3½"	.69
6602	G-6602	5¼"	.84
6603	G-6603	7"	.93
6604	G-6604	8¾"	1.08
6605	G-6605	10½"	1.32
6606	G-6606	12¼"	1.59
6607	G-6607	14"	1.80
6608	G-6608	15¾"	2.10
6609	G-6609	17½"	2.28
6610	G-6610	19¼"	2.46
6611	G-6611	21"	2.76

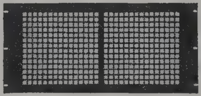
BLANK PANELS
⅛" ALUMINUM



These panels are similar to those listed above, except that they are made from ⅛" aluminum. They can also be supplied from 3/16" stock, at an additional cost of 60%.

Cat. No. Black	Cat. No. Grey	Height	Net Price
6675	G-6675	1¾"	$0.96
6676	G-6676	3½"	1.38
6677	G-6677	5¼"	1.74
6678	G-6678	7"	2.04
6679	G-6679	8¾"	2.49
6680	G-6680	10½"	3.18
6681	G-6681	12¼"	3.75
6682	G-6682	14"	4.26
6683	G-6683	15¾"	4.74
6684	G-6684	17½"	5.07
6685	G-6585	19¼"	5.73
6686	G-6686	21"	6.72

GRILLE PANELS
⅛" STEEL



This modern type ventilating grille is stamped into the panel itself; it is not a pieced assembly.

Cat. No. Black	Cat. No. Grey	Panel Size	Grille Size	Net Price
P-661	G-661	5¼"	3⅜ x 14⅜"	$2.31
P-662	G-662	7	4⅞ x 14⅜"	2.46
P-663	G-663	8¾"	6⅞ x 14⅜"	3.00
P-664	G-664	8¾"	*3⅞ x 14⅜"	2.70
P-665	G-665	10½"	8⅜ x 14⅜"	3.30
P-666	G-666	10½"	*5⅞ x 14⅜"	3.00
P-667	G-667	12¼"	*7⅜ x 14⅜"	3.45

*Allows 3½" space at bottom for chassis mounting.

GRILLE DOOR PANELS
⅛" STEEL

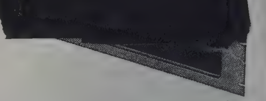
These panels have flush hinged doors with modern type ventilating grille. Doors are equipped with piano hinges, knob and concealed catch. All doors start 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used.

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Net Price
P-680	G-680	8¼"	4½ x 15⅜"	$4.35
P-681	G-681	10½"	6 x 15⅜"	4.65
P-682	G-682	12¼"	7½ x 15⅜"	5.25

SOLID DOOR PANELS
⅛" STEEL

These panels have flush hinged doors with full length piano hinges; they are equipped with a knob and concealed catch. All doors are located 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used.

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Net Price
P-670	G-670	8¾"	4½ x 15⅜"	$3.15
P-671	G-671	10½"	6 x 15⅜"	3.45
P-672	G-672	12¼"	7½ x 15⅜"	3.90



These panels are made so that the met
may be recessed from the front of
panel. Meters are protected by a pl
glass insert, allowing ¾" clearance
back of panel. A blank bakelite sub-pa
is provided. The clear sub-panel sp
is 4⅛"x15" on the 19" wide panel wh
is sufficient for 4-3" meters. On the
and 30" wide panel the clear sub-pa
space is 5¾"x20" and 5¾"x26" resp
tively.

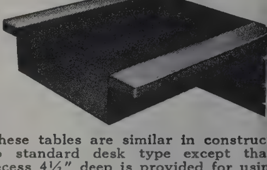
Cat. No. Black	Cat. No. Grey	Size	N Pr
P-690	G-690	5¼" x 19"	$4
P-691	G-691	7 x 24"	8
P-692	G-692	7 x 30"	11

STANDARD DESK PANEL

These standard tables are rigidly m
of 1/16" thick furniture steel. The roun
front corners are of seamless constr
tion and the flanges of the shelf
folded in to provide smooth edges und
neath. They are securely mounted
regular ⅛" steel panels, size 10½"x1
They may be obtained in two sizes
finishes as listed below. The tables
22" wide to give full working sp
across the front of the racks w
mounted in place. Shipping weight
35 lbs.

Cat. No.	Width	Depth	Finish	N Pr
BT-2220	22	20"	Black enamel	$12
BT-2216	22"	16"	Black enamel	11
AT-2220	22"	20"	Grey lacquer	13
AT-2216	22	16"	Grey lacquer	12

TYPEWRITER DESK PANE



These tables are similar in construc
to standard desk type except tha
recess 4½" deep is provided for usin
standard typewriter. They are secu
mounted on regular ⅛" steel pan
10½"x19", and are 22" wide to give
working space across the front of
rack. Shipping weight is 40 lbs.

Cat. No.	Width	Depth	Finish	P
BY-2220	22"	20"	Black enamel	$1
AY-2220	22"	20"	Grey lacquer	2

PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

BLANK STEEL CHASSIS BASES

STANDARD TYPE

onstruction is the same as our heavy-uty chassis. Stamped from one piece of old rolled steel, and have four solid ides with welded corners. Bottom edges re flanged in on four sides to provide dditional reinforcement, and they are rilled for bottom plates. The chassis are iade from #20 gauge steel, except those iarked (*) which are stamped from 1/16" teel exactly like our heavy-duty type.

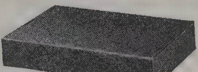
lack ipple at.No.	Net Price	Size	Zinc Plated Cat. No.	Net Price
-4500	$0.60	5½x9½x1½"	C-4500	$0.63
-4508	.84	5x10x3"	C-4508	.90
-4509	.99	6x14x3"	C-4509	1.05
-4510	.69	7x 7x2"	C-4510	.69
-4511	.81	7x 9x2"	C-4511	.84
-4512	.90	7x11x2"	C-4512	.90
-4513	.96	7x13x2"	C-4513	.96
-4514	1.23	7x15x3"	C-4514	1.26
-4518	1.02	4x17x3"	C-4518	1.08
-4515	1.20	7x17x3"	C-4515	1.20
-4531	1.32	8x17x2"	C-4531	1.32
-4532	1.38	8x17x3"	C-4532	1.38
-4525	1.32	10x12x3"	C-4525	1.32
-4524	1.38	10x14x3"	C-4524	1.38
-4528	1.38	10x17x2"	C-4528	1.38
-4526	1.32	10x17x3"	C-4526	1.38
-4527	1.74	10x23x3"	C-4527	1.80
-4533*	1.74	11x17x2"	C-4533*	1.86
-4534*	1.92	11x17x3"	C-4534*	2.16
-4516	1.50	12x17x2"	C-4516	1.53
-4517	1.62	12x17x3"	C-4517	1.65
-4530	1.86	12x17x4"	C-4530	1.95
-4535*	2.10	13x17x2"	C-4535*	2.10
-4536*	2.22	13x17x3"	C-4536*	2.37
-4537*	2.64	13x17x4"	C-4537*	2.88

* Made from 1/16" thick steel.

BOTTOM PLATES

ottom plates have holes to match the hassis, and have pressed "bumpers" at he corners.

Black Ripple at. No.	Zinc Plated Cat. No.	Size	Net Price
P-4500	CP-4500	5½x9½"	$0.33
P-4508	CP-4508	5x10"	.36
P-4509	CP-4509	6x14"	.48
P-4510	CP-4510	7x 7"	.36
P-4511	CP-4511	7x 9"	.39
P-4512	CP-4512	7x11"	.45
P-4513	CP-4513	7x13"	.51
P-4514	CP-4514	7x15"	.57
P-4518	CP-4518	4x17"	.45
P-4515	CP-4515	7x17"	.60
P-4531	CP-4531	8x17"	.60
P-4525	CP-4525	10x12"	.60
P-4524	CP-4524	10x14"	.63
P-4528	CP-4528	10x17"	.78
P-4527	CP-4527	10x23"	1.05
P-4533	CP-4533	11x17"	.81
P-4516	CP-4516	12x17"	.87
P-4535	CP-4535	13x17"	.93

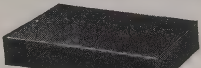


HEAVY DUTY TYPE

All of the chassis listed on this page may be used with the various Par-Metal racks and cabinets. Substantially constructed for "heavy duty" uses, being formed from one piece of 1/16" sheet steel, with all corners and bottoms reinforced. Bottom covers and mounting screws supplied. Ends drilled to fit standard brackets listed below. Finished in either uniform black ripple enamel or plated.

Black Ripple Cat.No.	Net Price	Dimensions W.L.D.	Zinc Plated Cat. No.	Net Price
15280	$2.16	8x17x2"	15208	$2.22
15281	2.40	8x17x3"	15209	2.52
15282	2.43	11x17x2"	15218	2.64
15210	2.64	11x17x3"	15219	2.91
15212	2.85	13x17x2"	15214	3.00
15213	3.12	13x17x3"	15215	3.24
15216	3.45	13x17x4"	15217	3.75

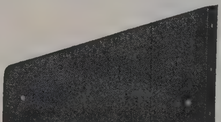
TRANSMITTER CHASSIS



These are "heavy duty" type chassis for transmitter racks listed on page J-99 They are made from sheet steel approximately 3/32" thick, with welded corners and reinforced edges at bottom to which may be fastened bottom plates if desired. Standard finish supplied is black ripple enamel. Cadmium plated furnished at same prices if so specified on your order.

Cat.No.	Dimensions	Shpg. Wt. Lbs.	List Price
20182	20x18x2"	20	$ 6.90
20183	20x18x3"	23	7.50
20184	20x18x4"	26	8.10
26222	26x22x2"	30	9.30
26223	26x22x3"	33	10.50
26224	26x22x4"	36	11.70

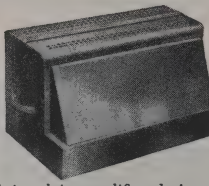
CHASSIS MOUNTING BRACKETS



These brackets will fit any of the chassis listed above, as the mounting holes are drilled to match. Panels must be at least 7" high. Finished in black enamel.

Cat.No.	Dimensions	Shpg. Wt.	Net Price
SB- 78	For 8" Base	2 lbs.	$0.69
SB-710	For 10" Base	2 lbs.	.93
SB-711	For 11" Base	3 lbs.	1.02
SB-713	For 13" Base	3 lbs.	1.23

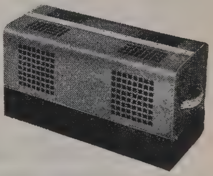
DELUXE SLOPING FRONT Amplifier Foundation Chassis



Latest trend in amplifier design. Combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts finished in slate grey ripple enamel trimmed with chrome moulding and handles. Front panel removable and protrudes 3" from face of screen cover. Chassis supplied complete WITH bottom plates.

Cat. No.	Chassis Size	Screen Cover	Net Price
F10120	10x12x3"	6½" high	$5.70
F10170	10x17x3"	6½" high	6.60
F13170	13x17x3"	6½" high	7.35

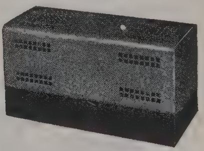
DELUXE Amplifier Foundation Chassis



Modern professional type. Rounded corners on screen cover. Chrome mouldings & handles. Cover finished in slate gray, with black ripple chassis.

Cat.No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
DF510	5x10x3"	6"	9 lbs.	$3.21
DF615	6x14x3"	6"	10 lbs.	3.75
DF717	7x17x3"	6"	11 lbs.	4.29
DF1012	10x12x3"	6"	11 lbs.	4.29
DF1017	10x17x3"	6"	13 lbs.	5.10
DF1317	13x17x3"	6"	15 lbs.	5.85

STANDARD Amplifier Foundation Chassis



Rounded corners effectively streamline the covers on these units. Grille type ventilation gives them a modern appearance. Chassis stamped from one piece of cold rolled steel, with corners securely spot welded. Covers finished in slate grey, chassis in black ripple enamel. Chassis are drilled for bottom plates.

Cat.No.	Size	Depth of Cover	Shpg. Wt.	Net Price
F-510	5x10x3"	6"	9 lbs.	$2.25
F-615	6x14x3"	6"	10 lbs.	2.55
F-717	7x17x3"	6"	11 lbs.	3.15
F-1012	10x12x3"	6"	11 lbs.	3.15
F-1017	10x17x3"	6"	11 lbs.	3.81
F-1317	13x17x3"	6"	15 lbs.	4.50

MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRONIC DIVISION

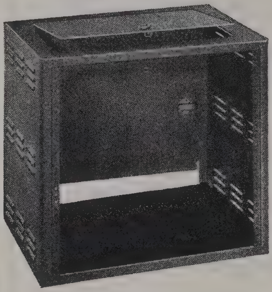
CABINETS • CHASSIS • CASES • PANELS

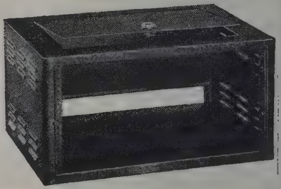
D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

FEATURES

- ★ **Constructed of heavy gauge 1/16" stee electrically welded.**
- ★ **Adequate ventilation is provided by sufficien louvres in sides, and ventilation in back.**
- ★ **Front Vertical posts rounded.**
- ★ **Flush panel mounting (recessed).**
- ★ **Drilled and tapped for 10/32" screws o universal centers.**
- ★ **Flush door in top fitted with flush snap-loc and piano hinges.**
- ★ **Black Wrinkle finish. *Grey Wrinkle if desired.***





Cat. No.		List Price
D.C. 108	Panel Size 8¾" x 19". Size of Cabinet 10½" x 21"½ x 15". Single Unit	$15.50
D.C. 1412	Panel Size 12¼" x 19". Size of Cabinet 14" x 21½" x 15". Single Unit	19.00
D.C. 1514	Panel Size 14" x 19". Size of Cabinet 15¾" x 21½" x 15". Single Unit	21.50

Cat. No.		List Pric
D.C. 1917	Panel Size 17½" x 19". Size of Cabinet 19¼" x 21½" x 15". Double Unit—Door Top and Back	$26.5
D.C. 2826	Panel Size 26¼" x 19". Size of Cabinet 28" x 21½" x 15". Triple Unit—Door Top and Back	29.7
D.C. 3635	Panel Size 35" x 19". Size of Cabinet 36¾" x 21½" x 15". Quad. Unit—Door Top and Back	33.7

BLANK STEEL CHASSIS
Heavy Duty

Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and drilled to match bottom plates. Ends are drilled to fit standard Middletown brackets. Bottom plates are supplied with these Chassis.

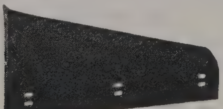
Stock Sizes

BLACK WRINKLE FINISH

Cat. No.	Size	Shipping Weight	List Price
H.D. 8172	8 x 17 x 2"	8 lbs.	$3.55
H.D. 8173	8 x 17 x 3"	9 lbs.	3.95
H.D. 11172	11 x 17 x 2"	10 lbs.	4.00
H.D. 11173	11 x 17 x 3"	11 lbs.	4.40
H.D. 13172	13 x 17 x 2"	11 lbs.	4.90
H.D. 13173	13 x 17 x 3"	13 lbs.	5.15
H.D. 13174	13 x 17 x 4"	14 lbs.	5.70

CHASSIS BRACKETS
Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.



Cat. No.	Size	Shipping Weight	List Price
C.B. 8	For 8" Base	2 lbs.	$1.20
C.B. 11	For 11" Base	3 lbs.	1.75
C.B. 13	For 13" Base	3 lbs.	2.10

BLANK STEEL CHASSIS
Standard Type

Middletown Chassis are made from one piece of No. 20 gauge steel spot-welded at al 4 corners—bottom edges are folded over on four sides for additional rigidity and drille to match bottom plates.

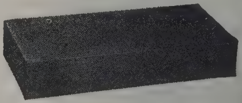
Bottom plates are drilled to match holes on flange of chassis and have pressed bumpers a corners. Material No. 20 gauge steel.

Standard Stock Sizes

BLACK WRINKLE FINISH

Cat. No.	Size	Shipping Weight	List Price
B.S. 591	5½ x 9½ x 1½"	2 lbs.	$1.00
B.S. 5103	5 x 10 x 3"	3 lbs.	1.45
B.S. 4173	4 x 17 x 3"	3 lbs.	1.65
B.S. 6143	6 x 14 x 3"	4 lbs.	1.60
B.S. 772	7 x 7 x 2"	2 lbs.	1.15
B.S. 792	7 x 9 x 2"	2 lbs.	1.40
B.S. 7112	7 x 11 x 2"	3 lbs.	1.50
B.S. 7132	7 x 13 x 2"	3 lbs.	1.60
B.S. 7153	7 x 15 x 3"	4 lbs.	2.00
B.S. 7173	7 x 17 x 3"	4 lbs.	2.10
B.S. 8172	8 x 17 x 2"	4 lbs.	2.15
B.S. 8173	8 x 17 x 3"	5 lbs.	2.25
B.S. 10123	10 x 12 x 3"	4 lbs.	2.15
B.S. 10143	10 x 14 x 3"	5 lbs.	2.25
B.S. 10172	10 x 17 x 2"	5 lbs.	2.25
B.S. 10173	10 x 17 x 3"	5 lbs.	2.30
B.S. 11172*	11 x 17 x 2"	7 lbs.	2.85
B.S. 11173*	11 x 17 x 3"	9 lbs.	3.10
B.S. 12172	12 x 17 x 2"	5 lbs.	2.50
B.S. 12173	12 x 17 x 3"	5 lbs.	2.70
B.S. 12174	12 x 17 x 4"	6 lbs.	3.00
B.S. 13172*	13 x 17 x 2"	8 lbs.	3.40
B.S. 13173*	13 x 17 x 3"	9 lbs.	3.70
B.S. 13174*	13 x 17 x 4"	10 lbs.	4.30

*Made from 1/16" Stock.



Bottom Plates

BLACK WRINKLE FINISH

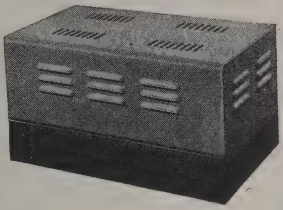
Cat. No.	Size	Shipping Weight	List Pric
B.P. 59	5½ x 9½"	1 lb.	$ .5
B.P. 510	5 x 10"	1 lb.	.6
B.P. 417	4 x 17"	2 lbs.	.8
B.P. 614	6 x 14"	1 lb.	.8
B.P. 77	7 x 7"	1 lb.	.6
B.P. 79	7 x 9"	1 lb.	.6
B.P. 711	7 x 11"	1 lb.	.7
B.P. 713	7 x 13"	2 lbs.	.8
B.P. 715	7 x 15"	2 lbs.	.9
B.P. 717	7 x 17"	2 lbs.	1.0
B.P. 817	8 x 17"	2 lbs.	1.0
B.P. 1012	10 x 12"	2 lbs.	1.0
B.P. 1014	10 x 14"	2 lbs.	1.1
B.P. 1017	10 x 17"	2 lbs.	1.3
B.P. 1117	11 x 17"	2 lbs.	1.4
B.P. 1217	12 x 17"	3 lbs.	1.4
B.P. 1317	13 x 17"	3 lbs.	1.5

MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRONIC DIVISION

CABINETS • CHASSIS • CASES • PANELS

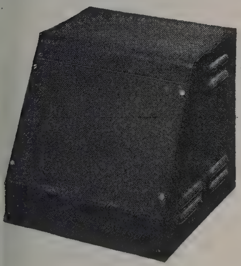
AMPLIFIER FOUNDATIONS—DeLuxe Models



This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrnkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately Covers all have a depth of 6″.

Cat. No.	Size	List Price
A.F.-5103	5 x 10 x 3″	$3.70
A.F.-6143	6 x 14 x 3″	4.15
A.F.-7173	7 x 17 x 3″	5.15
A.F.-10123	10 x 12 x 3″	5.35
A.F.-10173	10 x 17 x 3″	6.25
A.F.-13173	13 x 17 x 3″	7.35

SLOPING FRONT PANEL CABINETS



Sloping front panel cabinets have a wide application in the electronic field snce they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat.No.	H.W.D.	Chassis Size	List Price
S.F.-888	8 x 8 x 8″	7 x 7 x 2″	$5.00
S.F.-8108	8 x 10 x 8″	7 x 9 x 2″	5.50
S.F.-8148	8 x 14 x 8″	7 x 13 x 2″	6.25
S.F.121812	12 x 18 x 12″	10 x 17 x 3″	11.25

STEEL RACK PANELS — 19″ LONG

These panels are made from ⅛″ steel and are slotted for standard amateur mounting. Twelve standard sizes. Furnished in black or grey wrinkle finish. These panels are also supplied with commercial (W.E.) slotting. When ordering commercial type indicate by adding W to our catalogue number below.

Cat. No.	Width	Weight	List Price
R.P. 1	1¾″	2 lbs.	$ .95
R.P. 3	3½″	5 lbs.	1.10
R.P. 5	5¼″	7 lbs.	1.45
R.P. 7	7 ″	8 lbs.	1.60
R.P. 8	8¾″	9 lbs.	1.85
R.P. 10	10½″	10 lbs.	2.25
R.P. 12	12¼″	12 lbs.	2.70
R.P. 14	14 ″	13 lbs.	3.00
R.P. 15	15¾″	14 lbs.	3.45
R.P. 17	17½″	15 lbs.	3.80
R.P. 19	19¼″	16 lbs.	4.10
R.P. 21	21 ″	17 lbs.	4.55

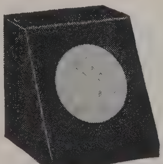
When Ordering Specify Black or Grey.

METER PANELS

Middletown Meter Panels are made 5¼″ high and are made to the same specifications as our Rack Panels — are available to fit 3″ meters.

Cat. No.	Holes	Hole Size	List
R.P.M. 33	3	2 3/16″	$2.00
R.P.M. 35	5	2 3/16″	2.75

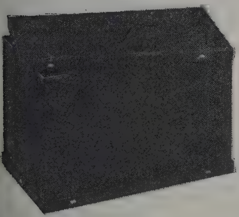
METER CASES



These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	List Price
M.C. 13	Single 3″	2 13/16″	4½ x 4 x 4	$1.70
M.C. 33	3-3″ Meters	2 13/16″	4½ x 11¼ x 4	4.00

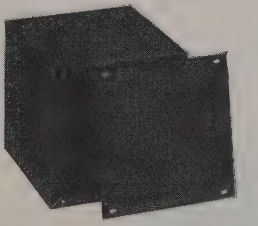
STEEL UTILITY CANS



These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

Cat. No.	Size	Weight	List Price
U.C. 565	5½ x 6 x 5½″	3 lbs.	$1.55
U.C. 596	5 x 9 x 6″	5 lbs.	2.35
U.C. 8107	8 x 10 x 7″	6 lbs.	3.10
U.C. 81010	8 x 10 x 10″	7 lbs.	3.80
U.C. 11128	11 x 12 x 8″	9 lbs.	4.15

STEEL CASES — STANDARD



These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

Cat. No.	Size	Weight	List Price
S.C. 442	4 x 4 x 2 ″	2 lbs.	$1.10
S.C. 453	4 x 5 x 3 ″	3 lbs.	1.30
S.C. 666	6 x 6 x 6 ″	3 lbs.	1.65
S.C. 1276	12 x 7 x 6 ″	5 lbs.	3.10
S.C. 1597	15 x 9 x 7 ″	9 lbs.	4.35
S.C. 1287	12 x 7¾ x 6½″	9 lbs.	3.15
S.C. 1576	15 x 7¾ x 6½″	11 lbs.	3.75

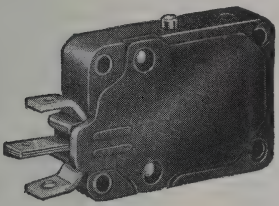
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

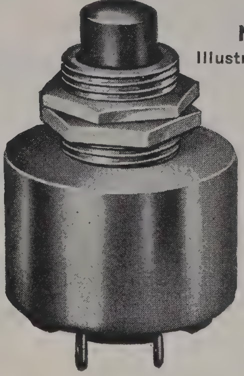
Acro Snap SWITCHES
FOR PRECISION CONTROL

ACRO ELECTRIC COMPANY • 1436 SUPERIOR AVENUE • CLEVELAND 14, OHIO



ACRO MODEL "M" SNAP ACTION SWITCH

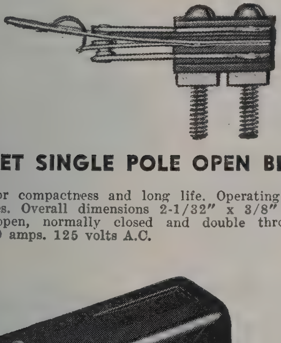
3uilt with the patented Beryllium Rolling Spring. New, tronger molded case with four 3/32" mounting holes. Sturdier parriers between terminals, affording generous electrical clearnces. Heavier solder terminals with .082" terminal holes for asier wiring. Greater compactness for multiple assemblies—our can be mounted in a space of less than 1⅛". Size: 17/64" hick, 1-13/64" long and 53/64" high. Made with single pole, ingle or double throw contacts. Rated at 10 amps. 125 volts .C. May be fitted with leaf actuators.



NUT TYPE SWITCH

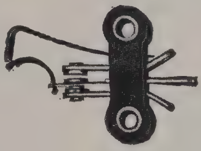
Illustration 1½ Times Actual Size

A new push-button type switch with a double break shorting bar feature for panel mounting applications. $\frac{29}{32}$" diam. Cadmium plated brass case with a sturdy threaded sleeve $\frac{15}{32}$-32. Normally open and normally closed circuits. Rating is 15 amps. at 125 volts A.C.



MIDGET SINGLE POLE OPEN BLADE

esigned for compactness and long life. Operating pressure 3 o 6 ounces. Overall dimensions 2-1/32" x 3/8" x 23/64". ormally open, normally closed and double throw circuits. ated at 10 amps. 125 volts A.C.

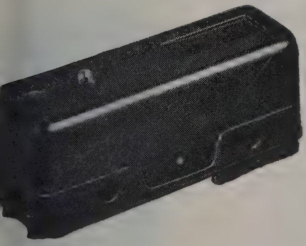


OPEN BLADE MODEL "M"

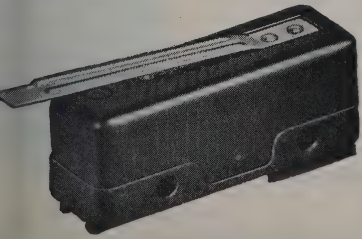
This ACRO switch fills the need for a compact, low priced, sturdy switch for vertical mounting singly or in multiples. Operation pressure 6 to 10 ounces. Dimensions 1-13/32" x 1-1/64" x 5/16". Normally open, normally closed and double throw. Rated at 10 amps. 125 volts A.C.

These three standard enclosed snap-action Acro switches operate on the rolling spring principle giving instantaneous make and break. Features of this switch are: Frictionless operation, long life, low operating pressure, high contact pressure, small size, unaffected by ordinary vibration, easy installation. Weighs less than one ounce, plastic case drilled for two 6/32 screws Comes with a variety of actuators, actuation pressures, gaps, overtravel, movement differential, to meet various applications. Normally open, normally closed or double throw. Rated 125 v. 10 amps. A.C.

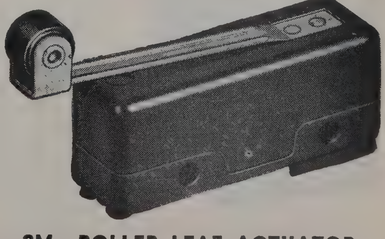
Size: $1\frac{15}{16}$" x $\frac{11}{16}$" x $\frac{27}{32}$"



Pin Plunger Type 1A Actuator



5L Leaf Actuator



2M—ROLLER LEAF ACTUATOR

SMALL SWITCHES, LIMIT SWITCHES, AND MAGNETIC RELAYS

SMALL SNAP-ACTION SWITCH, G-E SWITCHETTE CR1070-C103

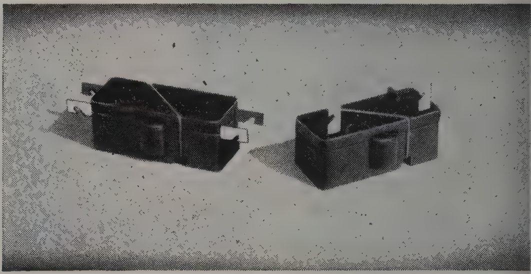
This new, lightweight switch mechanism lends itself especially to applications where space is limited and long life is required.

The Switchette is operated by movement of the spring-return button located in the housing. This button can be actuated by a lever, bellows, or other means. Snap-action, double-break-contact construction gives the G-E Switchette a high current rating and makes it suitable for applications where the vibration is severe.

FEATURES AND ADVANTAGES

1. Small (approximately 1¼ in. by ½ in. by ½ in.) and weighs only 9 grams (0.02 lb).
2. Resists vibration and corrosion.
3. Phenolic-resin operating button provides safety from live parts during operation.
4. Contact tips are 99.95 per cent pure silver.
5. Particularly suited to electronic applications because of negligible amount of contact bounce.
6. Two terminal arrangements are available, as shown above.
7. Wide variety of forms available, for example, three basic contact arrangements: single-circuit, normally open; single-circuit, normally closed; and two-circuit, normally open and normally closed. Also many special forms.

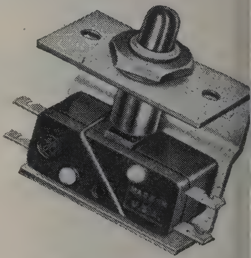
Switchettes are available in ratings up to 10 amperes at 115 or 230 volts a-c. Write for Bulletin GEA-3818.



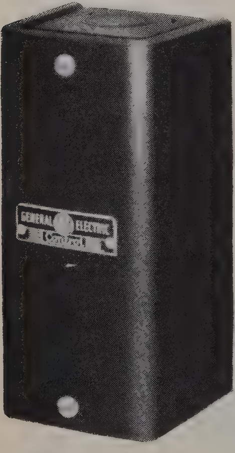
Switchettes having two terminal arrangements

LIMIT SWITCH, CR1070-D101

This sturdy, open-type limit switch is operated by a plunger which provides $\frac{7}{32}$-inch overtravel. The contact mechanism of this device is the G-E Switchette, which can be wired to control one normally open circuit and one normally closed circuit. Rated 10 amperes at 230 volts a-c. Write for Bulletin GEA—3821.



Open-type limit switch with push-rod operation



Enclosed magnetic relay

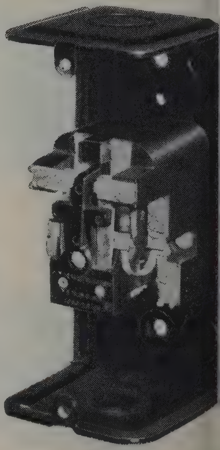
MAGNETIC RELAY, CR2790-E

The CR2790 relay is a compact, attractively finished device for use either as a motor starter or a relaying unit. Available in either an open form or enclosed in a general-purpose housing. Three contact arrangements available: single-pole, single-throw; double-pole single-throw; and double-pole, double-throw. In the open form, all three contact arrangements use the same base, which facilitates mounting. In the enclosed form, the U-shaped cover makes wiring and servicing convenient. Rated 10 amp. continuous, 110/120 volts a-c.

Applications

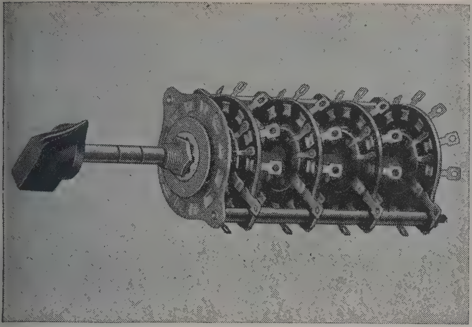
Control of pilot circuits in response to remote control switch or thermostat, or for direct control of small motors.

As a fractional-horsepower motor starter, or in conjunction with a magnetic switch controlling larger motors, heating or lighting circuits, and signal systems.



Enclosed relay with cover remo

MALLORY CIRCUIT SELECTOR SWITCHES



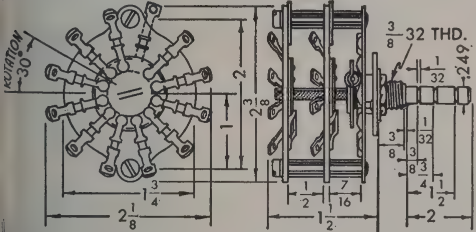
1200L · 1300L MULTI-GANG SWITCHES

● All contacting members of the 1200L and 1300L series of switches are silver plated except rotor contact slugs, which are solid silver. This insures low contact resistance. The high lift of the contact springs provides a wiping and self-cleaning action.

A new and improved index spring gives long-life operation. The adjustable stop feature permits extreme flexibility . . . a wider variety of circuit combinations. All switches supplied with ⅜-inch diameter ⅜-inch long brass bushing, and 2-inch long shaft—grooved for easy cutting at popular lengths.

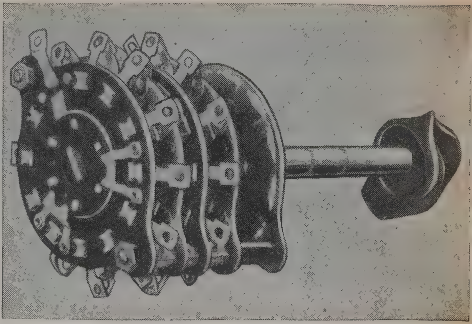
Three- and four-gang switches have one-inch spacing between sections, all others one-half inch. If necessary, these switches can be disassembled, the spacers cut down to meet the requirements as to length of the switch and the spacing of the sections.

(Prices include Mallory No. 366 Knob, one No. 232 Nut and one No. 227 Lockwasher, but do not include Dial Plates. See page 32 for special Dial Plates.)



No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Points or Contacts per circuit	No. of Sections or Gangs per Switch	Shorting Type Catalog No.	Non-Shorting Type Cat. No.	List Price
1	1	6	1	1216L*	1316L*	$1.30
1	1	11	1	1211L	1311L	1.55
2	2	5	1	1215L*	1315L*	1.65
3	3	3	1	1213L*	1313L*	1.80
4	4	2	1	1212L*	1312L*	1.90
1	2	6	2	1226L*	1326L*	2.15
1	2	11	2	1221L	1321L	2.30
2	4	5	2	1225L*	1325L*	2.60
3	6	3	2	1223L*	1323L*	2.80
4	8	2	2	1222L*	1322L*	2.95
1	3	6	3	1236L*	1336L*	2.90
1	3	11	3	1231L	1331L	3.10
2	6	5	3	1235L*	1335L*	3.30
1	4	6	4	1246L*	1346L*	3.60
1	4	11	4	1241L	1341L	3.95
2	8	5	4	1245L*	1345L*	4.60
1	5	11	5	1251L	1351L	4.90
2	10	6	5	1256L	1356L	6.05
1	6	11	6	1261L	1361L	5.80
2	12	6	6	1266L	1366L	7.40

*These switches are provided with an "off" position which is in addition to the number of positions listed in third column.



1400L CIRCUIT OPENING SWITCH

● Mallory No. 1400L Switch will "open" any one of twelve "lines" for the insertion of a current reading meter and maintain a "through" circuit on the other eleven lines. This switch has found wide application in the construction of test sets, tube checkers, analyzers, and other apparatus where it is desirable to use only one meter.

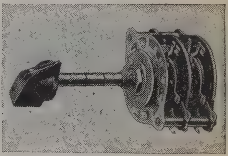
Multiplying resistors can be wired to the switch, so that the switch not only opens the line but also automatically cuts in the proper multiplying resistor.

Special Circuit Opening Switch complete with Mallory Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory Etched Dial Plate No. 382—

No. 1400L. List Price **$5.90**

13124L

24-POINT TAP SWITCH



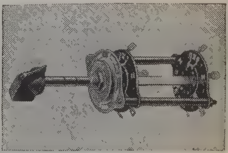
● A special single circuit, 24-point non-shorting switch with ⅜″ bushing and 2″ grooved shaft, particularly useful in test equipment applications. No stops—switch is capable of continuous rotation.

Complete with Mallory Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory Dial Plate No. 394—

No. 13124L. List Price **$3.50**

151L

"HAMSWITCH"



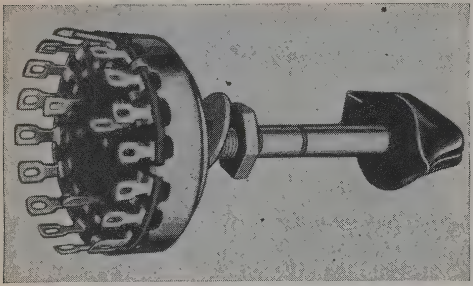
● Provides a method of using a single meter to measure currents or voltages up to and including five circuits of an Amateur Transmitter. High insulating qualities and low loss construction permit a conservative rating of 1000 volts RMS AC or 1500 volts DC.

Two-gang construction with 2¼″ spacing between sections, permitting multiplying resistors to be soldered directly to switch terminals. Has 2-inch grooved shaft, ⅜″ bushing, one each No. 366 Knob, No. 232 Nut and No. 227 Lockwasher.

"Hamswitch" No. 151L. List Price **$2.75**

Dial Plate for above, numbered 1 to 5, with markings spaced 60°. **No. 487.** List Price **$0.20**

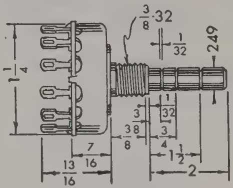
MALLORY CIRCUIT SELECTOR SWITCHES



3100J · 3200J SINGLE GANG SWITCHES

- Compact, enclosed, low-voltage switches, ideally suited for radio frequency, tone control, antennae switching, intercommunication, test equipment and many other electronic devices where space is at a premium.

Available in single section only, and in two sizes—1¼-inch and 1¹¹⁄₁₆-inch diameter base. The circuit combinations shown below indicate respective sizes. All combinations made in both shorting and positive non-shorting action. Adjustable stop feature is available only in the 1¹¹⁄₁₆-inch base.



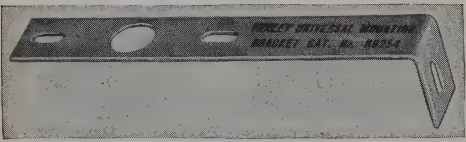
3100J-3200J SERIES
1-1/4 Inch Base

All 3100J-3200J series are equipped with universal shaft, 2 inches long and grooved to provide easy cutting at popular lengths.

(Prices include one Mallory No. 366 Knob, one No. 232 Nut, and one No. 227 Lockwasher, but no Dial Plate. See page 32 for special Dial Plates.)

Number of Circuits	Number of Contacts per Circuit	Diameter of-Base	Adjustable Stop	Shorting Type Catalog No.	Non-Shorting Type Cat. No.	List Price
1	5	1¼″	No	3115J	3215J	$1.15
1	12	1¼″	No	31112J	32112J	1.15
2	2	1¼″	No	3122J	3222J	1.15
2	3	1¼″	No	3123J	3223J	1.15
2	6	1¼″	No	3126J	3226J	1.15
3	4	1¼″	No	3134J	3234J	1.20
4	2	1¼″	No	3142J	*3242J	1.20
4	3	1¼″	No	3143J	3243J	1.20
1	17	1¹¹⁄₁₆″	Yes	‡31117J	32117J	1.80
2	9	1¹¹⁄₁₆″	Yes	3129J	3229J	1.80
3	6	1¹¹⁄₁₆″	Yes	3136J	3236J	1.95
6	3	1¹¹⁄₁₆″	Yes	3163J	†3263J	1.95

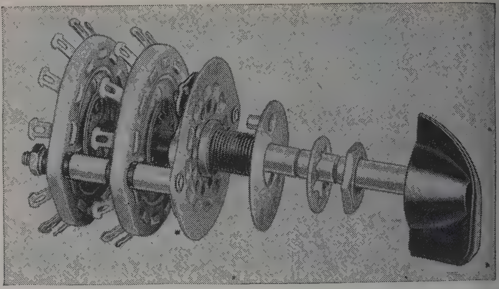
*Replaces No. 2742.
†Replaces No. 2762 by using adjustable stop.
‡Replaces No. 150J by using adjustable stop.



UNIVERSAL MOUNTING BRACKET RB254

- For baseboard or rear support mounting of all Mallory circuit selector switches, volume controls and jacks. Universal Mounting Bracket No. RB254 packed five to the carton.

List price each $0.25

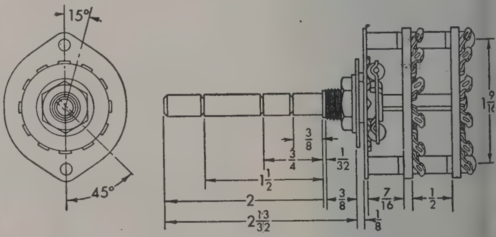


170C CERAMIC SECTION SELECTOR SWITCHES

- These are new Mallory circuit selector switches, especially useful in high frequency circuits where the ceramic insulation minimizes RF losses as well as moisture absorption. An adjustable stop permits choice of from two to eleven positions and may be adjusted without removing switches completely from the panel. Features are heavily impregnated ceramic stators and rotors, heavy silver plating on all current carrying parts, low-resistance self-cleaning contacts and, in addition, a special silver-indium surface treatment of rotor segments, providing low torque, long life, and low contact resistance over an extended temperature range.

The new series is finding widespread use in laboratories, by manufacturers of transmitters, receivers, test equipment and other electronic apparatus, by experimenters, and radio amateurs. Prices include 2-inch grooved shaft and one each No. 366 Knob, No. 232 Nut and No. 227 Washer.

Number of Gangs or Sections	Number of Circuits per Gang or Section	Number of Positions or Contacts per Circuit	Catalog No.	List Price
1	1	6	171C	$1.70
1	1	11	172C	1.70
1	2	5	173C	1.70
1	3	3	174C	1.70
2	1	6	175C	2.70
2	1	11	176C	2.70
2	2	5	177C	2.70
2	3	3	178C	2.70
3	1	6	179C	3.90
3	1	11	180C	3.90
3	2	5	181C	3.90

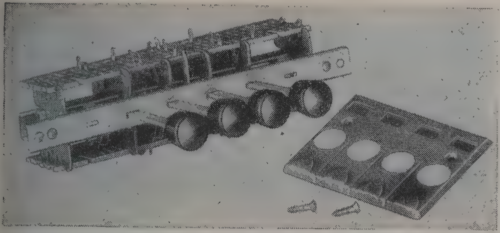


"HAMSWITCH" No. 152L

- The 152L Switch is a two-gang unit, carrying two circuits through six positions, similar to 1326L, but with 330° shorting shoes which automatically connect together and short all unused terminals. Supplied with ⅜″ bushing, 2″ grooved shaft, one each No. 366 Knob, No. 232 Nut, and No. 227 Lockwasher.

"Hamswitch" No. 152L. List Price **$3.25**

MALLORY "HAMBAND" AND PUSH-BUTTON SWITCHES



2100 MULTIPLE PUSH-BUTTON SWITCHES

For *Automatic Station Selector Tuning, Inter-Office Communication Systems, Telephone and Annunciator Systems, Signal Generator Frequency Selection, Set Analyzers, Tube Checkers, Multimeters, Transmitter Crystal and Meter Switching*, or the many applications requiring a device for making, breaking, or transferring multiple circuits in any desired sequence.

Write for free technical folder Form Y-608-B, giving application data and suggested circuits. Type 2190 may be used in meter switching circuits for potentials to 1,000 volts DC, or 700 volts AC.

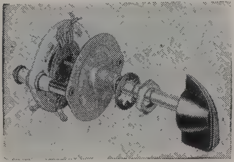
Type	Number of Buttons	Cat. No.	‡List Price
Circuit Closing	4	2164	$5.25
Circuit Closing	6	2166	6.55
Circuit Closing	8	2168	7.90
Circuit Transfer	4	2184	5.25
Circuit Transfer	6	2186	6.55
Circuit Transfer	8	2188	7.90
†Circuit Transfer	4	2194	5.25
†Circuit Transfer	6	2196	6.55
†Circuit Transfer	8	2198	7.90

‡List price includes brown bakelite knobs, one attractive statuary bronze escutcheon plate supplied with blank designation inserts, and transparent strip for windows.

†Non-shorting.

160C

CERAMIC SECTION "HAMBAND" SWITCHES



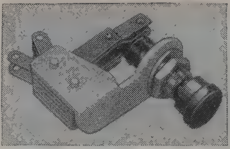
- For transmitter band switching.

HamBand Switches are rated for use in transmitter plate circuits using up to 1000 Volts DC with power up to 100 watts inclusive.

Impregnated magnesium silicate ceramic provides low losses at high frequencies. No stops; switch shaft is capable of continuous rotation. 90° indexing. Technical data sheet. Form Y-646 available on request. Prices include 2″ grooved shaft, $\frac{3}{8}$″ bushing and one each 366 Knob, No. 232 Nut and No. 227 Lockwasher.

No. of Sections or Gangs	Circuits per Switch	Spacing between Sections	Points or Contacts per Circuit	Cat. No.	List Price
1	1	..	4	161C	$2.00
2	2	2″	4	162C	3.00
3	3	1″	4	163C	4.00
4	4	1″	4	164C	5.00
5	5	1″	4	165C	6.25

Dial Plate for above, numbered 1 to 4. No. 488. List Price. $0.20



2000

PUSH-BUTTON SWITCHES (SINGLE)

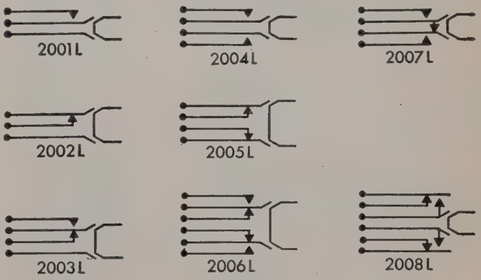
- Eight different circuit combinations permit a wide variety of applications for Mallory 2000 Series Push-Button Switches. They are especially adapted for use in laboratories, on test panels, in meter circuits and other equipment where permanent or momentary contact is desired.

Each circuit combination of this Mallory switch is available in either a locking or a non-locking type. Locking types keep the circuit closed until the button is pulled out. Non-locking types maintain contact only while the button is depressed. Special construction features provide improved electrical characteristics and assure long operating life. The switch frame and bushing are nickel-plated brass. Low-resistance contacts are silver. Contact springs are nickel-plated phosphor bronze.

Furnished with polished black Bakelite Knob, one each No. 232 Nut, No. 225 Washer and Set Screw. Mounts in single hole $\frac{7}{16}$″ diameter on panels up to $\frac{1}{4}$″ thick.

	Cat. No.	List Price
S. P. Make contact—Non-locking type	2001	$1.30
S. P. Make contact—Locking type	2001-L	1.30
S. P. Break contact—Non-locking type	2002	1.30
S. P. Break contact—Locking type	2002-L	1.30
S. P. Double-Throw—Non-locking type	2003	1.40
S. P. Double-Throw—Locking type	2003-L	1.40
2-Pole—Make two contacts—Non-locking type	2004	1.60
2-Pole—Make two contacts—Locking type	2004-L	1.60
2-Pole—Break two contacts—Non-locking type	2005	1.60
2-Pole—Break two contacts—Locking type	2005-L	1.60
2-Pole—Double-Throw—Non-locking type	2006	1.95
2-Pole—Double-Throw—Locking type	2006-L	1.95
2-Pole—Make two—Break one—Non-locking type	2007	1.75
2-Pole—Make two—Break one—Locking type	2007-L	1.75
Double-Throw—Make before break—Non-locking type	2008	2.20
2-Pole—Double-Throw—Make before break—Locking type	2008-L	2.20

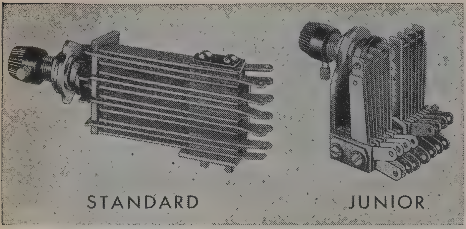
CIRCUITS



TECHNICAL MANUAL

408 pages of information, designed for the radio service-man, engineer, amateur or experimenter who desires technical data — presented so that he can easily apply it to everyday problems. **$2.00 Net**

MALLORY JACK SWITCHES · JACKS · PLUGS



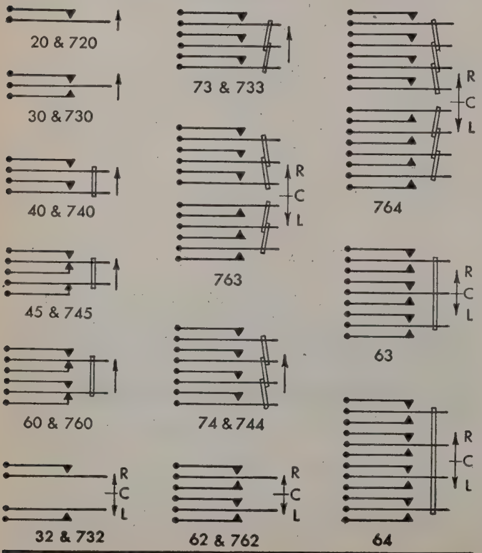
JACK SWITCHES STANDARD AND JUNIOR TYPES

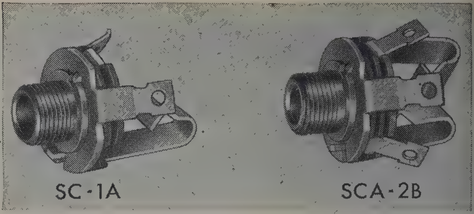
● Quality construction throughout; frame, bushing and other parts are nickel-plated brass; contacts are fine silver; springs are nickel-plated phosphor bronze.

Mallory Jack Switches and Junior Jack Switches are furnished complete with Black Knob and one each No. 232 Nut and No. 225 Washer. Mount in a single hole, 7/16" diameter, on panels up to 1/4" thick.

Circuit Arrangement	Two Position			
	Standard		Junior	
	No.	List Price	No.	List Price
Single-Pole, Single-Throw	20	$1.15	720	$1.10
Single-Pole, Double-Throw	30	1.40	730	1.35
Double-Pole, Single-Throw	40	1.55	740	1.50
Five Springs, two break and one make	45	1.85	745	1.75
Double-Pole, Double-Throw	60	1.95	760	1.95
Three-Pole, Single-Throw	73	1.95	733	1.95
Four-Pole, Single-Throw	74	2.55	744	2.55
Circuit Arrangement	**Three Position**			
Single-Pole, Double-Throw Center off Position	32	$1.40	732	$1.35
Double-Pole, Double-Throw Center off Position	62	1.95	762	1.90
Three-Pole, Double-Throw Center off Position	63	2.55	763	2.50
Four-Pole, Double-Throw Center off Position	64	3.15	764	3.10

CIRCUITS



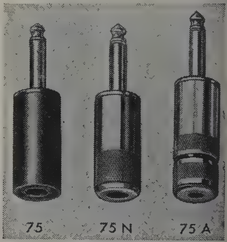


SC JACKS SIGNAL CORPS TYPES

No. SC-1A Phone Jack Equivalent of Signal Corps Jack No. JK-34A. Same spring arrangement as No. 1 Long Frame Jack (see pg. 30). Designed to receive following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B, Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155. List Price **$0.55**

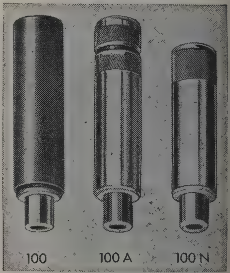
No. SCA-2B Microphone Jack. Equivalent of Signal Corps Jack No. JK-33A. Same spring arrangement as No. 2B Long Frame Jack (see pg. 30). Designed to receive following plugs: Western Electric No. 109 and Signal Corps Nos. PL-46, PL-68 and PL-168. List price............. **$0.65**

PLUGS
PHONE AND MICROPHONE TYPES



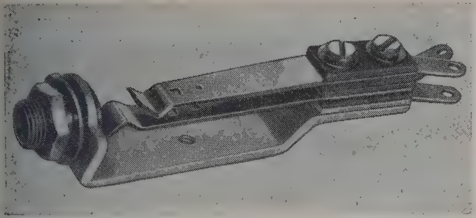
Description	Cat. No.	List Price
Two-Way Phone Plug with Tie-Cord Anchor (Bakelite Shell)	75	$0.65
Two-Way Phone Plug with Tie-Cord Anchor (Shielded Nickel Shell)	75N	1.00
Two-Way Phone Plug with Tie-Cord Anchor (Shielded Nickel Shell) (with Built-in Cable Clamp)	75A	1.65
Three-Way Microphone Plug (Bakelite Shell)	76	1.00
Three-Way Microphone Plug (Shielded Nickel Shell) (with Built-in Cable Clamp)	76A	1.95

JACKS
EXTENSION TYPES



Description	Cat. No.	List Price
Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug	100	$1.30
Two-Way Extension Jack (Shielded Nickel Shell) for No. 75N Phone Plug	100N	1.65
Two-Way Extension Jack (Shielded Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp)	100A	2.30

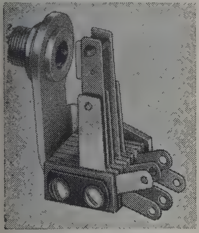
MALLORY LONG FRAME, JUNIOR, MIDGET, TYPE XP JACKS

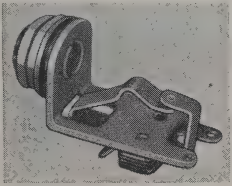


JACKS LONG FRAME, JUNIOR AND MIDGET TYPES

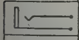
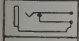
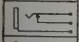
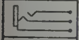
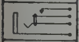
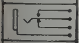
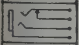
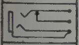
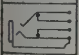
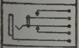
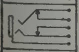
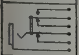
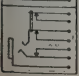
- All Mallory Jacks—long frame, junior and midget—mount in a single ⅜-inch hole in panels up to 5/16-inch thick. They fit all standard Mallory plugs of two and three-conductor types as shown at right. Nickel-plated phosphor bronze, specially selected for its spring qualities, gives uniform tension and wiping action of contacts in all spring assemblies. Contacts between springs are fine silver, giving minimum contact resistance. All frames and bushings are nickel-plated brass. Junior Jacks are small and compact; extend only 1 5/16-inch back of panel.

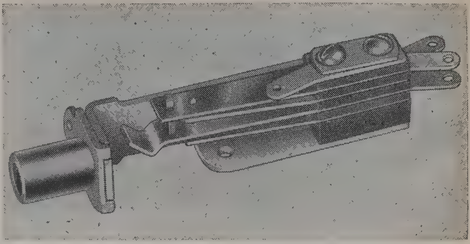
Spring combinations are illustrated below. All Long Frame, Junior and A1 (Infant) Jacks are supplied with one each No. 232 Nut and No. 225 Washer. All Midget Jacks have two No. 232 Nuts and one No. 225 Washer.





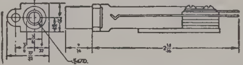
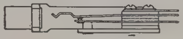
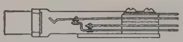
Above — Midget Jack
At Left — Junior Jack

	Long Frame		Junior Jacks		Infant and Midget	
	No.	List Price	No.	List Price	No.	List Price
	**1**	**$0.65**	**701**	**$0.55**	***A-1**	**$0.30**
	**2**	**.80**	**702**	**.75**	**A-2**	**.50**
	**2A**	**.80**	**702A**	**.75**	**A-2A**	**.55**
	**2B**	**.80**	**702B**	**.75**		
	**3**	**.95**	**703**	**.85**		
	**3A**	**.95**	**703A**	**.85**	**A-3A**	**.80**
	**3B**	**.95**	**703B**	**.85**	*Commonly referred to as "Infant" Jack.	
	**3CJ**	**.95**	**703C**	**.85**		
	**4**	**1.10**	**704**	**1.00**		
	**4A**	**1.10**	**704A**	**1.00**		
	**4B**	**1.10**	**704B**	**1.00**		
	**5**	**1.20**	**705**	**1.15**		
	**6**	**1.30**	**706**	**1.25**		



JACKS TYPE XP LONG FRAME

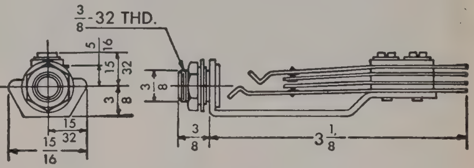
- Type XP Jacks are similar to the Long Frame types listed at left, except for plain bushing and special dust protector frame construction commonly used in telephone and industrial applications. Type XP's have nickel-plated phosphor bronze springs, fine silver contacts, nickel-plated brass frame, bushing and mounting plate. Fit the standard Mallory phone plugs.

	Cat. No.	List Price
	**XP1** (Open Circuit)	**$0.90**
	**XP2B** (Three-Circuit Microphone)	**1.00**
	**XP3B** (Single Circuit, Make Before Break)	**1.30**

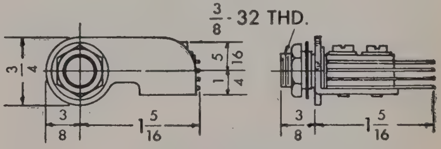
"GROUNDING" JACK No. GJ-1

For "grounding" airplanes while refueling. Similar in construction to A1 Jack (at left) except for insulation. List Price............ $0.45

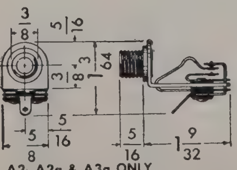
DIMENSIONS (Jacks listed at left)



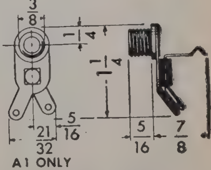
LONG FRAME



JUNIOR

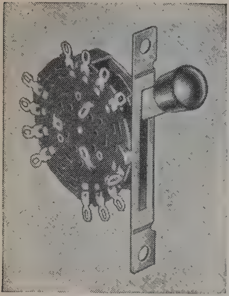


MIDGET JACK



INFANT JACK

MALLORY SWITCHES · RESISTANCE KITS · BIAS CELLS



LEVER ACTION
SWITCHES

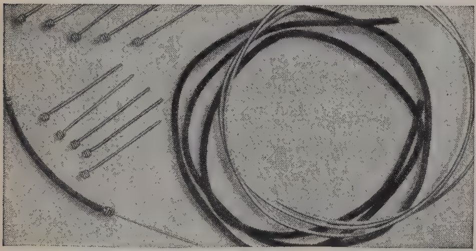
●

A line of lever action switches with spring return index is also being designed. Time did not permit their listing in this catalog. Full details will be sent on request.

● Mallory Series 5000 Lever Action Switches are suited to a wide range of industrial and test equipment applications, but are particularly adapted to intercommunication, centralized radio, sound distribution and public address equipment. They are available in six different circuit combinations, all with positive indexing, with either shorting or non-shorting contacts.

Indexing is two, three or four positions with 20° between positions. Dimension between mounting hole centers on bracket is 1⅝ inches. Switches may be mounted singly or grouped in multiple mounting with ¾-inch spacing between levers on conventional rack and panel installations. Standard push-button type knob, two 6-32 bolts and nuts are included.

Number of Poles or Circuits	Number of Positions or Contacts	Cat. No. Shorting Type	Cat. No. Non-shorting Type	List Price
4	2	**6142**	**6242**	**$1.15**
4	3	**6143**	**6243**	**1.15**



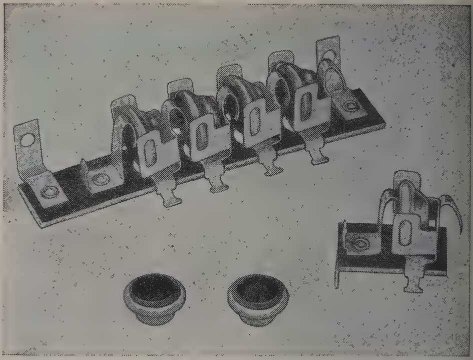
YO YARD-OHM RESISTANCE KITS

● Each Yard-Ohm Resistance Kit consists of an envelope containing all necessary materials to construct flexible resistors of a wide range of values. The Yard-Ohm Kit provides a real solution to the odd-value resistor problem. In addition to replacement applications, resistors made from the Yard-Ohm Kit are ideal for meter shunts, and for use wherever a high quality flexible resistor is desired.

Each Mallory Yard-Ohm Kit consists of an envelope containing the following:

1 yard spiral wound resistance wire
1 yard insulated braid
24 spiral wire leads
The kit is available in eight resistance values
Dissipation—all types: ½ watt per inch.

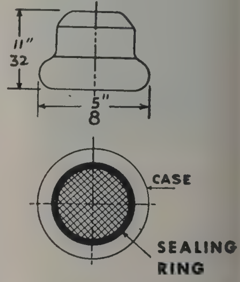
Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in amperes	List Price
YO-1	1	.707	**$0.75**
YO-5	5	.315	**.75**
YO-10	10	.223	**.75**
YO-25	25	.141	**.75**
YO-50	50	.100	**.75**
YO-100	100	.071	**.75**
YO-250	250	.044	**.75**
YO-500	500	.031	**.75**



GRID BIAS CELLS

● The Mallory Grid Bias Cell is a small acorn-shaped, self-contained device. The metal container or cup is the negative electrode. The black disc is the positive electrode. Available in two types—the original 1-volt cells and the new 1¼-volt cells. For new installations, the choice of Bias Cell types will depend on the voltage deisred. Replacements should be made with the type of Bias Cell used as original equipment.

The 1¼-volt Bias Cells may be distinguished from the 1-volt unit by the concave depressions in both the upper electrode and bottom of the shell case.



Application

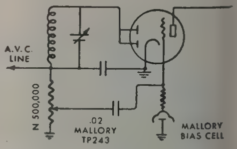
The principal use of Mallory Grid Bias Cells is in the biasing of the first audio amplifier tube in modern high-gain receivers. Diagram of a typical circuit is shown at right. The bias cell does not need to be bypassed to ground.

Correspondence is invited regarding the application of Mallory Grid Bias Cells. Special Technical Bulletin No. B-303 may be obtained on request.

Characteristics

The no-current potential of Mallory Grid Bias Cells is within plus or minus 10% of their rated voltage.

Current—The cell is strictly a potential or voltage cell for biasing class "A" amplifier tubes and should not be used for biasing power tubes or oscillators; or for any circuit where direct current may flow through, or be drawn from, the cell.



Temperature—The cells may be used in ambient temperatures from 14° above zero to 120° F. The voltage of the cell remains reasonably constant throughout this wide temperature range. It is recommended, however, that wherever possible the bias cell be placed in the coolest location.

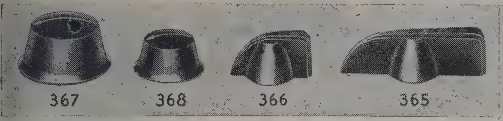
Humidity—The cell exhibits no change in characteristics when exposed to a relative humidity of 90% at 120° F.

Impedance—Mallory Grid Bias Cells are non-reactive at audio frequencies. For the 1-volt cell, the DC resistance ranges between 11,000 and 50,000 ohms. The DC resistance of the 1¼-volt cell ranges between 10,000 and 40,000 ohms.

Noise—The cells do not cause the development of any noise.

Description	Cat. No.	List Price
1-volt Grid Bias Cell (packed 10 to box)	**BC-1**	**$0.40 per cell**
1¼-volt Grid Bias Cell (packed 10 to box)	**BC-2**	**.40 per cell**
Holder, 1-cell capacity	**GB11A**	**.15 each**
Holder, 1-cell capacity	**GB11B**	**.20 each**
Holder, 2-cell capacity	**GB12**	**.25 each**
Holder, 3-cell capacity	**GB13**	**.35 each**
Holder, 4-cell capacity	**GB14**	**.40 each**

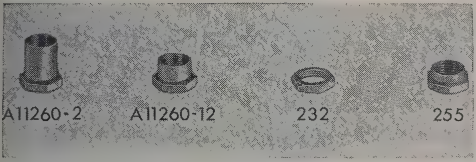
MALLORY RADIO HARDWARE · SOLDERING IRON TIPS



KNOBS ROUND AND BAR TYPES

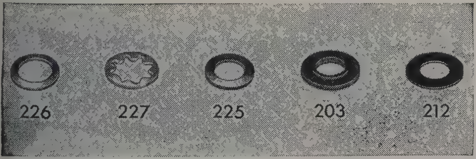
Description	Cat. No.	List Price
2¼″ Bar Type Knob, Black	365-1	$0.25
2¼″ Bar Type Knob, Red	365-R-1	.25
1¼″ Bar Type Knob, Black	366-1	.20
1¼″ Bar Type Knob, Red	366-R-1	.20
1½″ Dia. Round Knob, Black	367-1	.25
1⅛″ Dia. Round Knob, Black	368-1	.20

MOUNTING NUTS HEXAGON TYPE

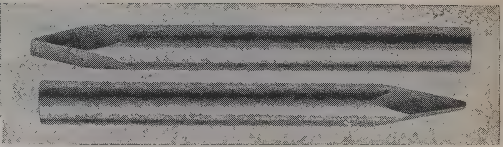


Description	Thread	Dimension	Cat. No.	List Price
Flat Hex Mounting Nut	⅜-32	½ x 3/32	232	$0.15 per 10
Hex Mounting Nut	⅜-32	½ x 7/64 x 7/64 shoulder nut	255	.20 each
Hex Mounting Nut	⅜-32	½ x 7/64 x 15/32 shoulder nut	A-11260-2	.30 each
Hex Mounting Nut	⅜-32	½ x 7/64 x 7/32 shoulder nut	A-11260-12	.25 each

WASHERS INSULATING



Description and Dimensions	Catalog No.	List Price Per 10
Extruded Washer—Fiber—⅜ O.D. x ⅜ I.D. x 1/16; Extruded ½ x 1/32 For Set See No. 212 Flat Washer.	203	$0.30
Flat Washer—¾ O.D. x ⅜ I.D. x 1/32; Bakelite	212	.20
Metal Washer—Nickel Finish—⅝ O.D. x ⅜ I.D. .040 Brass	225	.20
Metal Washer—Nickel Finish—⅝ O.D. x 7/16 I.D. .040 Brass	226	.20
Lock Washer—Cadmium Plated Steel—11/16 O.D. x 25/64 I.D.	227	.20



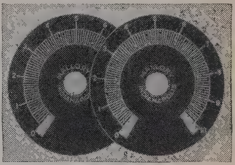
SOLDERING IRON TIPS

No. 311—Replacement tip for soldering irons that are turned on for short periods only. Heats quicker than No. 312, but is not as long wearing. Made of a special Mallory copper alloy long in use as a welding tip material. Nickel plated to resist corrosion. Size—⅜″ diameter, 4″ length. Plunger style with "screw driver" point. List price each.......... **$0.70**

No. 312—Replacement tip for soldering irons that are used continuously for long periods of time. Made of a special Mallory copper alloy of great hardness and high electrical conductivity. Nickel plated to resist corrosion. Size—⅜″ diameter, 4″ length. Plunger style, with "screw driver" point . . . List price each.......................... **$0.80**

DIAL PLATES

For Mallory Circuit Selector, Tap and All-Wave Switches. (Plates to match rotation of Mallory Variable Resistors on page 20.)



Neat-appearing Dial Plates with easy-to-read aluminum figures clearly etched on solid black background. Dimensions are 1 13/16″ in diameter with 7/16″ hole, with figures 1/64″ high. .020″ aluminum stock.

Marking	For all Switch types 1200L, 1300L and 1¼″ base 3100J, 3200J. 30 degree spacing between numerals.	For all types 3100J, 3200J Switches with 1 1/16″ base. 20 degree spacing between numerals.	List Price
	Cat. No.	Cat. No.	
1 to 2	372		$0.20
1 to 3	373	453	.20
1 to 4	374	454	.20
1 to 5	375	455	.20
1 to 6	376	456	.20
1 to 7	377	457	.20
1 to 8	378	458	.20
1 to 9	379	459	.20
1 to 10	380	460	.20
1 to 11	381	461	.20
1 to 12	382	462	.20
1 to 13		463	.20
1 to 14		464	.20
1 to 15		465	.20
1 to 16		466	.20
1 to 17		467	.20
1 to 18		468	.20
Off 1 to 2		472	.20
Off 1 to 3	383	473	.20
Off 1 to 4	384	474	.20
Off 1 to 5	385	475	.20
Off 1 to 6	386	476	.20
Off 1 to 7	387	477	.20
Off 1 to 8	388	478	.20
Off 1 to 9	389	479	.20
Off 1 to 10	390	480	.20
Off 1 to 11		481	.20
Off 1 to 12		482	.20
Off 1 to 13		483	.20
Off 1 to 14		484	.20
Off 1 to 15		485	.20
Off 1 to 16		486	.20
1 to 24	394 Special 15° Spacing Between Numerals		.20

Advance RELAYS

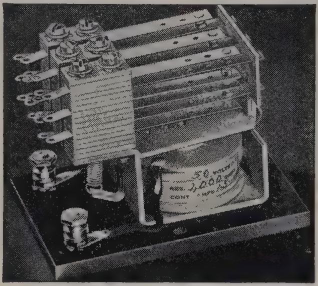
GENERAL CIRCUIT CONTROL RELAYS

Alternating and Direct Current

These sturdy, compact General Circuit Controls are available for operation on both alternating and direct current — Series 100 and 200 respectively—and incorporate many superior construction features not usually found in economically priced lines. "Full Floating" armature suspension, "wiping" contacts, and more than adequate insulation are but a few of their highly desirable qualities.

The switch stacks, composed of die-cut, spring phosphor-bronze blades, Bakelite spacers, and hard rubber sleeving, have a break-down test of 2500 volts, and will give a lifetime of service.

Each unit, mounted on a Bakelite base and equipped with binding posts for the coil connections, is entirely "above ground" and all current carrying screws and terminals are fully countersunk to prevent any possibility of "short-circuiting."



Dimensions—3¼" x 2¼"

PRICE CHART—For Series 100 (A.C.) and Series 200 (D.C.) Relays

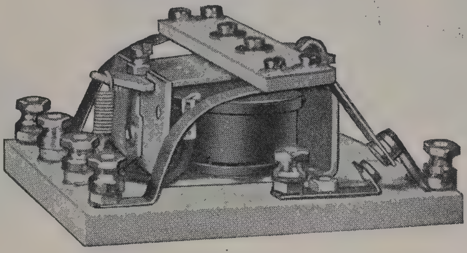
CONTACT RATINGS:		
1/8"	4.5 AMPS. AT 6 VOLTS TO	1.5 AMPS. AT 115 VOLTS
3/16"	15 AMPS. AT 6 VOLTS TO	5 AMPS. AT 115 VOLTS
1/4"	30 AMPS. AT 6 VOLTS TO	10 AMPS. AT 115 VOLTS

Contact Combinations	Type Numbers, Contact Sizes and List Prices					
	1/8"	List	3/16"	List	1/4"	List
SINGLE POLE-SINGLE THROW Normally Open	101	$4.40	101A	$4.65	101B	$4.95
SINGLE POLE-SINGLE THROW Normally Closed	102	4.40	102A	4.65	102B	4.95
SINGLE POLE-DOUBLE THROW	103	4.65	103A	4.95	103B	5.50
DOUBLE POLE-DOUBLE THROW	104	4.95	104A	5.20	104B	5.75
DOUBLE POLE-SINGLE THROW Normally Open	105	4.65	105A	4.95	105B	5.50
DOUBLE POLE-SINGLE THROW Normally Closed	106	4.65	106A	4.95	106B	5.50
THREE POLE-SINGLE THROW Normally Open	107	5.20	107A	5.75	107B	6.30
THREE POLE-SINGLE THROW Normally Closed	108	5.20	108A	5.75	108B	6.30
THREE POLE-DOUBLE THROW	109	6.05	109A	6.60	109B	7.40
FOUR POLE—Two Make-Two Break	110	6.30	110A	6.85	110B	7.95
FOUR POLE-SINGLE THROW Normally Open	111	6.30	111A	6.85	111B	7.95
FOUR POLE-SINGLE THROW Normally Closed	112	6.30	112A	6.85	112B	7.95
FOUR POLE-DOUBLE THROW	113	7.15	113A	7.95	113B	9.60
FIVE POLE-SINGLE THROW Normally Open	114	7.40	114A	8.25	114B	9.60
FIVE POLE-SINGLE THROW Normally Closed	115	7.40	115A	8.25	115B	9.60
FIVE POLE-DOUBLE THROW	116	8.25	116A	9.35	116B	11.00
SIX POLE-SINGLE THROW Normally Open	117	8.50	117A	9.60	....	....
SIX POLE-SINGLE THROW Normally Closed	118	8.50	118A	9.60	....	....
SIX POLE-DOUBLE THROW	119	9.35	119A	11.55	....	....

The above chart, listing A.C. Relays, may also be used when ordering D.C. Relays by Changing the Series Number from 100 to 200. To avoid possible errors, always specify the correct A.C. or D.C. input voltage. The Series 100 Coils are obtainable for any voltage from 1 to 115 A.C.—Series 200 Coils for any Voltage from 2 to 60 D.C. Prices for other voltages will be furnished on request.

Advance RELAYS

TRANSMITTER RELAYS



Type 400

solantite model Antenna hange-Over. Designed or use in Amateur Trans-itters.

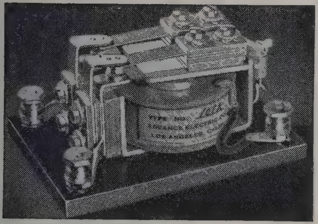
he contact system is ouble Pole-Double hrow, using ¼″ Pure ilver contacts, with exeptional wiping action. hree and four pole arangements are available n special order.

or high radio frequency ontrol. Entirely hum-free where intended for A.C. operation, and highly efficient on D.C. supplies. All metallic parts are cadmium and chromium plated.

Standard coils are for 110V A.C. and may also be used for 24V D.C. However, they will also be supplied for lower A.C. or D.C. voltages at no increase in price.

List Price **$9.90**

KEYING RELAYS



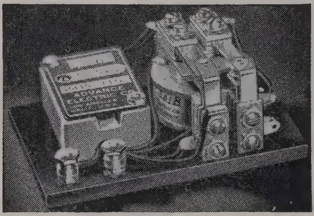
Type 101K—A.C.
Type 201K—D.C.

esigned expressly for use in Keying Circuits where is desired to use low voltage across the key to ontrol high voltage transmission through the Relay ontacts. The heavy duty coil and strong return spring akes possible an exceptional keying speed. Two sets ¼″ Pure Silver contacts in series allow a carrying apacity of 2500 volts. The complete unit, mounted a 3/16″ Bakelite base with binding posts for coil onnections, has over-all dimensions of 3″ x 2″ x 1⅜″ nd is obtainable for A.C. operation to 115 volts or .C. operation to 60 volts.

ist Price **$5.50**

TIME DELAY RELAYS

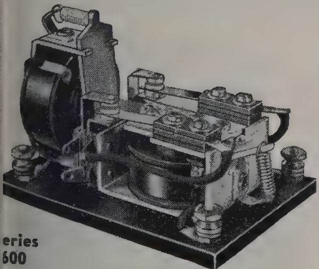
Type 300—N.O.
Type 350—N.C.



Particularly suited for use where short time delays (10 sec. to 1 min.) are required, these Relays are available with both normally open and normally closed thermostats. Types 300 and 350 respectively, the former being widely used for pre-heating tube filaments, etc. The contact combination on both models is Double Pole Single Throw with ¼″ Pure Silver contacts. Mounted on 3/16″ Bakelite bases measuring 3¾″ x 2⅜″ x 1½″ with binding posts for coil connections. Standard operating voltage is 110 A.C. .... **List Price $8.25**

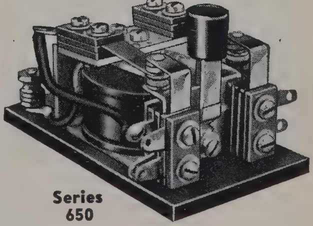
Low voltage units are available on special order.

LATCHING RELAYS



eries
600

These Relays are highly desirable for applications where it is impractical to have the holding coil in constant service. When the coil actuating the contact arrangement is momentarily energized, the armature is locked in the closed position, and may be released electrically (Type 600) or manually (Type 650).



Series
650

	List			List
ype 604B	**$9.60**	..............................Double Pole-Double Throw	**Type 654B**	**$7.15**
ype 605B	**9.35**	..............................Double Pole-Single Throw (N. O.)................................	**Type 655B**	**6.85**
ype 606B	**9.35**	..............................Double Pole-Single Throw (N. C.)................................	**Type 656B**	**6.85**

he above list prices are for ¼″ contacts. For 3/16″ points deduct 25c—for ⅛″ points deduct 50c. When ordering hese types SPECIFY THE VOLTAGE.

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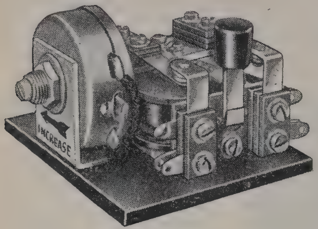
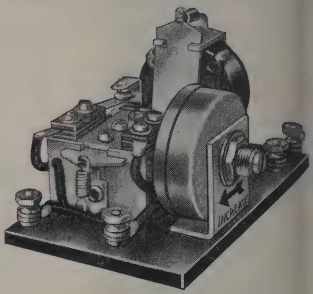
Advance RELAYS

OVERLOAD RELAYS



Type 700

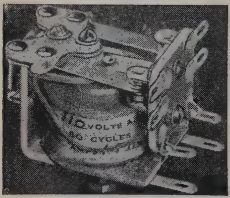


Type 750

These Relays are designed to provide accurate and positive protection against current surges and continuous overloads, and both the Manual Reset (Type 700) and Electrical Reset (Type 750) are divided into two classifications: Type "A" allows the Relay to attract on any current value between 250 and 500 mills, and Type "B" for any setting between 500 mills and 1 ampere. When the current flow passes the safety setting, the Double Pole-Single Throw ¼" Pure Silver contacts are opened, breaking the power supply circuit until reset.

	List Price
Type 700—Base dimensions 3" x 2½"	$10.15
Type 750—Base dimensions 4" x 2½"	13.20

MIDGET RELAY

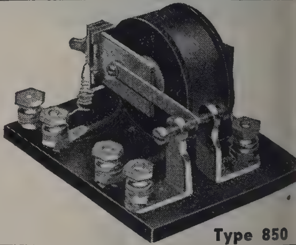


Series K1500 and K1600

Of particular interest where size and cost are factors, this new series of Midge Relays, of improved design, incorporates all of the fine construction feature typical of the ADVANCE line. This unit measures only 1½" x ¾" x 1⅛" high Pure Silver contacts are used, ⅛" in diameter. Standard coils are obtainabl from 2 to 32 V D.C. and 1 to 115 V A.C. The following switch combination can be supplied:

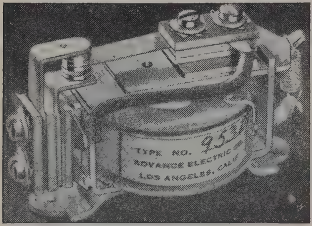
TYPE			
A.C.	D.C.	CONTACT COMBINATION	LIST PRICES
K1505	K1605	DP-ST NOR. OPEN	$3.25
K1506	K1606	DP-ST NOR. CLOSED	3.25
K1504	K1604	DP-DT	3.50

ELECTRONIC RELAY



Type 850

An ultra-sensitive unit for use in electronic tube circuits, providing positive, dependable control on as little as 12 milliwatts. Adjustment screws to change the air-gap between the armature and the pole face, allow operation on a voltage differential of 30%, a condition ideal for electronic applications. The contact combination is Single Pole-Double Throw, employing ⅛" Pure Silver points to safely handle 100 watt non-inductive loads. Obtainable in resistances of 2500, 3000, 5000 and 10,000 ohms at no increase in price.......................List Price....$7.15



GENERAL PURPOSE RELAYS

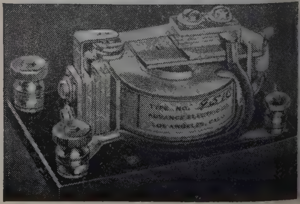
Types 951B — 952B — 953B

These Relays afford maximum power and efficiency at very low cost ¼" Pure Silver contacts are standard on the Single Pole-Single Thro (N. O.) Type 951B—Single Pole-Single Throw (N. C.)—952B—an Single Pole- Double Throw—953B—switch combinations. Adequatel insulated and entirely above "ground," these Relays may be mounte on any type of panel, quickly and easily, by means of the metal mount ing bracket. Coils are obtainable to 115V A. C. or 60V D. C.

List Price $3.8

GEN-E-MOTOR STARTING RELAY

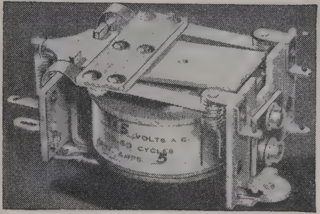
Type 951C



An exceptionally sturdy power transfer Relay, easily capable of handling the heavy current surge encountered on "cold" starts in motor-generator systems. The contacts are ⅜" Pure Silver and have ample carrying capacity for the usual 200-500V converters. Heavy-duty in every phase of construction, this unit is not to be compared with the common five and ten ampere circuit controls. Base dimensions are 3" x 2" and each unit is complete with a braided generator-cable pig-tail and binding posts for all connections. Coils for 5½ to 32V D. C. or 1 to 115 A. C. ....List Price... $5.60

Advance RELAYS

MIDGET TYPE CIRCUIT CONTROLS



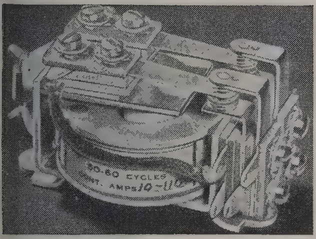
These Relays are designed for general circuit control applications where the space for mounting is limited, and measure only 2½" in length, 1½" in width, and 1¼" in height. A.C. operated Relays in this series require but 4 watts on 50/60 cycle current, and the D. C. models from 1..5 to 2 watts, affording maximum efficiency without sacrifice of power and dependability. Metal brackets (not shown in the illustration) are supplied with all Relays of this type, and except on special order, these models are limited to the following contact arrangements and the usual standard operating voltages:

Type Numbers
Contact Sizes and List Prices

Contact Combinations	3/16"	List	¼"	List
Double Pole-Double Throw	104AM	$5.50	104BM	$6.05
Double Pole-Single Throw (N. O.)	105AM	5.20	105BM	5.75
Double Pole-Single Throw (N. C.)	106AM	5.20	106BM	5.75

The above chart lists type numbers for A.C. operated Relays. D. C. coils may be obtained by changing the series number from 100 to 200. Prices apply to both.

INDUSTRIAL CONTROL RELAYS

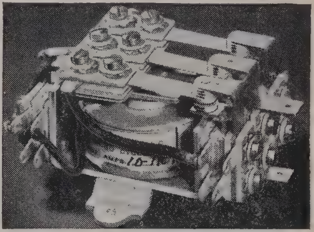


Series 960

Designed mainly for industrial applications — air conditioning, lighting, and power transfer systems, the Series 960 Relays embody all of the rugged construction features demanded in units of this type without sacrificing the desirable qualities of the midget style. Available in the following contact combinations, and to operate on standard A. C. and D. C. voltages.

	List
Type 964B—Double Pole-Double Throw	$5.50
Type 965B—Double Pole-Single Throw (N. O.)	5.20
Type 966B—Double Pole-Single Throw (N. C.)	5.20

For smaller contacts, deduct 25c for 3/16" or 50c for ⅛" points, from the above list prices.



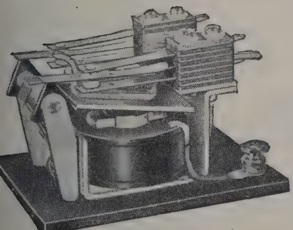
Series 970

Having the same characteristics as the Series 960 Relays, these Three Pole units, Series 970, may be used for fractional h/p 3-phase motor controls, etc. The area required for mounting 2⅝" x 1⅞" for Type 970 Relays, as against 2½" x 1¼" for the Type 960's is due to the slightly larger frame. The metal brackets are the same in both instances—2-5/16" long, and 2" between centers of the 6/32 mounting holes. Available in the voltages indicated in the preceding series, and in the following contact combinations:

	List
Type 977B—Three Pole-Single Throw (N. O.)	$5.75
Type 978B—Three Pole-Single Throw (N. C.)	5.75
Type 979B—Three Pole-Double Throw	6.60

For smaller contacts, deduct 50c for 3/16" or 75c for ⅛" points from the above list prices.

IMPULSE RELAYS



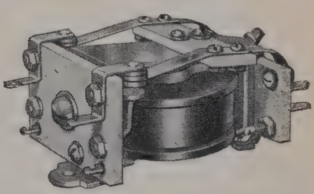
Series 900

This is another type of Relay for use where it is not feasible to have the holding coil in constant service, but differs from the latching types in that it may be controlled with a single push-button. Coils to operate this type of unit are extremely heavy-duty, and are for intermittent (impulse) use only. Available for standard A. C. and D. C. voltages in the following combinations:

	D.P.S.T. List	D.P.D.T. List
With ⅛" Pure Silver contacts	$9.35	$9.90
With 3/16" Pure Silver contacts	9.90	10.45
With ¼" Pure Silver contacts	10.45	11.55

When ordering these type, be sure to specify the input voltage, contact combination, and size of points.

MIDGET TYPE R.F. RELAYS



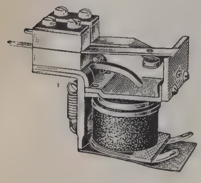
Series 1000—A.C. Series 2000—D.C.

These models are sturdy, compact Double Pole - Double Throw Transmitter Relays, designed expressly for use in all types of mobile-portable communications equipment where space is at a premium. The insulation on this, as on the Type 400's, is Isolantite for both the cross-arm and end pieces, with all holes adequately well spaced to prevent structural weakness and possible "creepage." Coils are obtainable for all A. C. and D. C. voltages, and will operate in any position, the former consuming approximately four watts—the latter, two watts of power. Dimensions are 2¾" x 1½" x 1¼".

List Price $8.25

RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

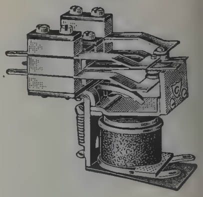


SERIES R-100
H.F. RELAY

HIGH FREQUENCY RELAYS

The Series R-100 and A-100 are primarily designed for high frequency applications. They are low loss AlSiMag insulated, compact, economical and sturdily constructed. For single wire fed installations, specify the A-100-C which is a single pole, double throw unit. Two A-100-C in place of one A-100 in open wire line systems will avoid possible impedance mismatch. **Radio Applications**—Antenna changeover, break-in, high voltage keying, grid controlled rectifier keying, remote control of receiver and transmitter, and other high frequency applications.

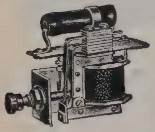
Industrial Applications—Oven control, remote motor control, short wave therapy and diathermy, heating equipment.



SERIES A-100
H.F. RELAY

	Length	Width	Height	Shp. Wt. (oz.)	List Price	Net Price
A-100—D.P.D.T.	2¾"	1⅞"	2 7/16"	7	**$7.63**	**$4.58**
A-100-C—S.P.D.T.	2¾"	1⅛"	2 7/16"	6	**4.25**	**2.55**
R-100—S.P.S.T. (normally open)	2¾"	1⅛"	2⅛"	6	**3.53**	**2.12**
R-100-B—S.P.S.T. (normally closed)	2¾"	1⅛"	2 7/16"	6	**3.53**	**2.12**

X-100
ADJUSTABLE OVERLOAD RELAYS

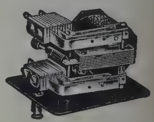


This relay provides low cost, accurate, dependable protection against current surges and overloads. Adjustable to operate on any current flow from 150 to 650 mils. Silver contacts rated at 1500 watts on 110 volts, 60 cycle AC, non-inductive, and in AC primary circuits of any inductive power supply up to 1 KW. Positive locking action of contacts cannot be reset or points held in contact until overload is removed.

X-100—4 1/16" long, 2 5/16" wide, 3⅛" high. Shipping Weight 12 oz.

List Price .... **$12.85 ea.**
Net Price .... **$ 7.71 ea.**

B-100 BREAK-IN RELAY



Specially designed for break-in operation on amateur transmitters. Low current drain and compact construction, plus the use of a laminated field piece and armature insuring efficient operation, make the B-100 an ideal relay for this application. Standard coil operates on 110 50-60 cycle AC. Silver contacts rated at 1500 watts, 60 cycles AC non-inductive, and in AC primary circuits of any inductive power supply delivering up to 1 KW.

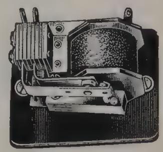
B-100—2 21/32" long, 2¼" high, 2 9/32" wide. Shipping weight 11 oz.

List Price .... **$9.60 ea.**
Net Price .... **$5.76 ea.**

K-100 KEYING RELAYS

A low voltage relay controlling high voltage transmission, the K-100 relay will follow key or bug at highest WPM rate attainable. High speed response, plus a strong magnet and return spring, gives a clean make and break, producing the best CW note.

A standard coil operates on 1½ to 4 volts DC, 5 to 16 volts AC. Coils for other voltages and currents on specification at 10% addition to list price. Contacts—Oversize silver. Will handle 1500 watts 60 cycles and in AC primary circuits of any inductive power supply up to 1 KW.



Control capacity—up to 2000 volts with clean make or break.

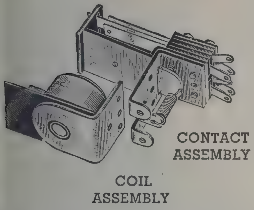
Applications—Control of battery receivers, transmitters using filament center tap keying of any stage having up to 2000 volts on plate, primary keying or control of power supplies up to and including 500 watts and grid-controlled rectifier keying of 3000 volt power supplies.

K-100—2 21/32" long, 2 9/32" wide, 1 15/16" high. Shipping weight 10 oz.

List Price .... **$7.03 ea.**
Net Price .... **$4.22 ea.**

RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS



SERIES 200—INTERCHANGEABLE

Two basic interchangeable parts, a coil assembly and a contact assembly, are combined in a versatile universal relay. Coil assembly consists of coil and field piece. Contact assembly consists of switch blades, armature, return spring and mounting bracket. The two contact assemblies listed below can be used with any one of 9 coils to make a required relay. Contact points are rated at 8 amps, 115 V, 60 cycle AC, non-inductive load.

GUARDIAN SERIES 200-3
Contact Switch Parts Kit

Type 200-1—Relay Frame with SPDT Contact Assembly.
List Price ....$1.63 ea.
Net Price ....$0.98 ea.

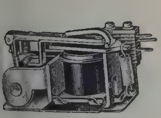
Type 200-2—Relay Frame with DPDT Contact Assembly.
List Price ....$2.25 ea.
Net Price ....$1.35 ea.

	List Price ea.	Net Price ea.
AC COILS		
6 Volt	$2.00	$1.20
12 Volt	2.00	1.20
24 Volt	2.00	1.20
115 Volt	2.50	1.50
DC COILS		
6 Volt	2.00	1.20
12 Volt	2.00	1.20
24 Volt	2.00	1.20
32 Volt	2.00	1.20
110 Volt	2.50	1.50

CONTACT PARTS KIT 200-3. Assortment of contact parts to make other switch combinations. May be used with SPDT or DPDT contact assemblies to make 3PST, 4PST, 4PDT combinations, etc. Either contact assembly takes any combination up to four pole double throw. Includes complete assembly and wiring information for all possible combinations. Complete with all necessary hardware. Shipping weight 4 oz.

List Price ....$1.63 ea.
Net Price ....$0.98 ea.

RC-100 REMOTE LOCKING CONTROL RELAY



A Guardian development of the momentary impulse locking control relay. The circuit to the coil needs to be energized only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts.

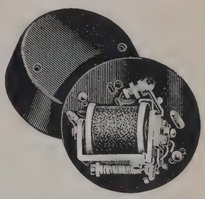
Standard coils operate on 115 volts, 50-60 cycles AC. Coils or other voltage and currents on specifications.

Contacts, 1/4" fine silver metal rated at 1500 watts at 115 volts, 60 cycle, non-inductive. Can also be used n AC primary circuits of any inductive power supply delivering up to 1 KW. 3" long, 2 1/8" wide, 1 17/32" high.

Applications—break-in control and phone to CW switching. Any circuit control where locking circuits are used.

	Shp. Wt.	List Price	Net Price
RC-100-AR—(4PST)	8 oz.	**$6.40**	**$3.84**
RC-100-BR—(3 PDT) (SPDT) (DPST)	8 oz.	**7.03**	**4.22**

U-100 AND U-200 ADJUSTABLE UNDERLOAD RELAYS



Sensitive, precise, designed and constructed for long, trouble-free service. Relays are encased in attractive black finished metal containers, protecting them from dirt, dust and maladjustment. Normal current through the coil on the U-100 is 300 amperes with an adjustable range of 100 to 200 milliamperes DC. Normal current through the coil on the U-200 is 600 milliamperes with an adjustable range of 200 to 400 milliamperes. Oversize contacts of fine silver, rated on the AC primary of any power supply delivering up to 500 watts.

Radio Application—protection of class "B" audio equipment in case of class "C" load failure.

Industrial Application—Any DC circuit where it is desirable to maintain currents above a set value.

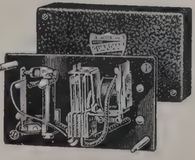
U-100 and U-200 are 3 5/16" in diameter, 2 1/4" high. Shipping weight 14 oz.

List Price ....$9.75 ea.
Net Price ....$5.85 ea.

T-100 AND T-110 TIME DELAY RELAYS

Standard coils operate on 115 volts, 50-60 cycles non-inductive AC. Coils available on other voltages on specification. Oversize contacts rated at 1500 watts on 115 volts, 50-60 cycles non-inductive. Can also be used in the AC primary of any inductive power supply delivering up to 1 KW. Adjustable time delay for any period between 10 and 60 seconds.

Applications—Radio. In transmitter circuits o prevent damage of rectifiers and tube ilaments by application of plate current before filaments are sufficiently heated. **ndustrial.** Any control problem requiring he changing of circuits after a predetermined interval.



T-100—5 1/4" long, 3" wide, 2 1/4" high. Shipping weight 1 1/4 lbs. **List Price** ....$15.40 ea.
Net Price ....$9.24 ea.

The T-110 is a compact, sturdy, economical time delay relay for use in applications not requiring the capacities of the T-100. Contact capacity—1250 watts on 110 volt, 60 cycle non-inductive AC. Can also be used in the AC primary circuit of any inductive power supply delivering up to, and including, 1 KW.

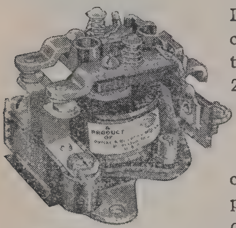
T-110—5 5/32" long, 3 1/16" wide, 2 7/16" high. Shipping Weight 8 oz. **List Price**......$9.60 ea.
Net Price ....$5.76 ea.

Potter & Brumfield

A TRADE-MARK OF QUALITY

On these pages we list a few of the relay types we class as standard. Stocks of either completed relays or component parts are kept on hand for quick assembly, resulting in unusually prompt delivery and lower prices. From these relays a type can be selected for almost any application where the contact load does not exceed 20 amperes.

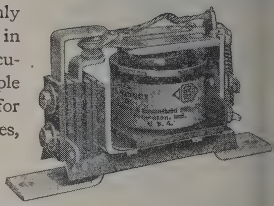
PR Series HEAVY DUTY POWER RELAYS



Designed for such power circuits as motor starting up to 1 HP., heater loads up to 20 amperes, remote break-in control of transmitters, electro plating devices, elevator controls, or any control circuit requiring fast positive switching. AC types operate on approximately 4 volt amperes. DC types require approximately 3 watts. Relay contacts on PR3A, PR3D, PR4A and PR4D rated at 20 A, non-inductive load 110V AC or 1 HP, AC. All other relay contacts rated at 15 A, non-inductive at 110V AC. Size approx. 2⅝″ x 2 9/16″ x 2¼″ high. When ordering, specify coil voltage and frequency.

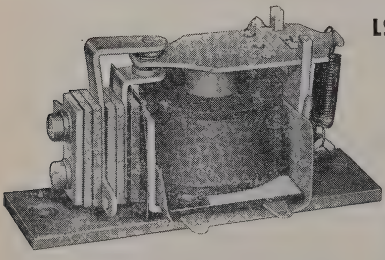
Description	A.C. RELAYS 6-12-24-110-220 Volts				D.C. RELAYS 6-12-24-110 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	PR1A	$2.80	PR2A	$2.80	PR1D	$2.80	PR2D	$2.80
Heavy Duty SPST	PR3A	2.80	PR4A	2.90	PR3D	2.80	PR4D	2.90
DPST	PR7A	3.60	PR8A	3.65	PR7D	3.60	PR8D	3.65
SPDT	PR5A			3.10	PR5D			3.10
DPDT	PR11A			4.60	PR11D			4.60
	Add 60c to prices above for coils over 150 volts.				Add 60c to prices above for coils over 50 volts.			

MR Series MEDIUM DUTY POWER RELAYS



Sturdy, compact, highly efficient, for mounting in confined spaces. Particularly adapted to multiple panel mounting. Ideal for safety and signal devices, call systems, heater loads, radio protective circuits, transmitter keying circuits, burglar alarms, photographic applications, electric sign controls, etc. Available in all contact arrangements up to and including double pole double throw. AC types operate on approximately 3 volt amperes and DC types on approximately 2 watts. Contacts rated at 8 A, 110V, 60 cycles non-inductive load. Approximate size single pole units 2 15/16″ x 1½″ x 1⅝″ high. Double pole units 2¾″ x 2⅛″ x 1⅞″ high.

Description	A.C. RELAYS 6-12-24-110-220 Volts				D.C. RELAYS 6-12-24-110 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	MR1A	$1.68	MR2A	$1.62	MR1D	$1.68	MR2D	$1.62
DPST	MR7A	2.38	MR8A	2.38	MR7D	2.38	MR8D	2.38
SPDT	MR5A			1.86	MR5D			1.86
DPDT	MR11A			2.66	MR11D			2.66
	Add 40c to prices above for coils over 150 volts.				Add 40c to prices above for coils over 55 volts.			



LS Series PLATE CIRCUIT RELAYS

Designed for application where size and cost are important. Often used in photo-electric circuits, temperature control circuits and electronic timing devices. Similar to the LM Series but less sensitive. Available in all resistances up to and including 5000 ohms. Requires .09 watt minimum actuating power.

Single pole double throw, 2500 ohm coil, net $1.68.

Single pole double throw, 5000 ohm coil, net $1.99.

Size 2⅝″ x 1⅜″ x 1⅜″ high.

When ordering, specify coil voltage and frequency.

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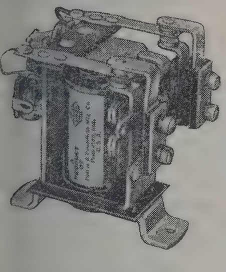
POTTER & BRUMFIELD SALES COMPANY

LM Series PLATE CIRCUIT RELAYS



Designed to meet demand for high grade medium cost plate circuit relays in both single and double pole contact arrangements. Large coils are particularly sensitive. The single pole LM operates on as low as .015 watts, the double pole types on .070 watts. Applicable to smoke control, packaging, counting and other electronic control circuits. Contacts supplied are 3/16″ fine silver. Approximate size of single pole units 2¼″ x 1⅜″ x 2⅜″ high. Double pole units 2¼″ x 2⅛″ x 2⅜″ high. When ordering, specify coil resistance.

DESCRIPTION	Coil Resistance Ohms	SINGLE THROW			
		Normally Open	Net	Normally Closed	Net
SPST	2500	LM-1	$1.90	LM-2	$1.95
	5000		2.15		2.20
	10000		2.50		2.55
DPST	2500	LM-7	2.70	LM-8	2.75
	5000		2.95		3.00
	10000		3.30		3.35
		DOUBLE THROW			
SPDT	2500	LM-5			2.05
	5000				2.30
	10000				2.65
DPDT	2500	LM-11			3.05
	5000				3.30
	10000				3.65

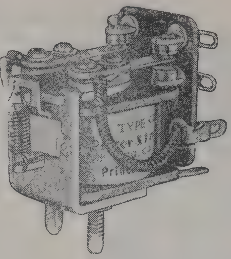
L Series

ight Duty Multiple Contact

Similar to the KR Series but differing in the method of mounting, coil sizes, and larger number of poles available. KL relays have approximately twice as much coil space as the KR and are therefore more sensitive. Type KL5D will operate on values as low as .2 watt. Larger coils provide more power on multiple pole models for applications which must withstand aircraft vibration. Frequently applied to fractional horse power motor controls, transceiver switching and audio circuit switching. Contacts are ated at 3 amperes 110 volts, 60 cycle non-inductive load. Aproximate size of KL5D 1 7/16″ x 1 13/16″ x 1 13/16″ high. pproximate size of KL17D 1 9/16″ x 1⅞″ x 1 15/16″ high. hen ordering, specify coil voltage and frequency.

escription	A.C. RELAYS 6-12-24-110-220 Volts				D.C. RELAYS 6-12-24-110 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	KL1A	$3.10	KL2A	$3.05	KL1D	$2.85	KL2D	$2.80
DPST	KL7A	3.55	KL8A	3.45	KL7D	3.30	KL8D	3.20
3PST	KL12A	4.25	KL13A	4.25	KL12D	4.00	KL13D	4.00
4PST	KL15A	5.75	KL16A	5.35	KL15D	5.50	KL16D	5.10
SPDT	KL5A			3.15	KL5D			2.90
DPDT	KL11A			3.65	KL11D			3.40
3PDT	KL14A			4.55	KL14D			4.30
4PDT	KL17A			6.15	KL17D			5.90
	Add 25c to above prices for coils over 117 volts.				Add 25c to above prices for coils over 60 volts.			

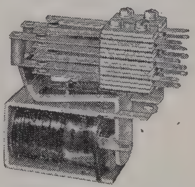
KR Series Small Light Duty



A relay designed for application where size and weight are important. Sturdy and efficient. In applications where operating current is not too limited, the DC types can be adjusted to withstand the vibration encountered in most aircraft applications. Ideal for sub-chassis mounting and switching of RF or AF circuits. Contacts are rated at 3 amperes 110 volts, 60 cycle non-inductive. Approximate size of KR11D 1 3/16″ x 1 11/16″ x 1¼″ high. When ordering, specify coil voltage and frequency.

Description	A.C. RELAYS 6-12-24-110 Volts				D.C. RELAYS 6-12-24-60 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	KR1A	$2.45	KR2A	$2.40	KR1D	$2.20	KR2D	$2.15
DPST	KR7A	2.65	KR8A	2.55	KR7D	2.40	KR8D	2.30
SPDT	KR5A			2.50	KR5D			2.25
DPDT	KR11A			2.75	KR11D			2.50
	A.C. coils up to 117 volts at above prices.				Add 25c to above prices for coils of 3500 to 5000 ohms. From 5001 to 6000 ohms add 35c.			

SU Series MULTIPLE LEAF RELAYS



Unique construction provides many valuable features at low cost. Larger coil space permits most efficient winding for higher voltages and lower consumption. May be mounted either vertically or horizontally, terminals easily accessible in either mounting. Suitable for applications such as signal or alarm controls, remote indicators, temperature controls, overload or underload protective devices, etc. Contacts rated at 4 amperes 110 volts AC non-inductive load. Contact combinations up to and including 4-pole double throw. DC types require 1.5 watts actuating power. Dimensions of SU17A (illustrated) are 2½″ x 1 7/16″ x 2½″ high. When ordering, specify coil voltage and frequency.

Description	A.C. RELAYS 6-12-24-110-220 Volts				D.C. RELAYS 6-12-24-110 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	SU1A	$1.76	SU2A	$1.76	SU1D	$1.76	SU2D	$1.76
DPST	SU7A	2.20	SU8A	2.20	SU7D	2.12	SU8D	2.12
3PST	SU12A	2.60	SU13A	2.60	SU12D	2.55	SU13D	2.55
4PST	SU15A	3.00	SU16A	3.00	SU15D	2.90	SU16D	2.90
SPDT	SU5A			1.92	SU5D			1.92
DPDT	SU11A			2.42	SU11D			2.42
3PDT	SU14A			2.86	SU14D			2.66
4PDT	SU17A			3.30	SU17D			3.30
	Add 63c to above prices for coils above 117 volts.				Add 63c to above prices for coils over 60 volts.			

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Speco RHEIN PHOTO RELAYS & INDUSTRIAL CONTROLS

PHOTO RELAY TYPE R-010

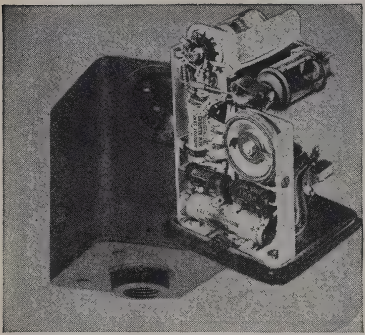

Photo Relay Type R-010—Price, $56.00

MECHANICAL SPECIFICATIONS: The unit is self contained in a strong crackle-finish cast aluminum housing:

WIDTH—3 inches DEPTH—3½ inches HEIGHT—5 inches Base is designed for mounting directly on standard ½-inch electrical conduit. This provides the means of electrical connection as well as support for the unit . . . providing sure contact for any secondary switching arrangement. On special order at no extra cost, a high speed unit is available with 1/20th of a second for both operation and release.

ELECTRICAL SPECIFICATIONS:

PRIMARY SUPPLY VOLTAGE—*115 V 50/60 cycle AC*
OUTPUT CONNECTIONS—*those of single pole double throw switch.*
CONTACTS—*pure silver rated at 5 amps non-inductive load.*
SENSITIVITY CONTROL—*provided as a screw driver adjustment; enables optimum operation at varying distances up to 35 feet.*
TUBE COMPLEMENT—*1 type 921 photo tube; 1 type 2D21 thyratron.*
SPEED—*1/20 second for operation; 1/4 second for release.*

POSITIVE ACTION PHOTO RELAY TYPE R-012

Identical with type R-010, except in response to activating light. In this unit the relay is normally open and stays open until a light beam hits it. This is just the opposite of type R-010 where the relay is held open by the beam from the light source and closes only when that beam is interrupted. *Price is same as R-010.*

QUICK CHANGE PHOTO RELAY TYPE R-011

MECHANICAL SPECIFICATIONS: Identical with type R-010, except for mounting.

QUICK CHANGE MOUNTING FEATURE: A plug-in mount is provided with five connecting prongs which plug into a mounting stand. This feature permits quick replacement of the entire unit in applications where repair time must be held to a minimum. Unit Without Stand. Price, $61.00. A variety of stand heights are available as follows:

TYPE	HEIGHT	PRICE
R-011A	12 inches	$66.00
R-011B	18 inches	$67.00
R-011C	24 inches	$68.00
R-011D	32 inches	$69.00
R-011E	34 inches	$70.00
R-011X	any special height under 34 inches	$72.00

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* Height is measured from center of lens to bottom of base.

2-in-1 PHOTO RELAY-COUNTER TYPE C-010

Small and compact this one unit combines the functions of both a photo electric relay and electrically actuated digit counter. No need to buy two units or string long interconnecting wires. This 2-in-1 SPECO-RHEIN unit provides both in one small case. Ease of installation and dependability make this counter ideal for application to industrial problems of counting where it is impossible to touch objects being counted, or where objects are so small they would not actuate a normal mechanical counter.

Photo Relay-Counter, Type C-010
Price $70.00

MECHANICAL SPECIFICATIONS:

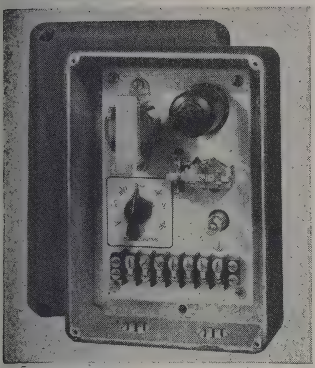
Both units are self-contained in cast aluminum housing.
WIDTH—3 inches DEPTH—3½ inches HEIGHT—5 inches
BASE: *Provides for mounting directly on a standard ½-inch electrical conduit.*
COUNTING MECHANISM: *Completely enclosed; virtually tamper proof. Face is visible from rear of case. This unit is designed to maintain mechanical operation, without interruption, far beyond normal vibration and impact requirements.*

ELECTRICAL SPECIFICATIONS:

OPERATING VOLTAGE: *115 Volts AC*
CONNECTIONS: *Two; made to wires extending 6" below the counter base.*
SENSITIVITY CONTROL: *enables adjustment for optimum operation at various distances. A minimum of 8' candles is required for satisfactory operation. Used with light source L-010, the operating range is 25 feet maximum; with infra red fitted lens is 18 feet.*
SPEED: *400 per minute maximum.*
TUBE COMPLEMENT: *One Type 921 photo tube. One Type 2D21 thyratron.*

PHOTO RELAYS & INDUSTRIAL CONTROLS

ELECTRONIC TIMER TYPE T-010



Electronic Timer Type T-010
Price, $48.00

USES: For time delay-action in timing short intervals.
For continuously repeating a definite cycle of time.
No slipping clutches. No timing gears to wear.
For sequencing entire processes, such as filling of tanks, heating, curing operations in injection molding machines, timing of machine tool operation like grinding, honing, heat treating, spot welding and induction soldering.

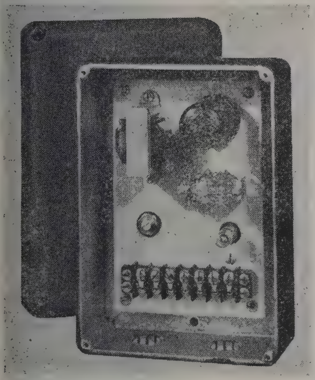
MECHANICAL SPECIFICATIONS:
SIZE: *Fits in 5" x 7" x 3½" case.*
CASE: *Cast aluminum designed for wall mounting. Holes with removable plugs provided for entry of connecting wires.*

ELECTRICAL SPECIFICATIONS:
TIMING ELEMENTS: *High quality resistor and capacitor.*
RELAY ARMATURE: *Only moving part in unit will withstand millions of operations.*
AVAILABLE TIMING RANGE: *1/10th second to 60 seconds. Other ranges available on application at no extra cost.*
OPERATING VOLTAGE: *115v, 60 cycle AC.*
OUTPUT CONNECTIONS: *Those of single pole double throw switch.*
RELAY CONTACTS: *Pure silver rated at 5 amps AC, non-inductive load.*
INTERVAL VARIATIONS: *Less than 2% in repeat cycle timing. Less than 3% for as high as 10% line voltage variation.*
TUBE: *Type GL-502A Thyratron.*

NOTE: *The timer design permits complete interchangeability of equipment; that is, machine process calibration for one timer applies to all timers, permitting the use of a standard dial without special calibration for each unit. Because of the characteristics of the resistor capacitor elements, the range is spread out in a logarithmic scale making the dial dimensions wider in the shorter time periods.*

ELECTRONIC RELAY SWITCH TYPE S-010

APPLICATION: This unit provides a means of switching an electrical current off-and-on where it is impossible to provide a direct electrical contact to carry the required load. This relay has been designed to obtain a reliable contact from the touch of two conductors through which only a very, very small current may, or can, flow.



Elecrtonic Relay Switch Type S-010
Price, $38.00

Type S-010 may be applied where the contact making instrument, or medium, is only a damp thread. It operates on the condensation of moisture between two points located closely together, on a liquid column of mercury such as a contact type thermometer, or any conductive liquid such as milk, chemicals, and even distilled water.

These features make it possible for the S-010 to be used as a liquid level control without the use of a float to increase the life of sensitive limit switches, feeler arms or water-type relays. It is especially adaptable for use with combustibles because of the low voltage and microamperes of current necessary for operation.

MECHANICAL SPECIFICATIONS:
Designed to mount in cast aluminum case 5" x 7" x 3½" but can be supplied without case where wanted to incorporate into manufactured equipment.
Case designed for wall mounting. Holes with removable plugs provided for entrance of connecting wires. May be mounted any distance from control probe or point as only one wire and normal grounding are necessary for operation.

ELECTRICAL SPECIFICATIONS:
OPERATING VOLTAGE: *115V., 60 cycles AC (on special order 230V. AC).*
OUTPUT CONNECTIONS: *Those of S.P.D.T. switch.*
RELAY CONTACTS: *Pure silver rated at 5 amps AC non-inductive load.*
SENSITIVITY CONTROL: *Screw driver adjustment provides operation over range of probe resistance of 5,000 ohms to 7 megohms.*
POLARITY INDICATOR: *Neon lamps insure correct connection and operation. If an error is made in connection or any changes in supply line, this lamp will glow.*
TUBE: *Type GL-502A thyratron.*

ACCESSORIES

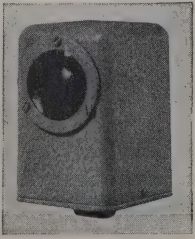
INFRA-RED FILTERS, Type F-011: to make light beam invisible. Price $1.40.

LENS SHIELD, Type L-011A: Is supplied to replace the lens mounting ring, and is easily installed by removing three screws and using the shield instead of the lens mounting ring. For use when photo relay units are placed out of doors in direct sunlight. Price, $2.00.

OBSTRUCTION LIGHT CONTROL SYSTEM

Three electronic units meet CAA requirements

Flash Indicator Unit L-C10A	Price, $50 00
Electronic Flasher L-C10B	Price, $48.00
Light Sensitive Switch L-C10C	Price, $76.00

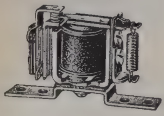


LIGHT SOURCE TYPE L-010

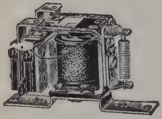
MECHANICAL SPECIFICATIONS:
Unit is self-contained in cast aluminum housing identcal in size to Photo Relay units.
BASE: Provided with mounting for ½ inch electrical conduit.
LENS: Two inch diameter, prefocused. No other adjustment normally required.

ELECTRICAL SPECIFICATIONS:
LAMP: 21 candle power, single contact automobile Lamp.
SUPPLY VOLTAGE: 115V 50/60 cycle AC. Price, $12.00.

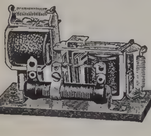
QUALITY STACO PRODUCTS



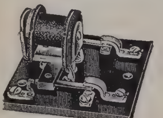
No. MR-11 ● Miniature relay, 3/16" fine silver SPDT contacts, 110-volt AC coil, **$1.59** net. **MR-7** is 6 volt AC model at same price.



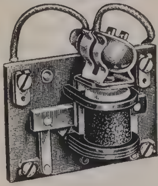
No. MRD-2 ● Miniature relay 2500-ohm coil operates on 12 ma., 3/16" fine silver DPDT contacts, **$2.70** net. **MRD-5** for 7.5-ma. operation and **MRD-6** for 6-volt DC are **$3.60** and **$2.70** respectively. **MRD-11** for 110-volt AC and **MRD-7** for 6-volt AC are each **$3.00.**



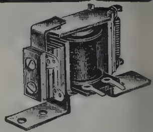
No. OA-2 ● Overload relay, adjustable for 250-500 ma., operating and reset coils are 110-volt AC, 3/16" fine silver SPDT contacts **$4.50** net. **OA-5** is 110-volt AC model for 500-1000 ma. range. Other models for 6-volt DC and 6-volt AC and for either range are all priced at **$4.50** net.



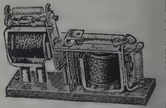
No. ABA ● Antenna changeover relay, 3/16" fine silver DPDT contacts, 110-volt AC coil, **$3.00** net. Type ABD for 6-volt operation, **$3.00.** Types AMA (110-volt AC) and AMD (6-volt DC) Mycalex insulated are **$4.00** net. Other R.F. Relays, SPST and DPST are available at from **$2.10** to **$3.00.**



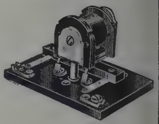
No. MSA ● Mercury switch relay will handle ¼ HP motor or its equivalent, in addition to the SPST mercury contacts there is a SPST (double break) 3/13" fine silver contact set, 110-volt AC coil, **$3.75** net. Models **MSA-6** (6-volt AC) and **MSD-6** (6-volt DC) are also available at **$3.75.**



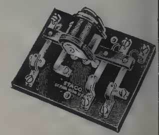
No. MR-2 ● Miniature relay, 2500-ohm coil, operates on 6 ma., SPDT contacts are 3/16" fine silver, **$1.50** net. **MR-5** (5000-ohm) and **MR-6** (6-volt DC) are **$2.10** and **$1.50** respectively.



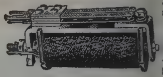
No. LEA ○ Latching relay, electrical reset, 110-volt AC coils, 3/16" fine silver SPDT contacts, **$3.75** net. **LEA-6** for 6-volt AC and **LED** for 6-volt DC are also **$3.75** each.



No. KBA ● Keying relay, high speed operating, 3/16" SPST (double break) fine silver contacts, 110-volt AC coil, **$2.10** net. Models **KBD** for 6-volt DC and **KBA-6** for 6-volt AC are available at the same price.



No. BBA ● Break-in relay, four-pole (DPDT, SPST (normally open), 3/16" fine silver contacts, 110-volt AC coil, **$4.20** net. Type BBD for 6-volt DC operation is **$4.20.** Types BMA (110-volt AC) and BMD (6-volt DC) Mycalex insulated are **$6.00** net.



No. T63F ● Communication relay, one break and one make contact sets, 3/16" fine silver contacts, 6300-ohm coil operates on 1/10 watts, **$3.30** net.

T10G	10,000-ohm coil	**$3.30,**
T40F	4000-ohm coil	**$3.15,**
T10F	1000-ohm coil	**$2.85,**
T25E	250-ohm coil	**$2.55.**

NEW! ISOLATION TYPE

Adjust-A-Volt VARIABLE TRANSFORMER

TYPE LR-5

½ KVA Isolated Primary ADJUST-A-VOLT Variable Transformer. Continuously variable from 70 to 140 volts. Indispensable in the laboratory and for servicing AC-DC radio sets. Intermittent operation checked by detecting faulty oscillator at 105 volts or "cooking" sets at 130-140 volts to break down intermittent part. Isolated Primary permits servicing without the chance of a "bite." The isolated winding allows the use of grounded equipment without the precautions as to polarity differences.

Type LR- 5—½ KVA-Input 115 Vts.	$23.50
Type LR-22—½ KVA-Input 230 Vts.	24.50
Type LR-10—1 Kva-Input 115 Vts.	$48.50
Type LR-24—1 KVA-Input 230 Vts.	51.00

All Models have 70-140 volts A.C. Output. All prices net.

AUTO TRANSFORMER TYPE

This ADJUST-A-VOLT fills the need for a portable and efficient voltage regulator. The instrument is a necessity for the laboratory, for production testing, appliance servicing and repair, etc. Voltages between 0 and 140 volts are available in two ranges, the LO range and 0 to 70 volts and the HI range from 70 to 140 volts. Voltages in the vicinity of zero are obtainable.

Type PA-5—Output 0-140, 860 V.A.	**$17.50**
Type PA-10—Output 0-140, 1500 V.A.	**33.50**
Type CA-5—Output 0-280, 430 V.A.	**21.50**
Type CA-10—Output 0-280, 860 V.A.	**44.50**

Models above have 115 Input Voltage

Type MA-5—Output 0-280, 860 V.A.	**$25.50**
Type MA-10—Output 0-280, 1500 V.A.	**44.50**
Type NA-5—Output 0-140, 860 V.A.	**22.50**
Type NA-10—Output 0-140, 1500 V.A.	**46.50**

Models above have 230 Input Voltage

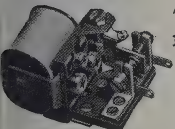
TYPE PA-5

QUALITY STACO PRODUCTS

Sigma Relays

will Meet Your Requirements for:

recision • Sensitivity • Ruggedness • Compactness • Positive Action

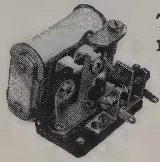


TYPE 4F

$1\frac{3}{8}'' \times 1\frac{3}{4}'' \times 1\frac{5}{32}''$
Weight:
$2\frac{3}{16}$ oz.

Recommended for:

- Light Weight
- High Speed
- Moderately severe environment (temperature and vibration)
- Moderate Sensitivity
- Minimum input power 10 milliwatts
- Coil resistance up to 14,000 ohms.

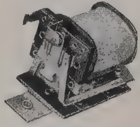


TYPE 5F

$1\frac{3}{8}'' \times 1\frac{3}{8}'' \times 1\frac{5}{8}''$
Weight:
$3\frac{1}{2}$ oz.

Recommended for:

- Exceptionally severe environmental conditions
- Maximum Sensitivity
- Minimum input power 0.5 milliwatts
- Coil resistance up to 18,000 ohms.



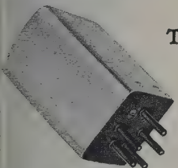
TYPE 41F

$1'' \times 1\frac{7}{32}'' \times 2\frac{3}{16}''$
Weight:
$2\frac{5}{16}$ oz.

Recommended for:

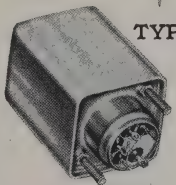
- Critical performance requirements at a low price in high volume applications. Features of other SIGMA Relays not needed in these applications have been omitted.
- Minimum input power 20 milliwatts
- Coil resistance up to 14,000 ohms.

A Wide Range of Enclosures are Available



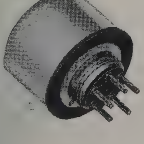
TYPE R

Mounted on a standard 5-pin ase and enclosed in an alumnum can.



TYPE RJ

Mounted in a hermetically-sealed enclosure of cadmium-plated brass. Also available with octal base, type RJO.



TYPE A

Mounted on a standard 5-pin, molded bakelite base with snap-on aluminum enclosure.

SIGMA

A. C. RELAYS

The Series 4 and 5 relays are available with a built-in, full-wave bridge-type rectifier for operation on alternating current at any audio frequency. In specifying, add the letter "S" to the designation of the desired type.

The operating characteristics on A.C., including sensitivity and precision, are essentially the same as for the D.C. input relays.

Series 41 A.C. Relays are of shaded coil construction and do not require rectifiers. They are unusually efficient and absolutely quiet. Coils are available for any voltage from 1 to 230 volts—minimum input of 0.1 volt amperes. In specifying, the letter "Z" is added to the designation of the desired type.

CONSULT SIGMA

Our Engineering Department will be glad to help you on your relay problems.

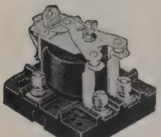
SIGMA

igma Instruments, INC.
ensitive **RELAYS**
50 CEYLON ST., BOSTON 21, MASS.

RELAYS FOR AUTOMATIC CONTROL

Representative samples of the comprehensive line of relays made by Ward Leonard. The ones illustrated are those particularly adaptable to electronic and the more common industrial applications.

MIDGET MAGNETIC RELAY — TYPE No. 106. — For remote control of A.C. or D.C. circuits. Has wide application for use on power circuits or electronic circuits in which the currents to be controlled do not exceed the ratings of the contacts. May be energized from main line or from an independent circuit. Built on a molded Bakelite base. Front or back connected terminals.



Coil Voltages —
D.C. — 6, 8, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 8, 12, 24, 32, 115 volts. 115 volts.

Contract Arrangement —
Single Pole, Double Break, Normally Open, Normally Closed and Double Throw.
Double Pole, Single Break, Normally Open, Normally Closed and Double Throw.
Double Pole (Common Feed), Single Break, Normally Open, Normally Closed and Double Throw.

Contact Ratings, in Amperes —

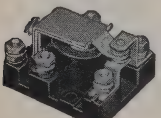
Volts	D. C.		60-Cycle A.C.	
	Single Break	Double Break	Single Break	Double Break
0-24	4	6	4	6
25-115	1*	2	4	6

*0.7 Amperes if Double Throw.

Dimensions — 2″ wide; 2¼″ high; 2⅛″ deep.

Type No. 106 Relays for 3-wire control are also available. Details will be furnished on request.

HEAVY DUTY MIDGET RELAY — TYPE No. 105. — A general purpose relay designed for remote control of the ordinary type of electrical appliances, such as electric heaters, electric signals, electric lights, electrically operated pumps, and most types of electronic equipments. The Heavy Duty Midget Relay is sturdily built on a molded Bakelite base. Heavy, front connected terminals are provided. The Heavy Duty Midget Relay, as a standard unit, is of the open type, but it can be furnished with a steel knock-out box enclosure.



Coil Voltages —
D.C. — 6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 10, 12, 24, 32, 115, 230 volts.

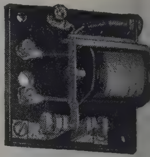
Contact Arrangement —
Single Pole, Single Break, Normally Open, Normally Closed and Double Throw.
Double Pole, Single Break, Normally Open, Normally Closed and Double Throw.

Contact Ratings, in Amperes —

Volts	D. C.		60-Cycle A.C.	
	Normally Open	Normally Closed	Normally Open	Normally Closed
0-24	20	15	20	15
25-115	1	1	20	15
230	0.5	0.5	15	10

Dimensions — Single Pole: 1⅞″ wide; 2⅜″ high; 1½″ deep. Double Pole: 2½″ wide; 2¾″ high; 1¾″ deep.

SENSITIVE RELAY — TYPE No. 250. — For use in applicatio where a high degree of sensitivity is required such as in electronic circuits. Built on a Bakelite base with large knurled heads and nuts to facilitate adjustment of the contacts and the spring tension on the armature. The use of nickel alloy in the magnetic circuits insures good contact torque at pull-up and crisp drop-out.



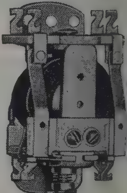
Contact Arrangement —
Single Pole, Double Throw.

Contact Rating, in Amperes —

Volts	D.C.	60-Cycle A.C.
115	0.75	2.0
230	0.5	1.5

Dimensions — 2⅝″ wide; 2⅝″ high; 1⅝″ deep.

MIDGET METAL BASE RELAY — TYPE No. 104. — For use i small radio transmitters, sound equipment, aircraft control circuits, and other similar applications. Available with Bakelite insulation or ceramic insulation. Small size permits installation in limited spaces. Built on a metal base. Vibration resistant up to 10 times gravity when energized. Front connected, solder type terminals.



Coil Voltages —
D.C. — 6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 10, 12, 24, 32, 115 volts.

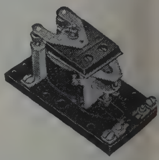
Contact Arrangement —
Single Pole and Double Pote. Various combinations with o without auxiliary contacts.

Contact Ratings, in Amperes —

Volts	D.C.	60-Cycle A.C.
0-24	4	4
25-115	0.5	4

Dimensions — $1\frac{9}{16}$″ wide; $2\frac{11}{16}$″ high. $1\frac{5}{16}$″ deep.

HEAVY DUTY RELAY — TYPE No. 130. — A relay that has heav current carrying and rupturing capacities for use in A.C. or D.C. circuits. Contact fingers are heavy stiff metal blades with large stainless steel springs for pressure. Large gap contacts with adequate surfaces. As high as four separate circuits may be opened simultaneously with the closing of up to four other circuits.



Coil Voltages —
D.C. — 24, 32, 115, 230 volts.
A.C. (60 cycles) — 24, 32, 115, 230, 440 volts.
Other voltages and frequencies available on special order.

Contact Arrangement —
Various combinations of contacts from one to four poles.

Contact Ratings, in Amperes —

Volts	Direct Current	D.C. with Blowout	A.C. 25 Cycles	A.C. 60 Cycles
0-24	25	25	25	25
25-125	3	20	25	25
126-250	1	10	25	25
251-440	....	....	10	15

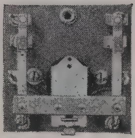
Note: Blowouts required for relays that control Direct Current circuits in excess of 23 volts or a current of 1 ampere.

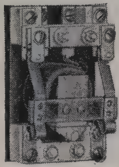
Dimensions — Base dimensions vary according to size of relay Maximum depth, 3⅛″.

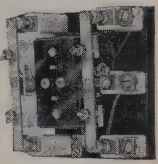
WARD LEONARD • RADIO AMATEUR and INDUSTRIAL RELAYS

RELAYS FOR THE RADIO AMATEUR

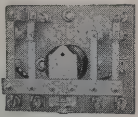
A few examples of Ward Leonard's popular line of relays for use in radio circuits are illustrated here. Information on specifications and prices are detailed in Catalog D-11 which will be furnished on request made to Ward Leonard directly or through one of its agents or distributors.

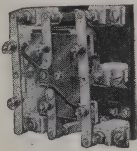

Midget Type


Intermediate Type

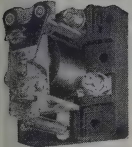

Heavy Duty Type

ANTENNA CHANGE-OVER RELAYS. — Switches antenna to transmit or receive. May also be used to switch transmitter or receiver to either of two antennas. Available in three sizes — Midget Type, Intermediate Type, and Heavy Duty Type. Midget Type built on Mycalex base. Contacts and terminals on Intermediate and Heavy Duty Types (except coil terminals) supported by ceramic blocks. Lucite crossarm used on all types.


Midget Type

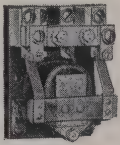

Heavy Duty Type

R. F. BREAK-IN RELAYS. — Otherwise known as "Push-to-Talk" Relay for phone transmitters. Pushing button in control circuit connects proper transmitter circuits and disconnects proper receiving circuits to transmit. Releasing button switches all circuits back to normal position for receiving. Furnished in two sizes, Midget Type for light duty and the Heavy Duty Type.

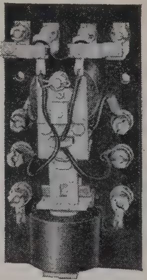

Low Voltage Type

High Voltage Type

KEYING RELAYS.—Low voltage type for center-tap or grid-bias keying. High voltage type for use with grid controlled high voltage rectifier tubes. Use of Keying Relays reduces length of circuit wiring and permits control of keying with key located in convenient position for operating. Capable of keying up to 40 words per minute.

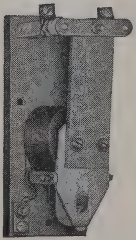


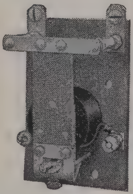
ANTENNA GROUNDING RELAY. — For grounding transmitting or receiving antenna when not in use. Contact arms supported on Lucite crossarm. Circuit contacts and terminals supported on ceramic insulation block. Coil terminals and grounding terminals mounted on Bakelite base. Double pole, double throw contacts, with fixed or adjustable normally closed contacts.



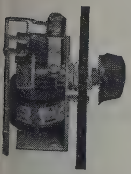
MIDGET LATCH-IN RELAY.—A multipurpose relay especially useful in circuits where interference might be caused if relay coils were continually energized. Momentary energizing coil "pulls in" armature which is locked in position by mechanical latch. Momentary energizing reset coil releases latch allowing armature to drop to normal position.

UNDERLOAD RELAY. — Protects against damage to tubes and other components of amplifiers when load failures occur, due, for example, to inability of one or more vacuum tubes to hold the load because of loss of excitation. De-energizing of relay coil when load drops opens contacts and prevents damage to transformers or tubes. Available from stock with coil adjusted to pick up at 100 m.a. to 200 m.a. DC or with coil adjusted to pick up at 200 m.a. to 400 m.a. DC.

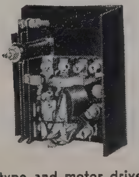

Heavy Duty Type


Midget Type

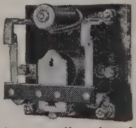
BAND SWITCHING RELAYS.-Automatically changes frequency bands through two-wire control circuit. Installation on the relay in the set near the coils eliminates the need for long R. F. leads, such as are required when a panel-mounted switch is used. Mycalex insulation used for base and contact arms. Contacts and terminals spaced to insure against leakage or creepage of high frequency and high voltage in the circuit.



ROTARY RESET OVERLOAD RELAY. — For protection against overloading vacuum tubes of power amplifiers or transmitters. Current surge causes armature to be pulled in, breaking the rectifier primary circuit. A mechanical latch holds the contacts open until the operator closes them by turning the reset knob. Designed for panel mounting. Available from stock with 250 m.a. DC coil and 500 m.a. DC coil.



THERMAL TIME DELAY RELAY. — Delays the application of voltage to the plates of vacuum tubes until the filaments have heated. The relay illustrated is adjustable over a range of from 15 seconds to 45 seconds. Other time delay relays — thermal type and motor driven type — are also available. Furnished with 110 volt, 60-cycle AC coil.



SAFETY RELAY. — A relay that should be installed in every amateur rig. It gives automatic protection against the hazards of high voltages in filter condensers when power supply unit is turned off. Furnished with resistor through which condensers are discharged. Furnished with normally closed contacts which open when transformer primary circuit is closed, energizing relay coil.

The use of Ward Leonard Relays in an Amateur Rig not only modernizes it, but also improves its efficiency and stability. Short r.f. leads prevent stray currents. Convenient control is provided.

Practice Sets ***Buzzers*** **SPEED-X** ***Transmitting and*** ***High Speed Keys***

TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

HIGH SPEED SEMI-AUTOMATIC KEYS

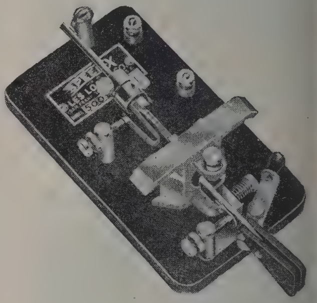
SPEED-X Semi-Automatic Keys are designed and constructed to rigid specifications and are approved by the experienced professional and amateur C. W. operators. They are fully adjustable from lowest to highest speeds. Manufactured in four distinctive and attractive models. Fully guaranteed against any defect in material or workmanship. Bases of all models drilled for stationary mounting.

STANDARD MODEL No. 500. New-Improved Standard Model Semi-Automatic Key mounted on extra heavy steel base 3½″ x 6¼″ x ½″ finished in attractive wrinkle baked enamel. Mounted on four rubber feet to insure stationary position at all times. The finish will not scratch or chip and will last indefinitely. The frame is finished same as base and has five adjustments with lock nuts, assuring dependable operations at all speeds. Vibrator arm, posts, switch and all machine parts heavily plated in beautiful satin chromium. Complete with adjustable weight, two sets ⅛″ pure silver contacts, circuit-closing switch and two paddles adjustable to any desired height. Net weight 4½ lbs.

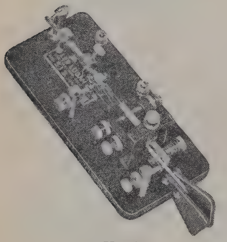
No. 500 .... **List Price $17.50**
No. 500-L (Left-handed model) .... **List Price 19.50**

MODEL No. 501. New-Improved Beautiful Chrome finish. Heavy steel base 6¼″ x 3½″ x ½″ with four non-slip rubber feet. Heavy brass connector strips mounted under base. Heavy die cast frame with same finish as base and with five screws for sensitive adjustments. Vibrator is designed to obtain slowest and fastest speeds required by high speed operators. Two sets of ¼″ pure silver contacts. Pigtail connections to vibrating arm. Perfectly aligned free acting vibrator bearings. Lock nuts on all adjustments. Paddles adjustable to any required height. All machine parts heavily chrome plated, which makes this the most outstanding semi-automatic key on the market. Furnished with circuit closing switch. Net Weight 4½ lbs.

No. 501 .... **List Price $25.00**
No. 501-L (Left-handed model) .... **List Price 27.50**



Nos. 500, 501



No. 515

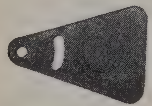
AMATEUR MODEL No. 515. Baked Black Wrinkle Enamel Finished Steel Base 6¼″ x 3″ x ⅜″ with four rubber feet to prevent slipping or tilting. Heavy Brass connector strips. Die Cast Frame finished same as base with adjustable trunion screws. Chromium brass Vibrator has main spring and U-spring made of clock spring for smooth snappy action. Adjustable weight. Two adjustable black fibre paddles. Two sets ⅛″ pure silver contacts. Lock nuts for every adjustment. Deadener wheel, post screws, springs and terminals chrome plated. Packed in attractive carton. Net Weight 3¼ lbs.

No. 515 .... **List Price $12.50**
No. 515-L (Left-handed model) .... **List Price 15.00**

JUNIOR MODEL No. 510. Die Cast Base 2¾″ x 6″ x ¾″ finished in black wrinkle baked enamel concealing heavy brass connector strips. Frame is same finish as base and all other parts are chromium plated. Vibrator Arm same as Standard model with lots of pep. Adjustable from eight words per minute to as high a rate as desired. Two sets of ⅛″ pure silver contacts, adjustable weight and two adjustable paddles. Circuit closing switch mounted on base. Being small, compact and streamlined, this semi-automatic key is an outstanding value. A light-weight but sturdy built machine for clean-cut sending. Net Weight 2½ lbs.

No. 510 .... **List Price $13.50**

REPLACEMENT PARTS

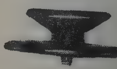


No. 370

No. 330

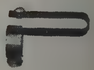
No. 335

	List		List
No. 330 Adjustable Weight..	**$0.25**	**No. 362** ¾″ Chrome Screw	**$0.13**
No. 335 Key Springs	**.10**	**No. 363** 1″ Chrome Screw..	**.15**
No. 335 Dash Spring	**.10**	**No. 364** ½″ Knurled Nut......	**.10**
No. 340 Set ⅛″ Contacts....	**1.00**	**No. 375** Vibrator Arm Comp.	**3.00**
No. 341 Set ¼″ Contacts....	**2.00**	**No. 376** Vibrator Arm Only	**1.75**
No. 345 (2) ⅛″ Contacts....	**.20**	**No. 370** Adjustable Paddle..	**.25**
No. 346 (2) ¼″ Contacts....	**.50**	**No. 380** Cord and Plug	**1.50**
No. 350 Knob	**.20**	**No. 390** U-Spring ⅛″ Contact	**.60**
No. 360 Navy Knob	**.30**	**No. 391** U-Spring ¼″ Contact	**.75**
No. 333 Self-Locking Adj. weight..........			**.50**



No. 360

No. 350



No. 390

No. 444 KIT

An assortment of the best selling parts for all makes of keys, selected from the above list, and packed in a beautiful display box.

LIST PRICE OF COMPLETE KIT, $20.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Practice Sets
Buzzers

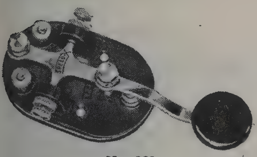
SPEED-X

Transmitting and
High Speed Keys

TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

MOULDED BAKELITE KEYS, BUZZERS, PRACTICE SETS

SPEED-X Moulded Bakelite and Metal Hand Keys, Practice Sets and Buzzers are used throughout the world as standard equipment in amateur and commercial work. Each unit is built according to rigid specifications and is fully guaranteed. All models have holes for stationary mounting. Code card supplied with each individually packed unit.



No. 301

AMATEUR KEY No. 301—A general purpose key with moulded black bakelite base. Perfect insulation—adjustable smooth acting bearings—improved spring—nickel key arm—pigtail connections—no current on bearings—1/8″ pure silver contacts. Net Wt. 6 oz.

No. 301 .... **List Price $3.00**
No. 301-S—Same as Model 301 with circuit closing switch mounted on base... **List Price 3.50**
Add "L" for 1/4″ Contacts—Extra .... **List Price .25**

PRACTICE KEY No. 300—A well-built and inexpensive practice key for the beginner. Moulded Brown Bakelite base and knob. Spring bearings, perfect action, simple adjustments, 1/8″ pure silver contacts. All machine parts nickel plated. Standard Code card furnished. Net Wt. 5 oz.

No. 300 .... **List Price $1.75**
Add "L" for 1/4″ Contacts—Extra .... **List Price .25**

PRACTICE KEY No. 312—Heavy die cast base finished in Gray Wrinkled Enamel. Smooth adjustable contacts. 1/8″ pure silver contacts. Has provision for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

No. 312 .... **List Price $3.25**
No. 312-S—Same as Model 312 with circuit closing switch mounted on base... .... **List Price 3.75**
Add "L" for 1/4″ Contacts—Extra .... **List Price .25**

No. 450

PRACTICE SET No. 450—Consists of one constant frequency adjustable buzzer and a standard hand key with 1/8″ pure silver contacts mounted on a moulded brown bakelite light-weight base 6″ x 4″. Adjusting screws, key arm and all machine parts nickel plated. Light Spring for perfect keying. A complete sending and receiving set. Three hook-up diagrams on carton show how this Practice Set may be used singly for code practice and in pairs for point to point communications. Standard Code Card included. Net Wt. 12 oz.

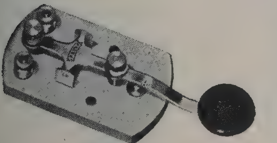
No. 450 .... **List Price $4.50**

No. 400

CONSTANT FREQUENCY BUZZER No. 400—Moulded Black Bakelite Base and Cap eliminates insulation problems. Large pure silver contacts—precision parts hold adjustments. Additional adjustment on vibrator. Resistance 2 ohms. Operates on two dry cells or one "C" battery. A high quality buzzer for all purposes. Net Wt. 3 oz.

No. 400 .... **List Price $1.80**

HEAVY DUTY METAL HAND KEYS



Nos. 300, 305, 306

METAL HAND KEY No. 305—An inexpensive metal base key with black wrinkled enamel finish. Smooth acting spring bearings and adjustable key arm spring. Key arm and all machine parts bright nickel finish. 1/8″ pure silver contacts. Net Wt. 10 oz.

No. 305 .... **List Price $1.90**
No. 306—Same as Model 305 with Baked Wrinkle Brass finished base.......... **List Price 1.90**

STANDARD Key No. 310—Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings. 1/8″ pure silver contacts. Has provisions for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

No. 310 .... **List Price $3.25**
No. 311—Same as Model 310 with Chromium finish base and parts.......... **List Price 4.00**
No. 316—Same as Model 310 with Baked Wrinkle Enamel Brass finish base... **List Price 3.25**
Add "L" for 1/4″ Contacts—Extra.......... **List Price .25**

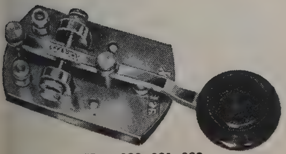
Nos. 310, 311, 316

STANDARD KEY No. 310-S—Same specifications as Standard model key No. 310 with circuit closing switch mounted on base. 1/8″ pure silver contacts. An attractive high-quality key. Net Wt. 10 oz.

No. 310-S .... **List Price $3.75**
No. 311-S—Same as Model 311 with circuit closing switch mounted on base.. **List Price 4.50**
No. 316-S—Same as Model 316 with circuit closing switch mounted on base.. **List Price 3.75**

HEAVY DUTY KEY No. 320—Black wrinkle enameled extra heavy Die Cast Base. Large sturdy chromium plated key arm with adjustable steel bearings. Heavy brass connector strip concealed under base. Well insulated for heavy duty work. Improved Navy Type Knob and 1/4″ pure silver contacts. Net Weight 12 oz.

No. 320 .... **List Price $4.25**
No. 321—Chromium Base .... **List Price 5.00**



Nos. 320, 321, 326

HEAVY DUTY KEY No. 326—Same specifications as Heavy Duty Model No. 320 but base finished in a beautiful Lacquered BRASS finish. Arm and machine parts chromium plated. Well designed spring gives this model a light keying touch. Navy Type Knob and 1/4″ pure silver contacts. Net Wt. 12 oz.

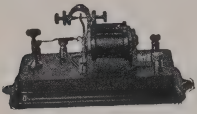
No. 326 .... **List Price $4.25**

WIRELESS & TELEGRAPH INSTRUMENTS • SIGNAL MANUFACTURERS OF ELECTRICAL PRODUCTS • PORTABLE ELECTRIC DRILLS

112-K KEY

This key is designed for learners who want an instrument built scientifically correct. Mounted on a mahogany finished wood base with rubber feet. Key base cast iron black enamel finish. Key lever and binding posts in gun metal finish, switch lever brass, Platinor contacts .072″ diameter.

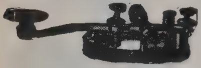
List $3.00



PONY RELAY

All the metal parts on this pony relay are brass with lacquer finish, excepting armature which is polished and plated steel. Magnets are non-adjustable. Mounted on a mahogany finished wood sub base and cast iron black enamel base.

	List
M-104— 4 Ohm	**$8.95**
M-105—20 Ohm	**8.95**
M-106—50 Ohm	**9.20**
M-107—75 Ohm	**9.45**



R-48 KEY

This key is recommended for rapid transmitting. The base and binding posts are brass with instrument lacquer finish. Key lever gun metal finish. Platinor contacts .072″ diameter.

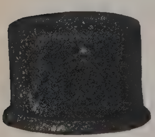
List $3.65

R-68 PRACTICE SET

Set consists of a key and adjustable high frequency 2 ohm resistance buzzer. Key has cast iron black enamel base, key lever gun metal finish with .072″ platinor contact. Buzzer and key mounted on a mahogany finished wood base with brass binding posts and rubber feet. Code appears on an etched plate attached to the base. Instruction manual packed with each instrument.

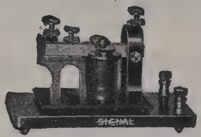
List $5.20

R-60 BUZZER



This high frequency buzzer is mounted on a steel base with steel cover black crystalized lacquer finish. Adjustable frequency with standard resistance of 2 ohms. 1-15/16 in. diameter by 1⅜ in. high.

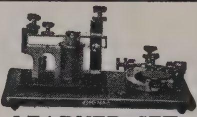
List $1.80



SOUNDER

Properly designed for accurate instant action. Aluminum sounder bar for clear resonant tone. Cast iron bar frame black enamel finish. Bridge and adjustment screws brass instrument lacquer finish. Black lacquered steel sounder plate. Instrument mounted on a mahogany finished wood base equipped with brass binding posts and rubber feet.

	List
112-S— 4 Ohm	**$5.10**
113-S—20 Ohm	**5.35**



LEARNER SET

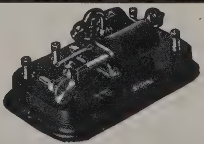
For two way operation learners will find this instrument accurate and with a clear resonant sounder tone. Bar frame cast iron black enamel. Bridge and adjustment screws brass with instrument lacquered finish, sounding bar aluminum. Black lacquered steel sounder plate. Key has cast iron black enamel base, key lever gun metal finish with .072″ platinor contact, brass adjusting screws. Sounder and key mounted on mahogany finished wood base with brass binding posts and rubber feet. Instruction manual packed with each instrument.

	List
M-110— 4 Ohm	**$7.65**
M-111—20 Ohm	**7.90**

STANDARD KEY

This standard wireless key is designed to carry heavy currents. All brass construction with lacquer finish. Furnished with 3/16, ¼ or ⅜-inch coin silver contacts. Navy type key knob.

R-62—3/16″ contacts	**$4.50**
R-63—¼″ contacts	**4.60**
R-64—⅜″ contacts	**4.85**



COMMERCIAL RELAY

The commercial relay is well designed and constructed for long, continuous service on commercial lines. Heel iron and armature are made of Norway iron. Has rubber covered adjustable coils. Mounted on mahogany fignished wood sub base and cast iron black enamel base.

	List
916—150 Ohm	**$15.00**
917—250 Ohm	**15.50**

M-100 KEY

This key is recommended for rapid transmitting. The base, binding posts and switch lever are brass with instrument lacquer finish. Key lever gun metal finish. Platinor contacts .072″ diameter.

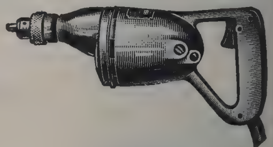
List $3.95

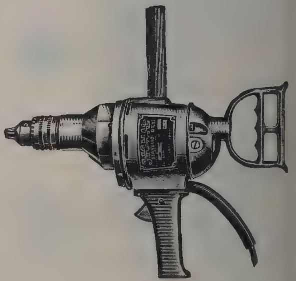
KEY R-50

This instrument is designed for the amateur interested in a well built carefully made wireless key. Cast iron base well insulated, back wrinkle finish. ⅛″ coin silver contacts. Key lever gun metal finish. Binding posts and adjusting screws brass instrument lacquer finish.

List $1.90

PORTABLE ELECTRIC DRILLS





Type	OB-4	OB-8	OB-5
Size	¼″	¼″	½″
Speed	1700	3000	400
Weight	7¼	5½	14
Price	$30.50	$25.90	$54.60

T·A·C

Announces the New Code Practice

OSCILLATONES
with ADJUSTABLE RESONATORS

for Greater Volume . . . Better Tone

ELEGRAPH APPARATUS CO . . . CHICAGO 7, ILLINOIS

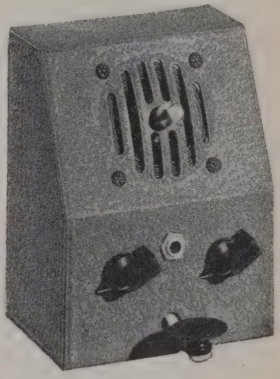
IS 710 has all features de- cribed but less resonator nd less built-in key.
mateur net price.................. **9.00**

IS 710R with resonator but ss built-in key.
mateur net price.................. **10.50**

Here is the last word in code practice Oscillatones. New Adjustable Resonator (optional) increases volume five times. Tone frequency variable from 600 to 1500 cycles. Volume controllable from 0 to FULL ON. "PM" DYNAMIC speaker may be disconnected during headphone operation if desired. Up to 300 head phones may be used. Has phone jack for headphones. Optional built-in key. Absolutely safe. No shocks. Clean cut, chirpless keying. Operates on 110 V. AC or DC. Uses 117N7GT tube. Gray crackle finish metal case.

Designed by
THE WORLD'S CHAMPION
RADIO TELEGRAPHER

Now in Stock at All Leading Radio Distriubtors



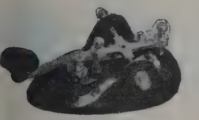
MS 710 P with built-in key but less resonator.
Amateur net price **11.50**

MS 710PR Deluxe Master Oscillatone with all features including resonator and built-in key.
Amateur net price **13.00**

LEG CLAMP HAND KEY

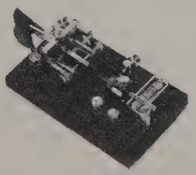
Made to Signal Corps specifications. Spring metal band fits thigh of leg comfortably. Folds for compact packing. With 5 ft. rubber covered cord and plug. Model J-45; Amateur Net Price **5.10**

MODEL 200 HAND KEY



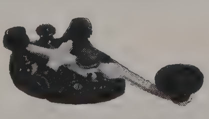
Built to professional standards. Coin silver contacts. Accurately machined bearing screws. Black finish metal base with ircuit closing switch. Model 00; Amateur Net Price...................... **2.25**

PROFESSIONAL HAND KEY



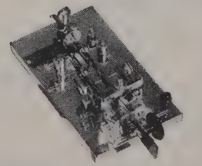
Designed by World's Champion Radio Telegrapher. Gray wrinkle finish and polished chrome. Silver contact points. Fully adjustable. Model CP 510; Amateur Net Price **6.75**

STANDARD HAND KEY



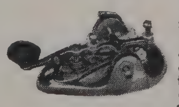
Made to Signal Corps specifications. Solid coin silver contacts. Silver plated lever. Bakelite base. Very smooth operation. Model J-37; Amateur Net Price........ **1.80**

DELUXE SPEED KEY



Finest "bug" available. Chrome finished base and superstructure. Selected blue steel springs for uniform performance. Silver contacts. Nine points of adjustment. Model CP 810; Amateur Net Price...................... **9.75**

DELUXE HAND KEY



Finished in polished chrome and nickel. 3/16" diameter contacts, adjustable for tension, spacing and bearing position. Circuit closing switch. Model 300; Amateur Net Price **3.45**

The Vibroplex

A SEMI-AUTOMATIC TELEGRAPH AND WIRELESS TRANSMITTING MACHINE

Embodying the latest exclusive features

USED BY THE WORLD'S BEST OPERATORS

Prominent features which have been contributed to the success of the Vibroplex are:

Simplicity • Durability
Perfect control • Easy adjustment
Strong carrier • Ease of manipulation
Adaptability to changing wire conditions
Ability to transmit perfect Morse and
Continental signals at high speed

These features, which are found only in the genuine Vibroplex models illustrated on these pages, make for clear, rapid, easy transmission; relieve the arm of strain caused by sending on the ordinary key; rest and strengthen the overworked muscles, and preven telegrapher's paralysis.

CLEAR, RAPID SENDING MADE EASY

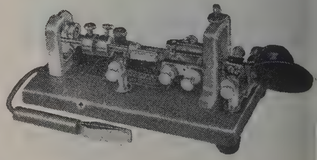
The Vibroplex transmits the same grade of Morse and Continental code as the strongest clearest hand sender, faster than is possible on the ordinary key, and with less than half the labor.

There is no tensing of the muscles, no nerve strain no pounding on the key in order to make clear, rapid signals. **You simply press the lever — the machine does the rest.**

THE *Improved* "ORIGINAL" VIBROPLEX

Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials

SPECIFICATIONS



The improved model, single lever. Two pairs of contact points: one for dots, the other for dashes. Weight, 3 lbs. 8 oz. A handsome and efficient transmitting machine, with unlimited sending possibilities. Complete with cord and wedge.

Standard—Polished Chromium top parts, black base . . . Amateur Net Price	**$15.95**
DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price	**19.50**

THE "LIGHTNING BUG" VIBROPLEX

One of the Latest Model Vibroplexes

Sending Ease Surpassing Anything Ever Achieved in Any Sending Machine

HIGH QUALITY SIGNALS AT ALL SPEEDS

De Luxe Model

LIGHTNING BUG

Standard — Polished Chromium top parts, black base . . . Amateur Net Price	**$13.95**
DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price	**17.50**

This great new Vibroplex is the smoothest and easiest working BUG ever made. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions.

SPECIFICATIONS

Single lever, with improved flat pendulum, instantly adjustable dot contact spring, circuit breaker parallel with pendulum. Two pairs of contact points, one for dots, the other for dashes. Complete with cord and wedge. Weight 3 lbs. 8 oz.

THE "ZEPHYR" VIBROPLEX

A Genuine Vibroplex. Slightly Lighter in Weight. Having Plenty of "Pep" and "Power"

VIBROPLEX "ZEPHYR"

Smaller and more compact but designed in most details the same as the "Lightning Bug" model. Planned to meet the demand for a low priced, efficient and high speed transmitter for telegraph use.

SPECIFICATIONS

Single lever with standard size contact points. Mounted on slightly smaller base. Weight 3 lbs. 2 oz. Equipped with circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price	**$12.50**

The Vibroplex

THE VIBROPLEX COMPANY INC
TRADE MARK

Telegraph & Wireless
Transmitting Machines

THE "CHAMPION" VIBROPLEX

For Radio Use Only

VIBROPLEX "CHAMPION"

esigned to Fulfill the Demand for
Low Priced Radio Transmitter

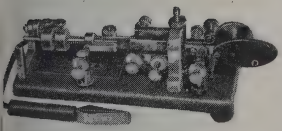
The new "Champion" is an inexpensive transmitter having exceptional sending qualities . . . clarity . . . speed . . . sending ease, which will appeal alike to amateur and professional radio operators. Designed to meet the demand for a low priced Vibroplex in the radio field.

SPECIFICATIONS

Single lever with two pairs of contact points. Mounted on large standard size base. Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price	**$9.95**

THE "BLUE RACER" VIBROPLEX



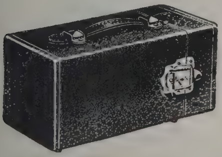
ery similar to the Original Vibro-
.ex except that it is only half the
ze. Suitable for all classes of tele-
aph work and in high favor with
ireless men.

Small and compact, the "Blue Racer" Vibroplex can be carried around and never be in the way. Embodiés the same sending possibilities, the same carrying qualities, the same strength and durability as the larger models. Built especially to meet the demand of telegraphers requiring a small, lightweight and efficient sending machine.

SPECIFICATIONS

Single Lever. Two pairs of contact points—one for dots, the other for dashes. Weight, 2 lbs. 8 ozs. Complete with cord and wedge.

Standard—Polished Chromium top parts, black base . . . Amateur Net Price	**$15.95**
DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price	**19.50**



VIBROPLEX CARRYING CASE

Keeps the Machine Free from Dust, Dirt and Moisture
Insures Safe-keeping When Not in Use

A cloth-lined case, finished in handsome simulated black morocco. Corners are reinforced, adding to its durability and attractiveness. A flexible leather handle makes it more convenient to carry. Has lock and key.

PRICE	**$5.50**

Parts for all VIBROPLEX equipment are always available. Price List for parts will be furnished at once, upon request.

The JEWELS used in this Model Vibroplex are the same as placed in the world's finest precision made watches and instruments.

A JEWEL bearing main lever insures a "LIFETIME" of service and an ease of operation that can only be referred to as "FEATHER-TOUCH" sending.

he "Original" and "Blue Racer" Vibroplex models have been vastly improved. To insure still further absolute
niformity in appearance and in precision construction, the main and damper frames of both models—in
tandard and DeLuxe finishes—are now manufactured from streamlined high-pressure castings. No priorities
re required on Vibroplex machines.

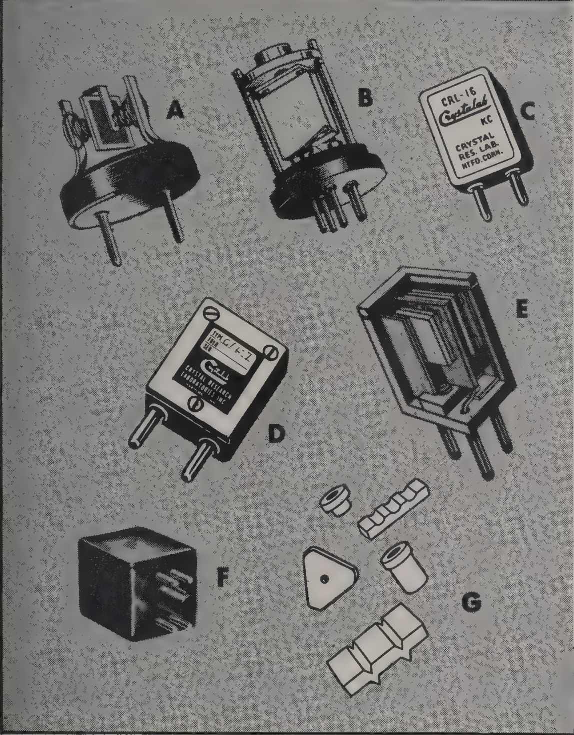
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

Crystalab
TRADE MARK REG. U. S. PAT. OFF.

Quartz Crystals • Electronic Components • UHF-VHF
Capacitors, Communication, Supersonic, and Test Equipment



A. 75-150 KC Freq. Standard Crystal. Spring suspended, wire mounted. Silver plated. Extreme stability. .125" diam. pins spaced .750" on centers. Overall height 2.5"; diam. 1.75". Cat. No. CRL-80

B. 200-500 KC. Low freq. crystal. Rigidly mounted—NOT A SPACED UNIT—for extreme stability. Silver plated. Hermetically sealed. High current carrying capacity. Fits standard 5 pin socket. Overall height 4.062", diam. 2.25". Cat. No. CRL-50

C. 2,000-15,000 KC Low drift, precision cut, clamped crystal. Compact unit; overall height 1.594"; width .812"; thickness .438". .094" diam. pins spaced .486" on centers................Cat. No. CRL-16

D. 2,000-15,000 KC. Low drift, precision cut, clamped crystal. Larger quartz blank for high current capacity and wide temperature variations, (Aircraft, Marine, Mobile Applications). Overall height 1.937"; width 1.156"; thickness .562". .125" diam. pins spaced .750" on centers. Cat. No. CRL-7

E. 1,000-15,000 KC. Dual Crystal Unit. Large crystal blanks, clamped type, for stable operation over wide temperature range (Aircraft, Marine, Mobile). Three pin base. Overall height 2.687"; width 1.187"; thickness 1.594"......Cat. No. CRL-5

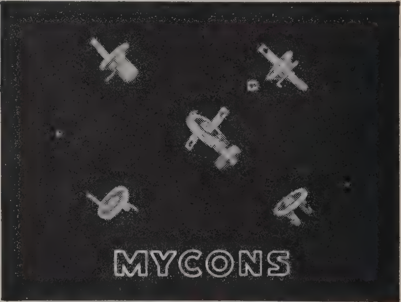
F. 2,000-15,000 KC. Constant temperature holder. Operates at ± 3°C. Frequency can be controlled ±.005%. Heater: 6V—1A; available for other voltages. Fits standard octal socket. Overall height, 1.937"; width 1.125"; thickness 1.187"..Cat. No. CRL-30

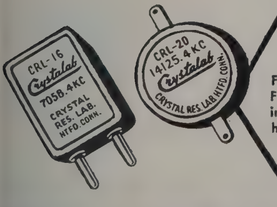
G. Fused Quartz. Low coefficient of expansion. High dielectric quality. Lack of distortion from heat of friction. High melting point. Fabricated, if desired, to tolerance of ± .0001". Give us your specifications and applications.

Crystalab AMATEUR CRYSTAL KITS AND BLANKS

Kit No. 3 consists of 5 holders CRL-16. 5 Complete sets: springs, electrodes, covers, gaskets, screws. Lintless cloth for drying. Package fine abrasive for finishing and package medium abrasive for rough lapping. Lapping button and plate. Blueprint of Selector Switch. Photographs of Selector Switch. Illustrated Instruction Book. Kit No. 3—$5.00 net.

Blanks available, 3,500 KC to 10,000 KC, 5 per card, in a variety of frequencies. Card of 5 blanks—$5.00 net.





Crystalab AMATEUR CRYSTALS

For operation in 2, 6, 10, 11, 20, 40, and 80 meter bands. Fundamental frequencies from 3,500 KC to 14,850 KC Available in CRL-16 holder (See "C" above) and CRL-20 round solder tab holder 1.125" diam.; .400" thick.

Stock and specific frequencies available.

Low Inductance Capacitors

Mycons—Vacuum oil impregnated, silver-mica capacitors for UHF applications. Standard sizes 50, 100, 250, 500, 1000 and 1500 mmfds. Tolerances 2.5%, 5%, 10%, 20%. WV-750DC cont. Test 1000 DC. 15 min. Res. over 10,000 meg. Temp. Coeff. ± 50 PPM/°C.

For more information concerning Crystalab Products write to:

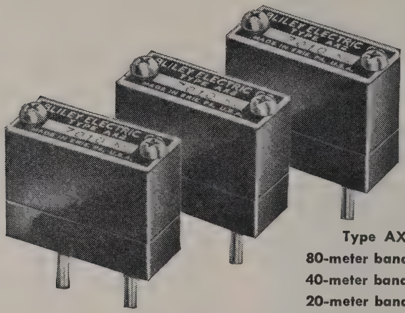
CRYSTAL RESEARCH LABORATORIES INC.

HARTFORD CONN — Crystalab — 29 ALLYN ST PHONE 7-3215
NEW YORK N Y — 15 E. 26TH ST PHONE MUS-2952

Bliley CRYSTALS...

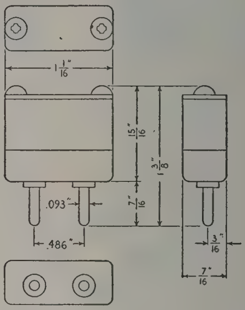
First for amateur frequencies

BLILEY TYPE AX2 PLATED CRYSTALS



Type AX2 Units

80-meter band	**$2.80 ea.**
40-meter band	**2.80 ea.**
20-meter band	**3.95 ea.**



The advanced development and pace-setting design of the AX2 *plated* crystal again demonstrate Bliley's leadership in the manufacture of crystals for amateur frequencies.

Primary electrodes in the AX2 consist of a micro-thin metal film, deposited directly on the major surfaces of the crystal by evaporation under high vacuum. This film exhibits extremely high adhesion and can almost be considered as a chemical bond to the quartz. Secondary electrodes, under spring pressure clamp the crystal in position and provide a medium for thermal dissipation.

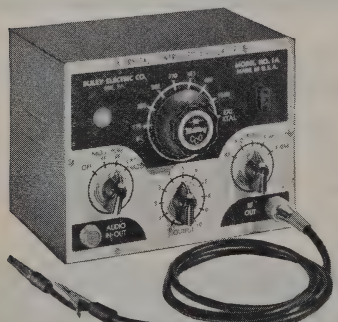
Bliley's *plated* crystal gives you better *grid current stability* over a wide temperature range plus *improved frequency stability* under high drive conditions, and in addition such famous Bliley qualities as:

—Acid etching to frequency to prevent aging.
—Nameplate calibration accurate to ± .002% at 25°
in factory oscillator.
—Temperature stability better than ± .02% betwee
−10° and +60° C.
—Activity level tested between −10° C and +60° C.
—Solid, stainless steel pins. Welded contact betwee
pins and contact plates.
—Neoprene gasket seal. Moisture resistant, molde
phenolic case and cover.
—Compact size for easy stacking. Two units may b
mounted back to back in standard octal socket.
—All nomenclature on top for easy identification.

Nothing has been overlooked to insure top performanc under conditions encountered in amateur equipment.

BLILEY CCO...CRYSTAL CONTROLLED OSCILLATOR

FOR RADIO SERVICE TECHNICIANS



The Bliley CCO is the only test instrument available to radi service technicians that features—

DIRECT CRYSTAL CONTROL

—with instant channel selection of the five most commonly use intermediate frequencies—175 kc, 262 kc, 370 kc, 455 kc, and 465 k
—at 200 kc for r-f alignment.
—at 1000 kc for short wave alignment.

Finger tip adjustment is provided by a three position modulatio selector and a five step attenuator, with vernier output from 0 to 1 volts. An external socket accommodates extra crystals for specia requirements.

Simply connect the Bliley CCO to the receiver to be tested an select the frequency desired. The crystals are instantly on frequenc as soon as the oscillator is energized. Save hours of time, eliminat guess work and increase your prestige as a radio service technician The CCO is a "techniquality" product of the same engineering skill tha has kept Bliley Crystals foremost in dependability for over 15 years

$69.50 complete with seven crystals

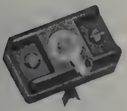
BLILEY ELECTRIC COMPANY • UNION STATION BLDG., ERIE, PA

tops in TECHNIQUALITY

TYPE **FM6-S**
100kc.

Recommended primarily or use as a frequency tandard. Plated precision rystal is rigidly clamped etween resonant pins proiding exceptional elecrical and mechanical tability. Frequency is adustable to exactly 100kc. t 25°C when unit is used n recommended oscillator ircuit. Frequency stabilty ±.005% at any temerature between 0°C and 0°C. Separate tank coil, vith proper characteristics or correct performance, upplied with each unit.

Price $18.75



TYPE **CF6**
455kc.

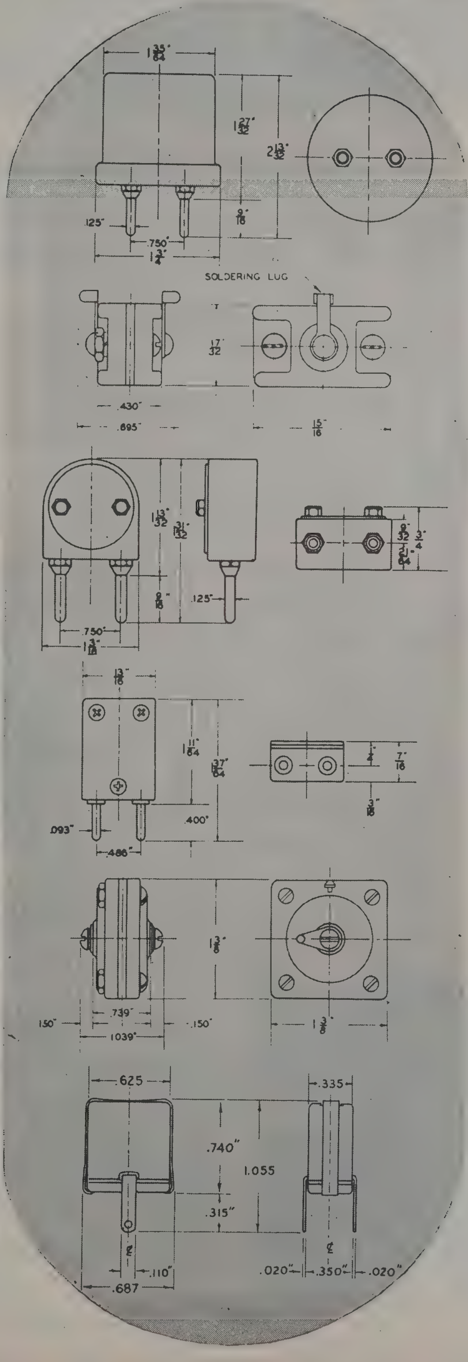
ingle signal filter crystal nit. Exceptionally low older capacity permits harp signal discrimination n filter network of general ommunications receivers. requency 455kc. free from purious responses within ±7kc.

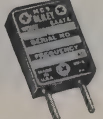
Price $4.50

TYPE **CF3**
455kc.

ingle signal filter crystal nit. Frequency 455kc., ±5kc.—free from spurious esponses within ±7kc. of undamental. Designed for ntermediate frequency filer in general communicaions receivers.

Price $5.00





TYPE **MC9**
3105kc.

This unit is suggested for use in private aircraft transmitters operating at 3105 kc. The crystal is guaranteed to be within ±.02% of 3105kc. at any temperature between 0°C and 50°C and is factory tested for performance over this temperature range. Plug-in type holder is gasket sealed against moisture and humidity.

Price $5.50

TYPE **SMC100**
100-1000kc.

Dual frequency crystal provides either 100kc. or 1000kc. frequency source. When used in recommended oscillator circuit 1000kc. frequency is within ±.05% at 25°C and 100kc. frequency can be adjusted to zero beat at 25°C. Suggested for signal generators used in alignment of radio receivers.

Price $8.75

TYPE **VX2**
3105kc.

Designed for applications where space is at a premium, this unit is recommended for private aircraft communication at 3105kc. Guaranteed to maintain frequency within ±.02% at any temperature between 0°C and 50°C. Solder lug connections permit mounting under chassis and assembly is gasket sealed against moisture and humidity.

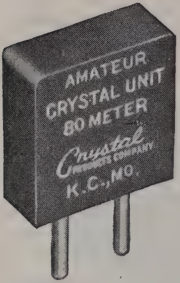
Price $5.00

BLILEY ELECTRIC COMPANY • UNION STATION BLDG., ERIE, PA.

1519
McGee St.

Crystal
PRODUCTS COMPANY

Kansas City
8
Missouri



HOLDER STYLE 153-AC for 5 PRONG SOCKET

40 OR 80 METER AMATEUR UNITS

Supplied in either of the convenient versatile type of holder 153-AC for 5-prong or 162-PM for octal socket. Frequency range 40 meter 7000 to 8000 KC. (80 meter 3500 to 4000 KC.) Furnished within 10 KC of specified frequency.

Type 205-RF, 40 meter for octal socket	$2.80
Type 206-RF, 40 meter for 5-prong socket	$2.80
Type 210-RF, 80 meter for octal socket	$2.80
Type 211-RF, 80 meter for 5-prong socket	$2.80

SPECIAL AIR CRAFT

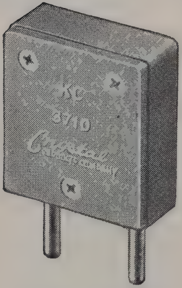
Air craft frequencies supplied in this mounting:

Type 200-AC 3105 KC for octal	$5.00
Type 201-AC 3105 KC for 5-prong	$5.00
Type 202-AC 6210 KC for octal	$5.00
Type 203-AC 6210 KC for 5-prong	$5.00

Prices subject to change without notice, F.O.B. Kansas City, Mo.

FT
243
FREQ.-KC
3105
CHANNEL
CRYS.
K. C.
PROD.
MO.

HOLDER STYLE 162-PM OCTAL



TYPE 266-PM or TYPE 267-PM

SPECIAL UNIT FOR ALL TYPES OF OPERATIONS

Supplied by special order in a molded phenolic holder, 1-13/64" x17/32"x1-3/8" including pins, which are 5/8" long. (Pins are 1/8" diameter and 3/4" center to center.) Neoprene gasket seal against humidity and moisture. Available in a frequency range from 1,000 to 10,000 KC with either .500x.600 crystal blank or 3/4"x3/4" crystal blank. A durable precision unit for use in transmitter.

Type 266-PM mounted with .500x .600 crystal blank	$5.25
Type 267-PM mounted with 3/4"x 3/4" crystal blank	$7.50

Prices subject to change without notice, F.O.B. Kansas City, Mo.

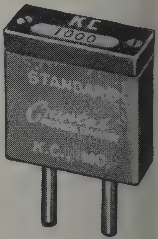
1000 KC STANDARD

For use with multivibrator circuits for frequency standards. High output with very low T.C. Crystal pre-aged and adjusted so it can be tuned to zero beat. Durable mounting for 5-prong socket. Dimensions 1-1/8" x 1-3/16" x 7/16". Will fit in small size ovens.

Type 290-S

List Price	$8.00

Prices subject to change without notice, F.O.B. Kansas City, Mo.



TYPE 290-S

CRYSTAL BLANKS TO YOUR SPECIFICATIONS

Quartz crystal blanks can be supplied in quantity lots in either of the four stages; rough diced, surface ground, semi-finished or finished (pre-aged).

Quotations supplied upon request depending upon quantity and specifications.

HEAVY DUTY CRYSTAL UNIT

A rugged communication crystal unit designed for rough treatment. Heavy molded bakelite holder, 1-7/16"x3/4"x2-1/16" (excluding pins). Screw-in banana type plugs with 7/8" spacing center to center. Stainless steel contact plates. Neoprene gasket seal. Shock proof construction, engineered for heavy duty in mobile units. Frequency range 2000 to 9000 KC.

Type 265-PM--Quotations supplied upon request depending on frequency and specifications.

1519
McGee St.

Crystal
PRODUCTS COMPANY

Kansas City
8
Missouri

A NEW MULTIPLE CRYSTAL UNIT
Specially Designed for Amateur Use

Positive contact, low capacity, excellent for switching to four different frequencies instantly and accurately. Operates in any position and requires very small space. Will improve the appearance of any transmitter either in front or behind panel mounting. Over-all dimensions 2″ high, 1-1/4″ in diameter with octal socket base. Frequency range 3000 KC to 9000 KC supplied in any combination. Frequency masked name plate.

Type 275-M—Prices will depend on your specifications as to frequency and tolerance. Quotations upon request.

MULTIXTAL
Crystal
PRODUCTS COMPANY
K.C., MO.

MULTIXTAL
Type 275-M

IF
455 KC
FILTER
Crystal
PRODUCTS COMPANY
K.C., MO.

I. F. FILTER UNIT

455 or 465 KC Filter for most intermediate frequencies in receivers. Rugged design, dust and moisture proof. Dimensions 1-3/16″ x 1-3/8″ x 5/8″—Crystal accurately ground for peak performance free from interfering spurious frequencies. 3/4″ pin spacing for regular mount or standard 5-prong socket.

Type 220-F—Quotations on request.

THIRD HARMONIC OPERATIONS

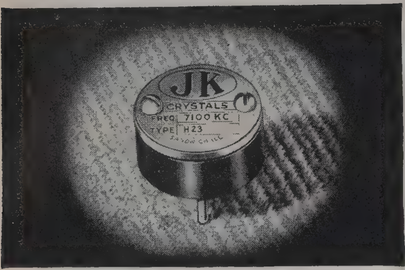
This crystal has been engineered to supply an Amateur unit that is dependable on the 14MC or 20 meter operations. Mounted in a sturdy water and dust proof holder sealed with fibre gasket. Black phenolic holder, 1-1/2″x3/4″x1-3/4″ (excluding pins). Solid stainless steel contact plates. Pins 1/8″ in diameter, 3/4″ from center to center. Stocked frequency range 14,000 to 14,500 furnished within 10 KC of desired frequency and .01% of frequency marked on crystal.

Type 208-TH—Power drive Supplied with smaller mounting	$10.00
Type 209-TH for octal socket	$4.00

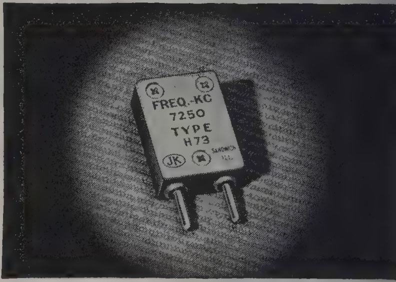
Prices subject to change without notice,
F. O. B. Kansas City, Missouri

FREQ
14174.205
THIRD
HARMONIC
CRYSTAL
Crystal
PRODUCTS COMPANY
K.C., MO.

JK "Stabilized" CRYSTALS



H 2



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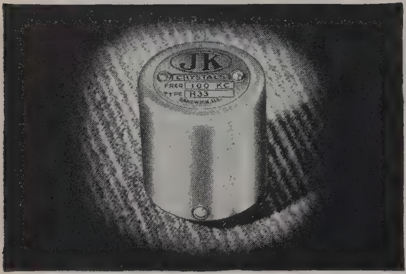

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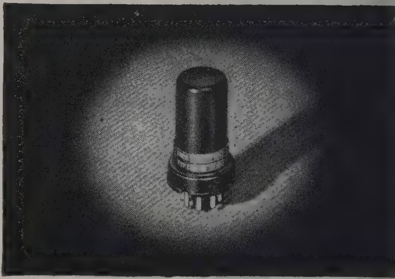

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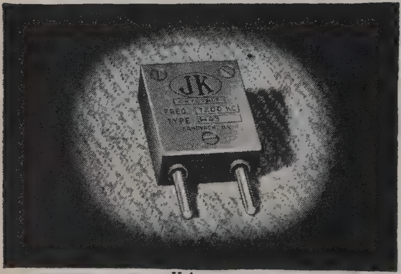

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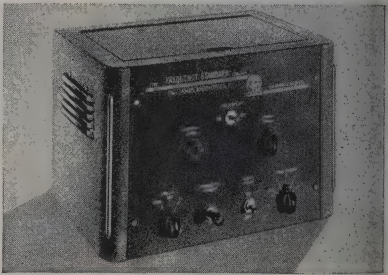


FS-344

"CRYSTALS FOR THE CRITICAL"

BLANKS

•

HOLDERS

•

CRYSTALS MADE ON SPECIAL ORDER FOR ALL USES

•

SUPERSONICS

COMMERCIAL AND INDUSTRIAL SERIES

TYPE	FREQUENCY	PRICE
H3	100 kc to 150 kc	$10.95
IF6	220 kc to 3500 kc	3.95
T9	65 kc to 20000 kc	15.95
H14	150 kc to 20000 kc	14.95

TYPE	FREQUENCY	PRICE
H2	200 kc to 20000 kc	$14.95
H4	150 kc to 20000 kc	14.95
H15	To specifications	On request
H6	100 kc to 8000 kc	24.95

AMATEUR SERIES

All Amateur Bands Below 18500 kc
(Plus or Minus 10 kc)

TYPE	AMATEUR NET
H23	$2.80
H43	2.80
H73	2.80

The JK process known as "Stabilizing" absolutely prevents frequency shifts due to aging in service or on the shelf. "Stabilized" crystals are your assurance of better and longer crystal performance.

Exact Frequencies .01%

TYPE	FREQUENCY	AMATEUR NET
H33	100 kc	$ 7.50
T93	100 kc	11.95
T93	1000 kc	7.50
IF63	455 kc	3.95
H23	40 and 80 meter bands	4.80
H43	40 and 80 meter bands	4.80
H73	40 and 80 meter bands	4.80

Type FS-344 Frequency Standard . . . Price $79.50

All Prices subject to change without notice.

THE JAMES KNIGHTS COMPANY, Sandwich, Illinois

PETERSEN RADIO COMPANY

PR CRYSTALS SINCE 1934

2800 WEST BROADWAY—TELEPHONE 2760
COUNCIL BLUFFS, IOWA

CRYSTALS FOR
mateur 40 and 80 Meter Band
Type Z-2

Iighly active low temperature coefficient units for 0 and 80. Low temperature coefficient, drift less than cycles per MC. per °C. Calibration accurate to within 01% of stated frequency. Holder is small and compact, ts octal tube socket. Exact frequency (integral K.C. nly) in amateur bands furnished at no extra cost.

YPE Z-2 .... Net $2.65

Amateur 20 Meter Band
Type Z-3

ow temperature coefficient. High ctivity 20 Meter Crystal Unit. emperature coefficient less than cycles per MC. per °C. Oscillates on third Harmonic. Calibation accurate to within .01% of tated frequency. Exact frequency integral K.C. only) in amateur 0 Meter band supplied at no xtra cost.

ype Z-3 .... Net $3.50

10 Meter Amateur Band
Type Z-5

he first 10 meter low temperature coefficient crystal or the Amateur. Less than 2 cycles per MC. per °C. peration guaranteed only when used in circuit furished with each crystal, when so used, guaranteed gainst fracture. Calibration accurate to within .01%, ts octal tube socket.

YPE Z-5 .... Net $5.00

456 and 465 k.c.
Type Z-7

Excellent for the serviceman for aligning the I. F. in receivers, etc. Low temperature coefficient silver plated unit. Calibration accurate to within ± 1 K.C. Holder fits ordinary 5 prong tube socket.

TYPE Z-7 ...... Net $5.00

Aircraft—Marine Police
Type Z-1

A precision low temperature coefficient unit that meets F.C.C. requirements for above services. Temperature coefficient less than 2 cycles per MC. per °C. Small, compact and rugged. ½" pin spacing fits octal tube socket. Two units may be plugged into same socket simultaneously. Calibrated to specified frequency within ± .005%. Frequency range 1000 K.C. to 10.5 MC.

TYPE Z-1 .... Net $10.00

TYPE Z-1A same specifications at type Z-1 except larger holder and ¾" pin spacing will fit 5 prong tube socket.

TYPE Z-1A .... Net $10.00

SPECIAL AIRCRAFT—3105 and 6210 Kcs. The Type Z-1 units are available in the above frequencies.
Net $5.00

Frequency Standard
Type Z-6

100 K.C. precision unit for Frequency Standard. Temperature coefficient less than 2 cycles per MC. per °C. Temperature control not required for ordinary use.

TYPE Z-6—100 K.C. .... **Net $7.50**

CHECK SUPERIORITY OF PR CRYSTALS

STABILITY—Drift characteristics of PR Crystals limited to less than 2 cycles per MC per degree. You get low drift combined with high output, dependable frequency control. X-Ray orientation guarantees uniform cut for maximum low-drift performance.

ACCURACY—Guaranteed accurate within .01 per cent of specified frequency or better. You KNOW where you are with PRs.

POWER OUTPUT—PRs are designed to give maximum power output from the exciter stage.

ACTIVITY—PRs give you high activity. They "come in" instantly, key without chirps. No excessive "backing off" necessary.

UNCONDITIONAL GUARANTEE—Every PR Precision CRYSTAL is guaranteed unconditionally by the makers of fine crystals since 1934.

PREMIER CRYSTALS
TYPE 185
TYPES 180CW, 180GW, 180PW
TYPE 185P
TYPES PL238—CC, CD, DD
Dual Crystal Unit
TYPES 501C, 501G
TYPES 501CT, 501GT
TYPES 247—D, E, F & G

PREMIER CRYSTALS are painstakingly engineered to assure optimum performance. Rigid inspection at every step of our manufacturing process, from the grading of the raw mother quartz to the shipping of the finished unit, enables us to maintain quality production.

PREMIER CRYSTAL LABORATORIES, INC.

MANUFACTURERS OF RADIO AND ELECTRICAL APPARATUS
OPTICAL AND PIEZO CRYSTALS—PRECISION CRYSTAL HOLDERS
58 PARK ROW (PULITZER BLDG.) NEW YORK 7, N. Y.

PREMIER CRYSTALS

TYPE PL7
TYPES PL218—A, B, C, D & E
TYPE PL11
TYPES 180C, 180G, 180P
TYPES 180CF, 180GF, 180PF
TYPES 80C, 80G
TYPES 150C, 150G
TYPES PL211—A, B, C, D & E

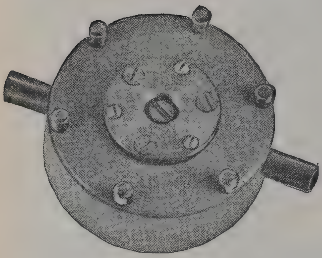
Fifteen years' extensive laboratory research and specialized production experience are behind every PREMIER CRYSTAL unit manufactured today. All types of crystal units from 1 kc to 30 mc are available.

PREMIER CRYSTAL LABORATORIES, INC.

MANUFACTURERS OF RADIO AND ELECTRICAL APPARATUS
OPTICAL AND PIEZO CRYSTALS PRECISION CRYSTAL HOLDERS
58 PARK ROW (PULITZER BLDG.) NEW YORK 7, N. Y.

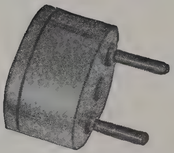
RSMC *Crystals*

COVERING FREQUENCIES FROM 90 KC TO 35,000 KC FOR *Every* PURPOSE...



Type 1076

For 14 years RSMC crystals have been filling the industry's requir
ments for quartz crystals ground to the most rigid standards. Eac
crystal blank is from the highest grade Brazilian quartz and is car
fully checked by X-ray diffraction methods during orientation. A
crystals may be supplied with a temperature coefficient, better tha
2 cycles per megacycle per degree centigrade, and normal curre
carrying capacity. Tolerance to .01% can be met over any reasonabl
temperature range. Crystals are processed to prevent ageing, an
holders are hermetically sealed. Electrodes are made from highe
grade stainless steel. All crystals *unconditionally guaranteed.*



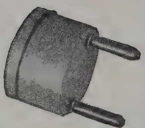
Type 1079
& 1080

BROADCAST AND FREQUENCY STANDARD

Type 1076 approved by FCC for use in broadcast transmitters an
frequency standards. Air gap is adjustable. Crystal ground to spec
fied frequency. Frequencies: 90 kc to 6000 kc.

MARINE CRYSTALS

This type crystal is available in type 1041 holders on any marin
frequency. It may be supplied in type 1059 with banana pins o
special order. Low drift with .02% tolerance.



Type 1044

AMATEUR CRYSTALS

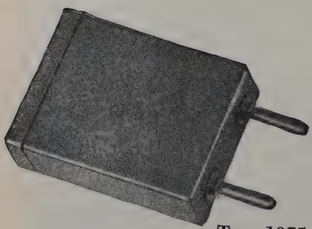
Available in type 1071 holders for any amateur frequency. Toleranc
within 1 kc. of specified frequency. Fundamental crystals are furnishe
to 20,000 kc. and third harmonic crystals from 20,000 kc. to 35,000 k

Price:	to 10 mc.	$2.6
	to 20 mc.	3.5
	to 35 mc.	4.7

AIRCRAFT CRYSTALS

Supplied in type 1071 holders for any aviation frequency. Toleranc
.02%. Fundamental crystals furnished to 20,000 kc. and third harmoni
crystals higher to 35,000 kc., simplifying design of new VHF equip
ment. CAA type certified crystals (CAATC No. 1015) furnished i
type 1058-1-1 and 1058-1-2 holders (CAATC No. 1017) are available o
request. Tolerance meets CAA specifications of .015%.

PRICES ON REQUEST



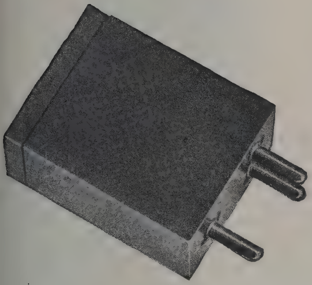
Type 1075
& 1077

RADIO SPECIALTY MANUFACTURING CO.

2023 S.E. SIXTH AVENUE PORTLAND 14, OREGON

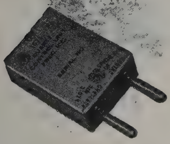
RSMC *Crystals*

MEET HIGHEST PERFORMANCE STANDARDS



Type 1058-1-1
1058-1-2
& 1061

Type 1041



Type 1071
& 1072

Type 1059
& 1078

Type 1040

MOBILE AND POLICE CRYSTALS

This type crystal is supplied in type 1041, 1071 and 1072 holders. Tolerance .02% on any frequency from 1000 kc. to 35,000 kc. (Third harmonic type beyond 20,000 kc.)

GENERAL COMMERCIAL CRYSTALS

Available in type 1041, 1071, 1072, 1044, 1059, 1078, 1079 and 1080 holders. By special order they can be supplied in type 1075 and 1077 holders. May be ground to any tolerance required if type of oscillator circuit and constants are supplied with order. For frequency coverage see holder specification table.

CRYSTAL SOCKET ADAPTOR

Adapts new, small type 1071 and 1072 holders (FT-243) to ¾″ crystal sockets. Saves re-wiring and re-vamping when new type holders are used in old equipment.

PRICES ON REQUEST

CRYSTAL HOLDER SPECIFICATIONS

Type No.	Frequency Range	Pin Spacing	Pin Diameter	Width or Diam.	Body Height	Thick-ness
1040	Adaptor only................	.486″ female .750″ male	.125″	1⅛″	⅜″	⅜″
1041	2000 kc. to 6000 kc...........	.750″	.125″	1 13/64″	1 27/64″	9/16″
1044	3000 kc. to 11,000 kc.........	.750″	.125″	1″	11/16″	....
1058-1-1*	1 or 2 frequencies, 1718 kc. to 5940 kc................	3 pin W.E.	.157″	1 19/32″	2 5/32″	1 3/16″
1058-1-2*	1 or 2 frequencies, 1452 kc. to 3873 kc................	3 pin W.E.	.157″	1 19/32″	2 5/32″	1 3/16″
1059	2000 kc. to 6000 kc...........	.750″	.125″ plain .170″ banana	1 9/16″	1 25/32″	11/16″
1061	1 or 2 frequencies, 90 kc. to 2000 kc..................	3 pin W.E.	.157″	1 19/32″	2 5/32″	1 3/16″
1071	3000 kc. to 35,000 kc.........	.486″	.093″	13/16″	1 13/64″	7/16″
1072	1000 kc. to 3500 kc...........	.486″	.093″	13/16″	1 13/64″	7/16″
1075	90 kc. to 2000 kc.............	.850″	.125″ plain .170″ banana	1 19/32″	2 9/32″	¾″
1076	90 kc. to 6000 kc.............	side caps	....	2¼″	....	1 3/16″
1077	2000 kc. to 6000 kc...........	.850″	.125″ plain .170″ banana	1 19/32″	2 9/32″	¾″
1078	110 kc. to 2000 kc............	.750″	.125″ plain .170″ banana	1 9/16″	1 25/32″	11/16″
1079	2000 kc. to 6000 kc...........	.750″	.125″	1⅜″	⅞″	....
1080	400 kc. to 2000 kc	.750″	.125″	1⅜″	⅞″	....

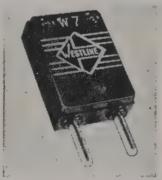
* CAA type certified quartz control units.

RADIO SPECIALTY MANUFACTURING CO.

2023 S.E. SIXTH AVENUE **PORTLAND 14, OREGON**

WESTLINE

QUARTZ CRYSTALS



TYPE W7: Range 7.0 to 7.4 MC.
A highly active oscillator. Made for maximum performance in the 40 and 20 meter and higher frequency bands. Expertly designed and constructed . . . molded phenolic holder . . . stainless steel electrodes . . . copper contact plates . . . this unit offers the ultimate in precision and long life. We guarantee this crystal to maintain constant calibrated frequency. Drift is less than I cycle/MC/°F. Westline specially processed Units offer you this precision. Plugs into either octal or 5 prong socket, or 2 units can be plugged octal or 5 prong socket. Size of holder, 1⅛" x 13/16" x 7/16". Pin size 3/32": Pin spacing .483": Unit comes accurately marked to calibrated frequency.

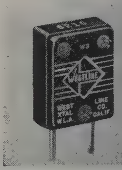
Type W7: 7.0 to 7.4 MC: Supplied within 1 KC of desired frequency $3.50
From Dealer's Stock........$2.80

TYPE W6: Range 6.0 to 6.75 MC.
Another example of WESTLINE precision. These crystals will maintain constant calibrated frequency. Drift due to temperature change is less than I cycle/MC/°F. 8th harmonic falls into 50 to 54 MC band; 24th harmonic falls into 144-148 MC band; 36th harmonic falls into 220-225 MC band. Fine materials and expert craftsmanship gives you the finest unit that money can buy at competitive prices. Frequency accurately marked on holder. Plugs into either octal or 5 prong sockets. Size of holder, 1⅛" x 3/16" x 7/16": Pin size 3/32": Pin spacing .483": Two units will plug into one octal socket.

Type W6: Supplied within 1 KC of requested frequency $3.50
From Dealer's Stock.........$2.80

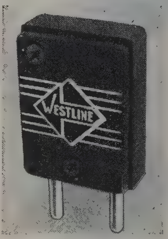
ONE YEAR REPLACEMENT GUARANTEE

Each WESTLINE unit is rigidly tested in our laboratory and is guaranteed for a period of one year against faulty construction.



TYPE W3: Range 3.5 to 4.0 MC.
Brazilian Quartz Crystal expertly processed by master craftsmen . . . mounted in molded phenolic holder. Stainless steel electrodes, nickel plated brass contact pins, copper contact plates, stainless steel spring, neoprene gasket. These are the reasons why WESTLINE UNITS maintain proper frequency. (Average frequency drift is less than I cycle/MC/°F.) That's why you get BETTER performance. Plugs into either octal or 5 prong socket. Two units will plug into one octal socket. Frequency accurately marked on holder. Size of holder, 1⅛" x 13/16" x 7/16": Pin size 3/32": Pin spacing .483"

Type W3: Supplied within 1 KC of frequency requested $3.50
From Dealer's Stock..........$2.80



TYPE WH14: Range 14.0 to 14.8 MC.
Three new units, especially designed and engineered by WESTLINE to operate in any circuit with plate tuned to the 3rd harmonic. Type WH14 oscillates in 14 MC band when used in oscillator with plate circuit tuned to 14 MC. Highly active, these units will give you top performance . . . at a price designed to fit your pocketbook. Supplied within 5 KC of requested frequency. Size of holder, 1¼" x 15/16" x 7/16": Pin size 3/32": Pin spacing .483": Plugs into either octal or 5 prong socket. Two units will plug into one octal socket.

Type WH14: 14.0 to 14.8 MC. Price $3.50

TYPE WH21: Range 21.0 to 21.5 MC. Oscillates in 21 MC band when used in oscillator with plate circuit tuned to 21 MC. Price.............$3.50

TYPE WH28: Range 28.0 to29.7MC. Oscillates in 30 MC band when used in oscillator with plate circuit tuned to 30 MC. Price.............$3.50

WESTLINE

QUARTZ CRYSTALS

WC-34

1500-18000 kc

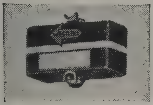
A very stable-high activity-moisture proof unit for all types of equipment. ¾" blank mounted in stainless steel electrodes. Will stand severe abuse. Holder size is 1.375 x 1.375 x .500, pins fit 5 prong socket.

TYPE WC-34

Stock frequency $7.50

Other $9.50

WF-4



400-500 kc

For use in filter circuits of communications receivers. Supplied within ± 2 kc. Low capacity holder. Overall dimensions are .531 x .937 x .430 with solder lug attachments.

TYPE WF-4 ....$3.75

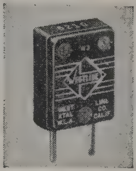
ONE YEAR REPLACEMENT GUARANTEE

Each WESTLINE unit is rigidly tested in our laboratory and is guaranteed for a period of one year against faulty construction.

To obtain our Amateur or Commercial catalog write:

WESTLINE CRYSTAL CO.
10860 Santa Monica Blvd.
Los Angeles 25, Calif.

WC-3



1500-18000 kc

Small size, commercial type, general purpose holder. Stainless steel electrodes. Recommended where space is limited in low power oscillators. Accommodates a ½" x ½" quartz plate.

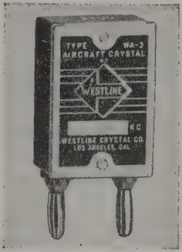
Dimensions of holder are 1.125 x .812 x .437. Standard octal socket accommodates this unit.

TYPE WC-3

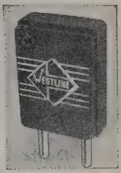
Stock frequency $6.00

Other $7.50

WA-3



W-3A



AIRCRAFT FREQUENCIES ONLY

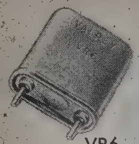
3105-6210 kc.

Stainless steel electrodes, sealed against moisture for use on airborne equipment; AT cut, drift, less than 2c/mc/oC within temperature range 0°C — 50°C. Freq. Tol. .02%. Size of WA-3 holder is 1.6 x 1.125 x .656 plugs in octal socket. Size of W-3A is 1.125 x .812 x .437 plugs in octal socket.

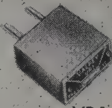
TYPE WA-3 ....$7.50

TYPE W-3A $5.50

INVARIABLY IT'S VALPEY


VR6

VS1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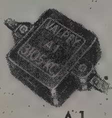
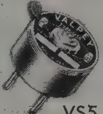
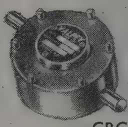
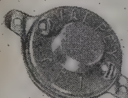
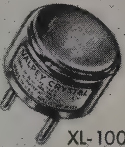

A1

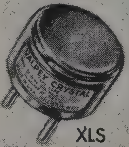

VS5


CBC

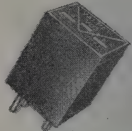
VT1


CF1

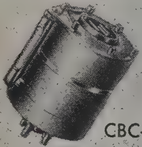

XL-100


XLS

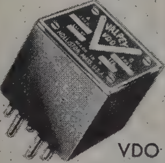
VM2

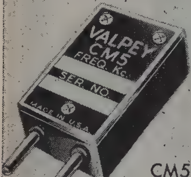

VD5

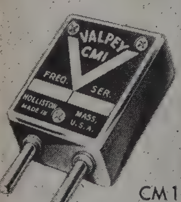
VD8


CBC-O

VP3


VDO


CM5

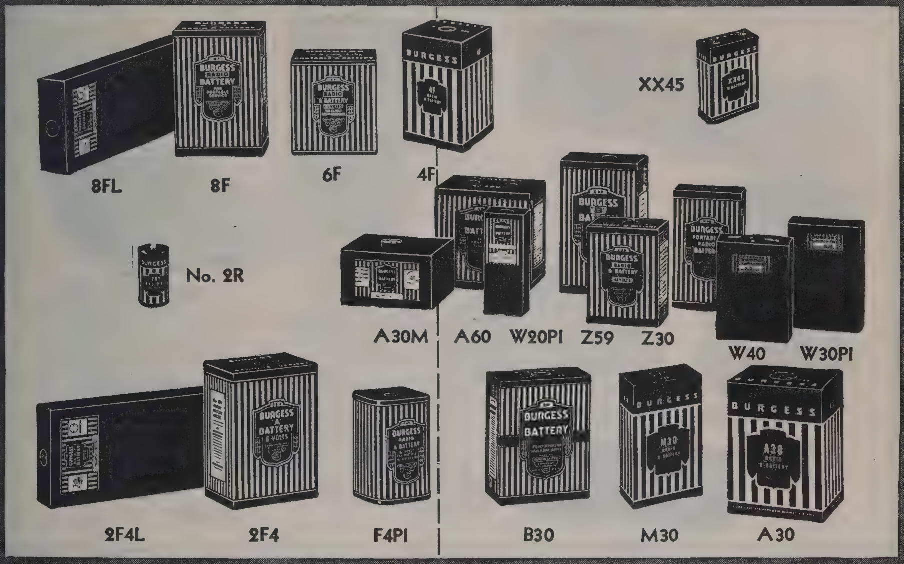

CM1

TYPE	FREQUENCY RANGE	PINS	BODY SIZE L W H	DESCRIPTION	USE
CBC-O	60-10000KC	Standard 5-Pin Mount	2¼″ d x 2¾′	6, 8, 10 Volt Oven Variable Air Gap ±½°C. Accuracy	Broadcast, Fixed Stations and Freq. Standards.
CBC	60-10000KC	Special	2¼″ d x 1³⁄₁₆″	Micrometer Adjust. Variable Air Gap	Broadcast, Fixed Stations and Freq. Standards.
VDO	1000-10000KC	Standard 5-Pin Mount	1⅜″ x 1⅛″ x 1³⁄₁₆″	Single or Dual 6 Volt Oven Gasket Sealed ±½°C. Accuracy	Fixed and Mobile for Transceiver Equipment. Railroad Communications.
VS5	1000-4000KC	.125 Dia. Pins ¾″ Spacing	1 ¾″ d x 1³⁄₃₂″	Variable Air Gap Horizontal Mount	Police and Fixed Stations.
VS1	1000-4000KC	.125 Dia. Pins ¾″ Spacing	1 ¾″ d x ¾″	Fixed Air Gap Pressure Clamped Horizontal Mount	Police and Fixed Stations.
VD5	1000-6000KC	Special 3-Pin Mount ⁵⁄₃₂″ Dia.	1¹⁹⁄₃₂″x 1³⁄₁₆″x 1 ⅞″	Single or Dual Crystals Gasket Sealed	Marine, Aircraft or Police.
VD8	1000-6000KC	Octal 1, 8-4, 5 Xtal A—Xtal B	1³⁄₁₆″x1 ⅛″x 1⁷⁄₁₆″	Single or Dual Crystals Gasket Sealed	Marine, Aircraft or Police.
XLS	80-1000KC	.125 Dia. Pins ¾″ Spacing	1 ¾″ d x ¹⁵⁄₁₆″	Clamped Crystal Mount. Hermetically Sealed	Radar and Fixed Stations in the Low Frequency Range.
XL-100	100KC	.125 Dia. Pins ¾″ Spacing	1⁹⁄₁₆″ d x 1″	Clamped Crystal Mount. Hermetically Sealed	Frequency Standards.
VT1	1000-10000KC	Octal 2, 3-7, 8	1 ¼″ d x 2″	Vacuum Sealed Metal Tube Type Unit	Frequency Meters, Standards and General Applications.
VM2	1000-4000KC	.125 Dia. Pins ¾″ Spacing	1²³⁄₆₄″ d x ²¹⁄₃₂″	Fixed Air Gap Horizontal Mount Gasket Sealed	Fixed and Mobile Applications.
VP3	2000-60000KC	.125 Dia. Pins ¾″ Spacing	1″ d x ¹⁹⁄₃₂″	Fixed Air Gap Horizontal Mount Gasket Sealed	Marine, Police, Amateur, Fixed and Mobile Stations.
CM1	1000-4000KC	.125 Dia. Pins and G.R. Pins ¾″, ⅝″, ⅞″, .850 Spacing	1¹¹⁄₆₄″ x ⁹⁄₁₆″ x 1⅜″	Gasket Sealed Fixed Air Gap Vertical Mount	Marine, Police, Aircraft and General Applications.
CM5	2000-60000KC	.094 Dia. Pins .486″ Spacing	1³⁄₁₆″ x ⁷⁄₁₆″ x 1⅛″	Gasket Sealed Fixed Air Gap Vertical Mount	Marine, Police, Amateur, Fixed and Mobile Stations.
A1	1000-4000KC	Solder Lugs	1⁷⁄₁₆″ x 1⅛″ x ¹⁵⁄₃₂″	Flat Compact Gasket Sealed	Aircraft
VR1	2000-10000KC	.125 Dia. Pins .486″ Spacing	1⅛″ x ⁷⁄₁₆″ x 1⅛″	Fixed Air Gap Vertical Mount Gasket Sealed	Marine, Police, Aircraft.
CF1	455, 456, 465 KC	Solder Lugs	¾″ d x ⁵⁄₁₆″	Small, Flat, Compact	Filter Applications.
VR6	4000-60000KC	.050 Dia. Pins .486″ Spacing	¹¹⁄₁₆″ x ⁵⁄₁₆″ x ¹³⁄₁₆″	Vacuum Sealed Metal Case	Mobile, Fixed Stations, VHF, Experimental.

For every crystal application, VALPEY invariably gives outstanding performance. Select *your* VALPEY unit from the above chart, or send your specific crystal requirements to VALPEY. In every field where accurate crystal control is the aim — invariably it's VALPEY.

Valpey
CRYSTALS
HOLLISTON, MASS.
Craftsmanship in Crystals Since 1931

BURGESS BATTERIES



PORTABLE "A"

No. 2R. 1½ volts. Size 2$\frac{5}{16}$"x1$\frac{5}{16}$". Standard package 12. **List price $ .10.**

No. 8FL. 1½ volts. Size, 3$\frac{29}{32}$" x 1$\frac{7}{16}$" x 10$\frac{11}{16}$". Standard package 6. **List price, $1.69.**

No. 4F. 1½ volts. Size, 4$\frac{1}{16}$" x 2⅝" x 2⅝". Standard package 12. **List price, $ .90.**

No. 6F. 1½ volt. Size, 4½" x 13$\frac{15}{16}$" x 2¾". Standard package 6. **List price, $1.25.**

No. 8F. 1½ volts. Size, 5$\frac{7}{16}$" x 3$\frac{13}{16}$" x 2⅝". Standard package 6. **List price, $1.60.**

No. 2F4. 6 volts. Size, 3⅞" x 2$\frac{11}{16}$" x 5½". Standard package 6. **List price, $1.70.**

No. 2F4L. 6 volts. Size, 3$\frac{29}{32}$" x 1$\frac{7}{16}$" x 10$\frac{11}{16}$". Standard package 6. **List price, $1.80.**

No. F4PI. 6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 12. **List price, $ .90.**

No. 2F. 1½ volts. Size, 2⅝" x 1⅜" x 4$\frac{3}{16}$". Standard package 6. **List price, $ .56.**

No. 4FL. 1½ volts. Size, 3⅞" x 1$\frac{5}{16}$" x 5½". Standard package 10. **List price, $ .73.**

No. FX. 1½ volts. Size, 1$\frac{5}{16}$" diameter x 4¾". Standard package 6. **List price, $ 31.**

No. F4L. 6 volts. Size, 3$\frac{15}{16}$" x 1⅜" x 5⅝". Standard package 6. **List price, $ .90.**

No. F4PIX. 6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 6. **List price, $1.03.**

No. G3. 4½ volts. Size, 4" x 1⅜" x 4$\frac{15}{16}$". Standard package 12. **List price, $ .66.**

No. G5. 7½ volts. Size, 3⅝" x 2$\frac{11}{16}$" x 4$\frac{5}{16}$". Standard package 6. **List price, $1.10.**

PORTABLE "B"

No. B30. 45 volts. Size, 2$\frac{9}{16}$"x4$\frac{1}{16}$"x5$\frac{5}{16}$". Standard package 12. **List price, $2.15.**

No. M30. 45 volts. Size, 5⅝"x3$\frac{9}{16}$"x1⅞". Standard package 12. **List price, $2.15.**

No. A30. 45 volts. Size, 3½"x2¼"x4½". Standard package 6. **List price, $2.15.**

No. XX45. 67½ volts, snap-on terminals. Size, 2$\frac{21}{32}$"x1$\frac{11}{32}$"x3$\frac{21}{32}$". Standard package 12. **List price. $2.45.**

No. XX30. 45 volts, snap-on terminals. Size, 2½"x$\frac{29}{32}$"x3$\frac{27}{32}$". Standard package 12. **List price, $1.75.**

No. K20. 30 volt midget "B". Size, 1¼"x⅞"x2$\frac{25}{32}$". Standard package 20. **List price, $1.50.**

No. A30M. 45 volts. Size, 4⅛" x 3½" x 2$\frac{11}{16}$". Standard package 6. **List price, $3.50.**

No. A60. 90 volts. Size, 4½" x 3¼" x 4⅜", Standard package 6. **List price, $4.35.**

No. Z59. 88½ volts. Size, 3½" x 2¼" x 5⅞". Standard package 6. **List price, $3.70.**

No. W40. 60 volts. Size, 3"x1¼"x5$\frac{3}{16}$". Standard package 6. **List price, $3.45.**

No. W34. 51 volts. Size, 3" x 1¼" x 4¼". Standard package 6. **List price, $3.18.**

No. W20PI. 30 volts. Size, 1$\frac{13}{16}$" x 1$\frac{3}{16}$" x 4¼". Standard package 6. **List price, $2.00.**

No. Z30. 45 volts. Size, 3$\frac{1}{16}$" x 2¼" x 4". Standard package 6. **List price, $2.58.**

No. W30PI. 45 volts. Size, 2$\frac{15}{16}$" x 1$\frac{3}{16}$" x 3$\frac{15}{16}$". Standard package 6. **List price, $2.05.**

THE COMPLETE REPLACEMENT LINE

BURGESS BATTERIES

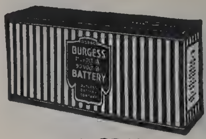
4GA42

18GD60

3G6D60

5DA60

6TA60


17GD60

G4B50

PORTABLE "A&B"

No.	Voltage	Size	List Price
6TA60	1½A, 90B	9 15/16x2¼x4⅞	$5.15
5DA60	1½A, 90B	5 9/16x2 11/16x6⅞	4.80
4TA60	1½A, 90B	8⅛x2⅜x4¾	5.25
3FA60	1½A, 90B	4 3/16x10½x2⅜	6.60
4FA60	1½A, 90B	7x3½x4⅜	5.05
6FA60	1½A, 90B	11 15/16x6¼x1⅝	4.80
4GA42	1½A, 63B	9x2x4¾	3.50
D4A60	6A, 90B	6 5/16x5½x2⅝	6.35
D5A60	7½A, 90B	9 9/16x4 3/16x2 11/16	5.05
F4A41	6A, 61½B	9 5/16x4⅞x2 1/16	4.10
F5A60	7½A, 90B	11 15/16x4⅛x2 11/16	3.65
F4B60	6A, 90B	10⅝x2¾x5	4.70
G4B50	6A, 75B	4⅛x12⅜x2 13/16	4.50
G4B60	6A, 90B	10¾x2 13/16x5	4.85
G6B60	9A, 90B	13⅞x4 11/16x2 13/16	5.35
2F4A60	6A, 90B	11 15/16x4⅛x2 11/16	5.60
2F4B60	6A, 90B	10 9/16x4⅛x4 1/16	6.55
4GA41	1½A, 61½B	9 3/16x3 5/16x2 11/16	3.90
G5A42	7½A, 63B	9 3/32x2¾x4 9/32	4.20
F5M45	7½A, 67½B	2⅝x9 5/32x4 7/16	4.20
F6A60	9A, 90B	2¾x9¼x4 7/16	4.80
G6M60	9A, 90B	3 7/32x10 5/32x4 3/16	5.35

FARM "A&B"

No. 17GD60. 1½ volt "A", 90 volt "B". Size, 15¾" x 4 7/16" x 7 1/16". Standard package 1. **List price, $7.50.**

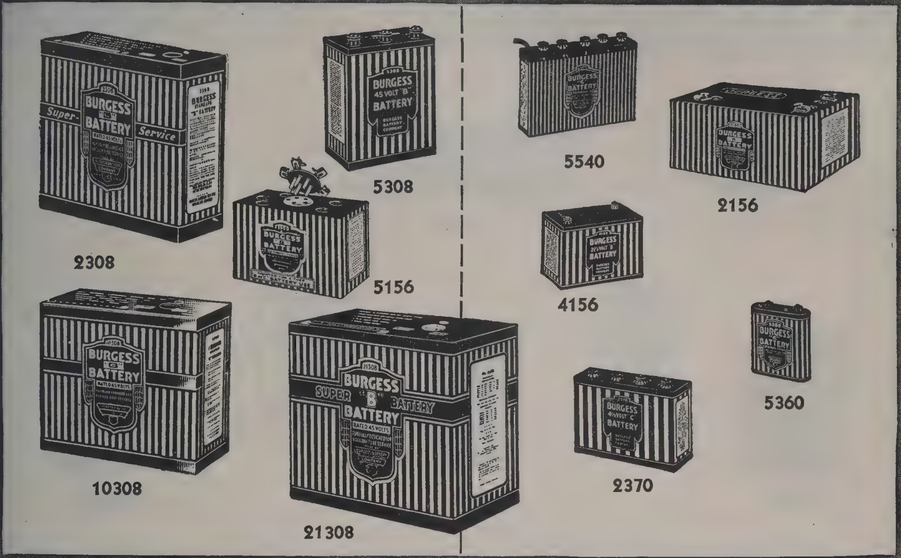
No. 18GD60. 1½ volt "A", 90 volt "B". Size, 5⅝" x 6 15/16" x 12½". Standard package 1. **List price, $7.50.**

No. 3G6D60. 9 volt "A", 90 volt "B". Size, 8⅛" x 13 15/16" x 4¼". Standard package 1. **List price, $7.50.**

No. 739. 7½ volt "A", 90 volt "B". Size, 8¾" x 15 15/16" x 4⅝". Standard package 1. **List price, $8.80.**

No. 398. 6 volt "A", 90 volt "B". Size, 8¾" x 15 15/16" x 4⅝". Standard package 1. **List price, $8.80.**

BURGESS BATTERIES



RADIO "B"

No. 2308. 45 volts. Size, 8" x 2⅞" x 7⅛". Standard package 6. **List price, $2.40.**

No. 10308. 45 volts. Size, 8" x 4" x 7½". Standard package 6. **List price, $2.93.**

No. 21308. 45 volts. Size, 8⅛" x 4½" x 7⅜". Standard package 6. **List price, $3.32.**

No. 5308. 45 volts. Size, 5⅞" x 4 3/16" x 2 9/16". Standard package 10. **List price, $2.15.**

No. 5156. 22½ volts. Size, 3⅝" x 4⅛" x 2 9/16". Standard package 10. **List price, $1.70.**

RADIO "B"&"C"

No. 5540. 7½ volts. Size, 3⅛" z 4" x ⅞". Standard package 10. **List price, $ .90.**

No. 2156. 22½ volts. Size, 3½" x 6⅝" x 4 1/16". Standard package 6. **List price, $1.63.**

No. 4156. 22½ volts. Size, 3" x 3⅜" x 2 9/16". Standard package 10. **List price, $1.30.**

No. 5360. 4½ volts. Size, 3" x 13/16" x 2⅝". Standard package 10. **List price, $ .43.**

No. 2370. 4½ volts. Size, 3⅝" x 4" x 1⅜". Standard package 10. **List price, $ .75.**

FARM RADIO "A"

19G

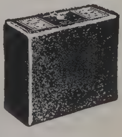
No. 19G. 1½ volts. Size, 7 3/16" x 5⅝" x 4 9/16". Standard package 6. **List price, $2.95.**

No. 12F3. 4½ volts. Size, 3¼"x 11½" x 6". Standard package 1. **List price, $4.55.**

No. 20F2. 3 volts. Size, 11 13/16" x 3 15/16" x 6 1/16". Standard package 1. **List price, $4.75.**

No. 20F. 1½ volts. Size, 7" x 7¾" x 2 11/16". Standard package 6. **List price, $2.95.**

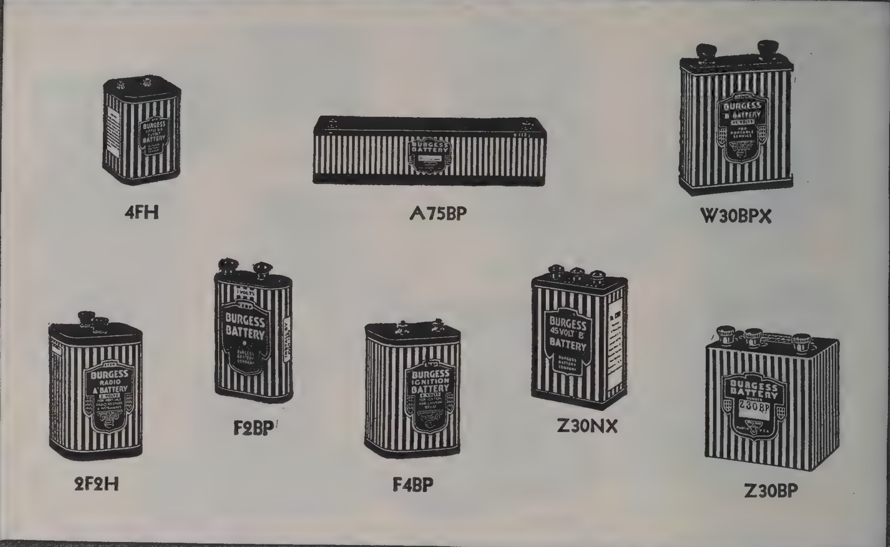
No. 22F2. 3 volts. Size, 15 7/16" x 2⅝" x 8½". Standard package 1. **List price, $7.15.**



20F

No. 40F2. 3 volts. Size, 11 9/16" x 6⅝" x 8 1/16". Standard package 1. **List price, $12.60.**

BURGESS BATTERIES



FOR INDUSTRIAL APPLICATIONS

"A" BATTERIES

No. 2F2H. 3 volts. Screw terminals with insulated junior knobs. Size, $2\frac{5}{8}'' \times 2\frac{5}{8}'' \times 4\frac{1}{16}''$. **List price, $ .90.**

No. F2BP. 3 volts. Screw terminals with insulated junior knobs. Size, $1\frac{3}{8}'' \times 2\frac{21}{32}'' \times 4\frac{1}{32}''$. **List price, $ .71.**

No. 2FBP. 1½ volts. Screw terminals with brass knurled nuts. Size, $1\frac{3}{8}'' \times 2\frac{21}{32}'' \times 4\frac{1}{32}''$. **List price, $ .71.**

No. F4BP. 6 volts. Screw terminals with brass knurled nuts. Size, $2\frac{21}{32}'' \times 2\frac{21}{32}'' \times 4''$. **List price, $ .70**

No. 4FH. 1½ volts. Screw terminals with brass knurled nuts. Size, $4'' \times 2\frac{5}{8}'' \times 2\frac{5}{8}''$. **List price, $ .49.**

"B" BATTERIES

No. W30BPX. 45 volts. Screw terminals. Size, $1\frac{1}{4}'' \times 2\frac{31}{32}'' \times 3\frac{21}{32}''$. **List price, $2.73.**

No. Z30NX. 45 volts. Screw terminals with insulated junior knobs. Size, $1\frac{7}{8}'' \times 3\frac{1}{32}'' \times 4\frac{19}{32}''$. **List price, $2.45.**

No. Z30BP. 45 volts. Screw terminals. Size, $2\frac{11}{32}'' \times 3\frac{11}{16}'' \times 3\frac{7}{16}''$. **List price, $3.00.**

No. A75BP. 112½ volts. Screw terminals with brass knurled nuts. Size, $3\frac{15}{32}'' \times 10\frac{9}{32}'' \times 2\frac{9}{16}''$. **List price, $6.18.**

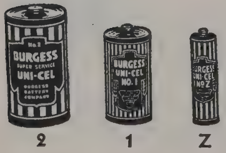
"C" BATTERIES

No. W5BP. 7½ volts. Screw terminals with knurled nuts. Size, $\frac{23}{32}'' \times 2\frac{31}{32}'' \times 1\frac{3}{8}''$. **List price, $1.03**

No. B2BP. 3 volts. Screw terminals with brass knurled nuts. Size, $\frac{13}{16}'' \times 1\frac{5}{8}'' \times 2\frac{11}{16}''$. **List price, $ .65.**

No. A8BP. 12 volts. Screw terminals with brass knurled nuts. Size, $2\frac{25}{32}'' \times 1\frac{13}{16}'' \times 2\frac{15}{32}''$. **List price, $1.85.**

FLASHLIGHT BATTERIES



No. 2. 1½ volts. Standard tubular cell. Size, $2\frac{5}{16}'' \times 1\frac{5}{16}''$. Standard package 48. **List price, $ .10.**

No. 1. 1½ volts. Baby tubular cell. Size, $1\frac{7}{8}'' \times 1''$. Standard package 12. **List price, $ .10.**

No. Z. 1½ volts. Pen-Light Uni-Cel. Size, $1\frac{7}{8}'' \times \frac{9}{16}''$. Standard package 12. **List price, $ .075.**

THE COMPLETE REPLACEMENT LINE

RCA Preferred Type Renewal Products

RADIO BATTERIES

October 18, 1946

RCA TYPE NO.	VOLTAGE	INTERCHANGEABLE WITH		STD. PKG. QTY.	STD. PKG. WEIGHT	LIST PRICE EACH
		EVEREADY	BURGESS			
PORTABLE "A" BATTERIES						
VS001	1½	950	#2	300	67	$0.10
VS002	4½	746	G3	6	6¾	.75
VS004	1½	742	4F	6	8	.90
VS007	1½	743	6F	4	8	1.25
VS008	1½	745	8FL	6	16	1.70
VS009	6	......	F4P1	6	8½	.95
VS0011	6	747	2F4L	6	16	1.80
PORTABLE "B" BATTERIES						
VS012	45	762	B30	6	16	$2.15
VS013	45	482	M30	6	13	2.15
VS014	45	......	A30	6	10¼	2.30
VS016	67½	467	XX45	12	9½	2.45
PORTABLE "AB" BATTERY PACKS						
*VS018	7½-9 90	754	G6M60	6	44	$5.45
*VS019	7½-9 90	......	F6A60	6	35	5.25
FARM "AB" BATTERY PACKS						
VS022	1½ 90	748	17GD60	1	21¼ East P.C.	$7.50 7.80
*VS023	1½-90	748M	....	1	21¼ East P.C.	7.80 8.10
FARM "A" BATTERIES						
VS024	1½	740	20F	6	43¼ East P.C.	$3.30 3.30
VS025	3	X125	20F2	1	14¼ East P.C.	4.90 5.15
FARM "B & B-C & C" BATTERIES						
VS026	45	485	2308	6	46 East P.C.	$2.30 2.45
VS027	45	386	10308	4	45½ East P.C.	2.50 2.50
*VS030	4½	X771	2370PI	10	7¼	.75
*VS031	22½	768	5156PI	6	8	1.70
FLASHLIGHT BATTERIES						
*VS001	1½	950	#2	300	67	$0.10
*VS033 (Baby)	1½	935	#1	60	6	.10
*VS034 (Penlight)	1½	915	Z	120	4½	.075
INDUSTRIAL & SPECIAL BATTERIES						
*VS006IS	1½	6	... .	25 or 12	58 or East 28 P.C.	$0.49 .55
*VS040 (Lantern)	6	409	F4H	25	33	.70

*New Types Just Announced.

RCA
RADIO B BATTERY
No. VS 014 45 VOLTS

RCA
Preferred Type
RADIO AB BATTERY

RCA
FLASHLIGHT BATTERY
Corporation of America

be sure with

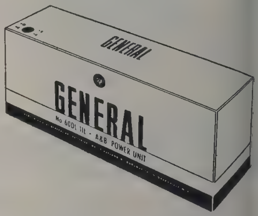
DURO POWR
GB
PATENTED

GENERAL

DRY BATTERIES

General dry batteries contain many outstanding advancements such as extra heavy seamless extruded zinc cups, the famous paper thin separator permitting more mix and more active zinc area by utilization of the cell bottom. The curled rim lock seal which seals each cell individually. These features assure long shelf life as well as the maximum in dry battery performance.

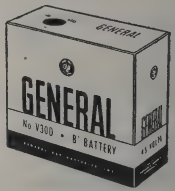
GENERAL A & B RADIO FARM PACKS

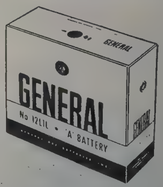

GENERAL
GENERAL
No 60DL11L · A&B POWER UNIT

General A-B packs are made with L size cells in the A section. These cells are 40% longer than the largest conventional 1¼″ diameter cell. This construction assures the perfect balance between these "A" and "B" sections for current drains established by the Radio Industry.

Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
60DL11L	A 1½, B 90	Std. Socket	1	25¼	16	4⅜	6⅝	$7.50
Z60D12L	A 1½, B 90	Sp. Octal Socket	1	23¾	12	5½	6¹¹⁄₁₆	7.50
60D12L6	A 9, B 90	Std. Octal Socket	1	23¾	7¹⁵⁄₁₆	4⅛	13⅝	7.50
60B6L	A 1½, B 90	Std. Socket	4	39	10¹¹⁄₁₆	2⅝	6¼	5.35
90FL6D	135, B 9C	Spec. 7 Pt. Socket	1	42	8	8¾	11⅛	10.50

GENERAL ABC HOME RADIO BATTERIES

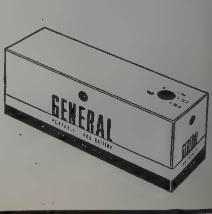




All cells used in General batteries are filled with active mix by loading equipment developed by General which automatically puts the right amount of mix into each cell and packs it uniformly. General home radio batteries are accepted for their uniformity, dependability and long service.

Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
12L1L	1½	Std. Socket	4	34¼	7¾	2¾	6⅝	$2.95
12L1S	1½	Std. Socket	4	34¼	5⅛	3¹³⁄₁₆	6¾	2.95
P24L2	3	Std. Socket	1	17	10⅜	4	6¾	4.73
5H5	7½	Std. Socket	4	8.6	3⁹⁄₁₆	2¹¹⁄₁₆	4⅜	1.25
V30D	45	Std. Socket	6	45	7⅞	3¹⁄₁₆	7	2.40
V30DL	45	Std. Socket	6	51	7⅞	3¹⁄₁₆	7	2.50
V30F	45	Std. Socket	6	68	7⅞	4³⁄₁₆	7	2.93
V30FL	45	Std. Socket	3	39¼	7⅞	4½	7	3.32
H3D	4½	Std. Socket	10	7½	3¹⁵⁄₁₆	1⁵⁄₁₆	2¹⁵⁄₁₆	.75
H3B	4½	8-32 Screws	10	3	2⁷⁄₁₆	¹³⁄₁₆	3	.45
V5B	7½	5 Screws 1 wire	10	6.3	4¹⁄₁₆	⅞	3³⁄₁₆	.90
H15B5	22½	Std. Socket	10	15.4	4⅛	2½	2⅞	1.70
H15B	22½	Fahnestock Type	10	15.4	4⅛	2½	3⅛	1.70
H15A	22½	2-Screw	10	10	3⁷⁄₁₆	2	2¹¹⁄₁₆	1.30

GENERAL PORTABLE A&B PACKS AND A&B BATTERIES



The small size cells used in portable batteries greatly reflect the benefits derived from General's patented construction. General Batteries deliver more service hours per dollar, therefore you will find them used as original equipment in more battery radios than any other brand.

Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
40CW2CF	A 1½, B 60	Midget Std. Socket	6	8.7	7⅞	2⁹⁄₁₆	1¼	$3.00
41A4FL	A 1½, B 61½	Midget Std. Socket	6	25½	9⅜	2	4¾	3.50
60A2L	A 1½, B 90	Large Std. Socket	1	4¾	5⁷⁄₁₆	2⅝	6¹⁵⁄₁₆	5.00
60A4L	A 1½, B 90	Midget Std. Socket	6	38½	12	1½	6⅜	5.00

eneral Portable A & B Packs and A & B Batteries (Cont.)

GENERAL
GENERAL
GENERAL

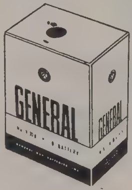
Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
0A4F4	A 6, B 90	4 Hole Socket	6	33½	8 15/16	2½	4 5/16	$5.00
0A6F6-5	A 7½, 9, B 90	Std. Octal Socket	1	6	9½	2 9/16	4 5/16	5.00
0B6F6-5	A 7½, 9, B 90	Std. Octal Socket	1	7½	11⅛	3 5/16	4⅛	5.35
50B4F4	A 6, B 75	Spec. 4 Prong Plug	1	7	12½	2⅝	4¼	4.50
60B6F6	A 9, B 90	4 Prong Plug	1	8.9	12 7/16	2 11/16	4 9/16	5.35

GENERAL PORTABLE A BATTERIES

GENERAL
GENERAL

Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
F1	1½	Std. Socket	6	9.1	2 9/16	2 9/16	3 11/16	$0.90
F1	1½	Std. Socket	6	13.2	3 13/16	2 9/16	4	1.25
F1	1½	Std. Socket	6	17.4	3 11/16	2 9/16	5 3/16	1.60
L1	1½	Std. Socket	6	11.4	3⅞	1 5/16	6 5/16	.75
L1	1½	Std. Socket	6	15	2 9/16	2 9/16	6⅜	.85
H3	4½	Std. Socket	6	8	3⅞	1⅜	4 11/16	.75
F4	6	Std. Socket	6	9	2 9/16	2 9/16	4⅛	.90
F4	6	Std. Socket	6	17.4	3 11/16	2 9/16	5 3/16	1.70

GENERAL PORTABLE B BATTERIES



Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
30A	45	Comb. Std. Socket	6	11.4	3 7/16	2 3/16	4⅜	$2.00
30A	45	Comb. Std. Socket	6	11.3	4 5/16	1 7/16	5 9/16	2.00
30B	45	Comb. Std. Socket	6	17.1	4⅛	2 7/16	5 1/16	2.00
30AA	45	Comb. Std. Socket	6	9	2 15/16	2¼	4	2.58
30AA2	45	3 Screw	6	9	3	1⅞	4½	2.58

GENERAL FLASHLIGHT CELLS AND LANTERN BATTERIES

General Flashlight and Lantern batteries are designed to give brighter ght and recuperate rapidly while idle, The Heavy Duty cells are made for oderate home use. The Industrial is to be used where light is needed equently and for long periods.

GENERAL
FLASHLITE CELL

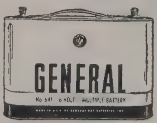
GENERAL
LANTERN BATTERY

Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
	1½	Flashlite Cell*	72	8	1 diam.		1⅞	$0.10
	1½	Flashlite Cell	250	59½	1 5/16		2⅜	.10
Industrial	1½	Flashlite Cell	250	59½	1 5/16		2⅜	.10
A	1½	Penlite	180	8	17/32		1 15/16	.07½
4F	6	Spiral Springs	10	15.8	2⅝	2⅝	4 3/16	.70
FB	6	Spiral Springs	10	15.5	2⅝	1 5/16	8	.70

ENERAL IGNITION BATTERIES, MULTIPLE AND ELECTRIC FENCE

All General batteries are designed to use the most efficient cells available. The 4L1 Hywatt is far superior in service and shelf life to any other attery of comparable size because it consists of four L cells, the service eing about double that secured from the conventional No. 6 dry cell. hese same L cells are used in the Electric Fence and Multiple batteries and roduce most satisfactory performance. GENERAL Electric Fence batteries ave no equal.

GENERAL
No 6 · DRY CELL



Type	Voltage	Terminals	Std. Pkge.	Pounds Weight	Length	Width	Height	Price
o. 6	1½	8-32 Screw	25	61	2 9/16 diam.		6 7/16	$0.49
41	6	Insulated Screw	6	54.5	10⅜	2 11/16	7⅜	2.43
L1	1½	8-32 Screw	25	62½	2 9/16	2 9/16	6⅜	.65
F1	1½	8-32 Screw	25	37	2 9/16	2 9/16	4¼	.49

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e manufacture all types of Hearing Aid and Model Airplane batteries. Write for particulars.

GENERAL DRY BATTERIES, INC.

MAIN OFFICES AND FACTORY · 13000 ATHENS AVE., CLEVELAND, OHIO
FACTORIES · DUBUQUE, IA. · GLOVERSVILLE, N. Y. · TORONTO, ONT.

BRANCH OFFICES & WAREHOUSES · NEW YORK, CHICAGO, DALLAS, SAN FRANCISCO,
LOS ANGELES, PORTLAND, MEMPHIS, MINNEAPOLIS

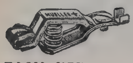
Mueller Electric Co.

CLEVELAND, OHIO

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,794,976; 1,965,151; 1,994,251; 1,999,613; 2,074,324; 2,136,814; 2,416,113.

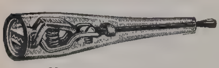
For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity. Screw connections



No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½″ long. Jaw spread ⅜″. Steel, cadmium plated.

EACH NET....................$0.06 LOTS OF 10....................$0.037



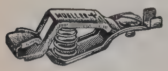
No. 45-C Clip
No. 47 Insulator

No. 45-C
Solid Copper R.F. Test Clip

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1½″ long.

EACH NET....................$0.08 LOTS OF 10......................$0.055

Use No. 47 Insulator for clips 45 and 45-C.



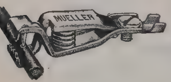
No. 48-B

A small test and battery clip for radio use and general testing purposes. 2″ long. Jaw spread ½″. Steel, cadmium plated.

EACH NET....$0.06 LOTS OF 10....$0.04

No. 48C—Solid Copper. Same size as 48-B.

EACH NET......................$0.10 LOTS OF 10......................$0.07

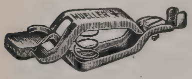


No. 82 Needle Clip

Needle pierces insulated wire. Ideal for quick hookup of truck trailer lighting systems, telephone and signal work. Steel, cadmium plated. 2″ long.

EACH NET $0.14
LOTS OF 10.......................................$0.10

Use No. 49 Insulator for Clips 48-B, 48-C and 82.



No. 27

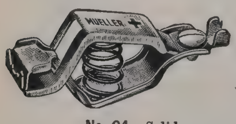
A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work $2\frac{7}{16}$″ long. Jaw spread ⅝″. Steel, cadmium plated.

EACH NET......................$0.10 LOTS OF 10......................$0.07

No. 27-C—Solid copper. Same size as No. 27.

EACH NET......................$0.17 LOTS OF 10......................$0.12

Use No. 29 Insulator for clips 27 and 27-C.



No. 24-A

A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞″ long. Jaw spread 1″. Steel, lead plated.

EACH NET $0.12
LOTS OF 10.................... .08

No. 24—Solid copper. Same size as No. 24-A.

EACH NET......................$0.20 LOTS OF 10......................$0.14

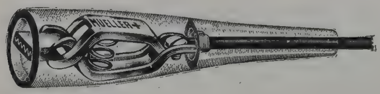
Use No. 26 Insulator for Clips 24-A and 24.

LARGER SIZES OF CLIPS

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4″ long	$0.17	$0.12
No. 21—100 Amp. Solid Copper, 4½″ long....	.50	.35
No. 11A—100 Amp. Steel, lead plated. 6″ long	.60	.42
No. 11—200 Amp. Solid copper. 6″ long..........	1.00	0.70
No. 33—300 Amp. Solid copper. 7¾″ long......	1.80	1.25

(Above furnished with lug connections.)

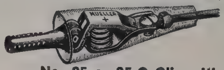
FLEXIBLE INSULATORS FOR CLIPS



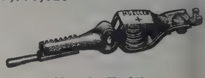
A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

CROCODILE CLIPS

U.S. Patent No. 1,999,613



No. 85 or 85-C Clip with
No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2⅛″ long.

EACH NET......................$0.07 LOTS OF 10....................$0.045

No. 85-C—Same as No. 85, except solid copper. A radio frequency, entirely non-ferrous test clip.

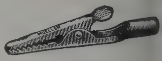
EACH NET......................$0.10 LOTS OF 10....................$0.07

No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2⅝″ long.

EACH NET......................$0.14 LOTS OF 10....................$0.095

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protects against short and shock. Helps to distinguish leads.

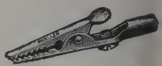
ALLIGATOR CLIPS



No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2″ long.

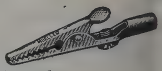
EACH NET......................$0.06 LOTS OF 10....................$0.04



No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.

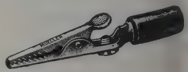
EACH NET $0.07 LOTS OF 10 $0.45



No. 60-CS—COPPER R.F. ALLIGATOR CLIP

Same as No. 60-S except made of solid copper. Has brass screw connection. Ideal for R.F. work. Will not heat up in H.F. circuits. Bright, natural copper finish. 2″ long.

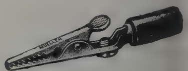
EACH NET....................$0.09 LOTS OF 10....................$0.06



No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2¼″ long.

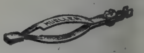
EACH NET....................$0.10 LOTS OF 10....................$0.07



No. 60-CHS—COPPER ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-CS except equipped with red and black insulating sleeves on end. Brass screw connection, for R.F. work. 2¼″ long.

EACH NET....................$0.13 LOTS OF 10....................$0.09



WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. **Ideal for close-wound coils.** $1\frac{11}{16}$″ long; jaw spread ¼″.

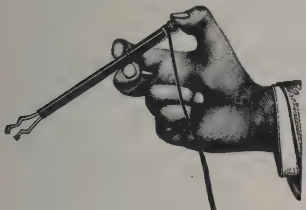
EACH NET....................$0.15 LOTS OF 10....................$0.10

Use No. 93-P R.F.Insulator.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11, 11-A	$0.52	$0.36
23	21, 21-A	.33	.23
26	24, 24-A	.19	.13
29	27, 27-C	.15	.10
35	33	1.20	.83
47	45, 45-C	.09	.06
49	48-B, 48-C, 82	.09	.06
87	85, 85-C, 85-T	.08	.055
93-P	88	.05	.035

THE SNAPPER

A Long Insulated Test Clip and
A "Triple Threat" Radio Tool



U. S. Patent No. 2,074,324

No. 99—7" Long Insulated

he long tube is of insulating material and is fitted with spring ntact jaws on the far end.

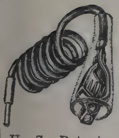
he jaws are operated by a push of the thumb on the near end. ire is quickly and easily connected in a hole in the insulator nob binding post on the near end.

ay be used as **(1) A "Deep Sea' Electric Test Clip**—test contacts ith ease, deep in the recesses of radio chassis with no danger of ort circuits; **(2) An Electric Contact Prod**—clip jaws may be ed to make quick prod contacts, or clip one Snapper on ground rcuit and prod with another; **(3) A Retriever**—start small screws d nuts or pick up odds and ends that may accidentally be dropped to inaccessible places.

RICE....$0.80 EACH Dealers Wholesale Price, each....**$0.48 Net**
Snappers are generally used in pairs—1 red and 1 black.

INSULATED GRID CLIP ASSEMBLY

One Universal Clip That Fits Them All



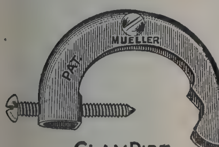
U. S. Patents
Nos. 1,779,442-
1,965,151

This assembly is made up of a Pee-Wee Clip with jaws specially constructed to give a firm grip on all sizes of grid caps, a rubber insulator over the clip, 10 inches of flexible, rubber-covered wire and a standard phone tip.

FEATURES: ● Will Never Weaken or Break ● Bull-Dog Grip—in either vertical or horizontal position, will not come off cap no matter how hard tube is pounded. **● Will Not Injure or Break Grid Cap**—if clip itself is struck accidentally it will pull loose without damaging cap. **● Wire Will Not Pull Loose from Clip**—soldered connection at both ends. **● Quick and Easy Application**—fits all sizes of grid caps.

No. 106—Insulated Grid Clip Assembly.
EACH NET $0.22   LOTS OF 10 $0.15

CLAMPIPE GROUND CLAMP



CLAMPIPE
U.S. PATENT No. 1,794,976

No. 58

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

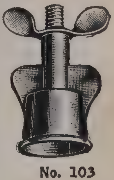
The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

e best ground clamp value on the market. Applicable to pipe " to 1⅜" outside diameter.

Packed 10 in a box
ACH NET....................$0.11   LOTS OF 10....................$.075

BATTERY POST ADAPTER

For Making Non-Corrosive, Semi-Permanent Connections to Storage Batteries



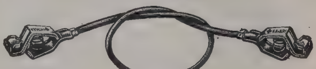
No. 103

No. 103—Is simply pressed, not burned, on to battery post. The wire is quickly and easily connected under the thumb nut.

Made of non-corrosive antimonial lead. Ideal for use on battery operated home appliances.

Packed 10 in a box
EACH NET..........$0.21   LOTS OF 10................$0.15

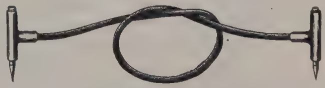
BATTERY CHARGING JUMPERS



No. 89—MUELLER CLIP JUMPER

A complete jumper, ready to use. Two No. 24-A clips and 14" of insulated wire.

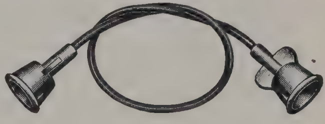
Packed 10 in a box
EACH NET....................$0.29   LOTS OF 10....................$0.20



No. 57—MUELLER TAP-TITE SPIKE JUMPER

Hard, pointed steel pins soldered to ends of wire and held firmly in lead coated steel jackets. Drive into battery posts.

Packed 10 in a box
EACH NET....................$0.26   LOTS OF 10....................$0.18

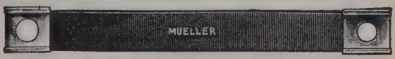


No. 38—MUELLER PRES-TITE JUMPER

Is simply pressed over battery posts. Made of non-corrosive, antimonial lead.

Packed 10 in a box
EACH NET....................$0.40   LOTS OF 10....................$0.28

BATTERY CARRIERS



No. 73—MUELLER "COCKEYED CARRIER"

No. 73—A rugged carrier with heavy, rubber covered strap which will stand plenty of abuse. To use, drop the end pieces over the battery posts and lift up. This cocks the eyes and they grab hold. The heavier the battery the tighter the grip. 12" long. Packed 10 in a box.

EACH NET....................$0.42   LOTS OF 10....................$0.30

NEW EXTRA LONG CARRIER

No. 73-EL—19" long. Ample length to take the new long batteries in some latest model cars. Same construction as No. 73. Packed 10 in a carton.

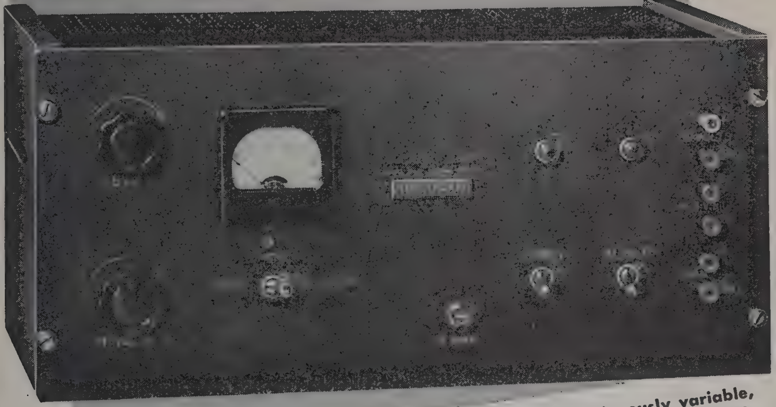
EACH NET....................$0.53   LOTS OF 10....................$0.37

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

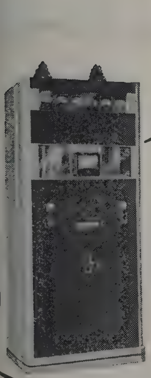
Variable Voltage
REGULATED POWER SUPPLY



American's new P-11 Regulated Power Supply affords a continuously variable, well-regulated voltage at substantial current for the operation of electronic apparatus. Ideal for the exacting requirements of television and radar as well as educational and industrial applications, the P-11 is fast becoming an indispensable instrument in many research laboratories. The P-11, with rear terminal availability of all voltages, is particularly adaptable for rack mounting in permanent installations, such as broadcast stations and fixed test equipment . . . Price of the American P-11 Regulated Power Supply, with tubes and cabinet, is $195.00, F.O.B. Glendale, California.

Descriptive literature will be promptly supplied upon request.

- ● OUTPUT 0 TO 400 VOLTS
- ● BIAS 0 TO –150 VOLTS
- ● UP TO 200 MILS LOAD
- ● 1 PERCENT REGULATION
- ● FILAMENT 6.3 VOLTS A. C.
- ● CONTINUOUS VOLTAGE VARIATION



Custom Power Supplies

Inquiries are invited from those with power supply problems. American designs many custom power supplies, such as the 50,000 volt regulated supply shown at the left. All American Radio Co. equipment employs finest quality components together with precision standards of engineering and workmanship.

AMERICAN

AMERICAN RADIO COMPANY
611 E. GARFIELD AVE. • GLENDALE 5, CALIFORNIA

ATR

REPLACEMENT VIBRATOR GUIDE

●

For AUTO *and* FARM RADIOS

ATR
VIBRATOR
REPLACEMENT
TYPE 324
List Price 275
ATR
REPLACEMENT
VIBRATOR
FULLY GUARANTEED
AMERICAN TELEVISION & RADIO C
ST. PAUL, MINNESOTA
Made in U. S. A.
ATR VIBRATORS
ATR
VIBRATOR
TYPE 324
Serial 14002
For use only as recommended on approved
6 Volt D.C. Circuits
See directions.
PATENTS PENDING
AMERICAN TELEVISION & RADIO CO.
ST. PAUL, MINNESOTA
MADE IN U. S. A.

- **Longer Life**
- **Improved Performance**
- **Precision Construction**

Insist on ATR Vibrators

The *Best* by *Tes*

Write for Literatu

ATR Vibrators, the heart of vibrator-operated power supplies, are proven units of the highest quality, engineered to perfection. They are backed by more than twelve years of vibrator design and research, development and manufacturing — ATR pioneered in the vibrator field.

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AMERICAN TELEVISION & RADIO CO.

ATR INVERTER VIBRATORS

ATR Vibrators, the heart of vibrator-operated power supplies, are proven units of the highest quality, engineered to perfection. They are backed by more than twelve years of vibrator design and research, development and manufacturing—ATR pioneered in the vibrator field.

ATR Inverter Vibrators incorporate the following features:

- **Large Oversized** ¼" Diameter Tungsten Contacts having Full Wiping Action—for greater reliability and longer life.
- **Highest Quality** Spring Steel Reed—for uniform flexibility and prevention of reed breakage.
- **Highly Efficient** Magnetic Circuit with Formed Base—for greater accuracy and more uniform operation on both high and low voltages.
- **Mica and Metal Stack** Spacers with Bolted Stack Construction—for adjustment permanency under any operating condition.
- **Highest Precision** Construction and Workmanship—practically all parts are held to within a tolerance of 0.0005 of an inch.
- **When Ordering** ATR Inverter Vibrators for replacement, be sure to mention the type number, model number, and serial number of the ATR Inverter for which it is intended. Consult the ATR Inverter Vibrator Guide.

ATR INVERTER Replacement VIBRATOR GUIDE

ATR INVERTER		ATR Replacement Vibrator No.	Exchange List Price	Outright List Price
Model	Type			
934, 1935 early 1936 aving serial os. 53401 o 63608	6 & 6S	6	$6.50	$6.95
	12 & 12S	12	6.50	6.95
	32 & 32S	32	6.50	6.95
	50 & 50S	50	6.50	6.95
	90 & 90S	90	6.50	6.95
	110 & 110S	110	6.50	6.95
	150 & 150S	150	6.50	6.95
	220 & 220S	220	6.50	6.95
ate 1936, early 1937 aving serial os. 73609 o 73799	All types as above except as indicated below:	All as above except as indicated below:	as above	as above
	110 & 110S	110-2	6.50	6.95
ate 1937, 938, and arly 1939 aving serial os. 83701 o 23903	6 & 6S	6-8	6.95	7.95
	12 & 12S	12-8	6.95	7.95
	32 & 32S	32-8	6.95	7.95
	32P & 32P1	32-8P	6.95	7.95
	50 & 50S	50-8	6.95	7.95
	90 & 90S	90-8	6.95	7.95
	110 & 110S	110-8	6.95	7.95
	110P & 110P1	110-8P	7.50	8.50
	110P2	110-8P	7.50	8.50
	150 & 150S	150-8	6.95	7.95
	220 & 220S	220-8	6.95	7.95
	220P & 220P1	220-8P	7.50	8.50
haverpacks (SPA)	6 & 6S	663	5.25	5.75
	12 & 12S	1263	5.25	5.75
	32 & 32S	3263	5.25	5.75
	110 & 110S	11063	5.25	5.75
	220 & 220S	22063	5.25	5.75
ow Power verters (LIA) (LIB) or (LIC)	6 & 6S	664	6.50	6.95
	12 & 12S	1264	6.50	6.95
	24 & 24S	2464	6.50	6.95
	32 & 32S	3264	6.50	6.95
	110 & 110S	11064	6.50	6.95
	220 & 220S	22064	6.50	6.95

	ATR INVERTER		ATR Replacement Vibrator No.	Exchange List Price	Outright List Price
	Model	Type			
Radio Inverters	RSA or RSB	6 & 6S	610	$7.50	$8.50
	RSA or RSB	6 & 6S	610	7.50	8.50
	RSB	24 & 24S	2410	7.50	8.50
	RSA or RSB	32 & 32S	3210	7.50	8.50
	RHA or RHB	32B, SB	3210	7.50	8.50
	RSA or RSB	50 & 50S	5010	7.50	8.50
	RSA or RSB	90 & 90S	9010	7.50	8.50
	RSA or RSB	110 & 110S	11010	7.50	8.50
	RSA or RSB	110A, SA	11010	7.50	8.50
	RHA or RHB	110B, SB	11010	7.50	8.50
	RSA or RSB	110C, SC	11010	7.50	8.50
	RSA or RSB	110D	11010	7.50	8.50
	RSA or RSB	220 & 220S	22010	7.50	8.50
	RSA or RSB	220A	22010	7.50	8.50
Industrial Inverters	ISM or ISO	6 & 6S	610	7.50	8.50
	ISM or ISO	12 & 12S	1210	7.50	8.50
	ISO	24 & 24S	2410	7.50	8.50
	ISM or ISO	32 & 32S	3210	7.50	8.50
	ISM or ISO	32P, SP	3210	7.50	8.50
	IHM or IHO	32B, SB	3210	7.50	8.50
	ISM or ISO	110 & 110S	11010	7.50	8.50
	ISM or ISO	110P, SP	11010	7.50	8.50
	ISM or ISO	110A, SA	11010	7.50	8.50
	IHM or IHO	110B, SB	11010	7.50	8.50
	ISM or ISO	220 & 220S	22010	7.50	8.50
	ISM or ISO	220P, SP	22010	7.50	8.50
	Vibrator Packs (VPM) or (VPO)	6	6101	7.50	8.50
		12	12101	7.50	8.50
		24	24101	7.50	8.50
		32	32101	7.50	8.50
		110	110101	7.50	8.50
		220	220101	7.50	8.50
Polarity Changers	PCA	110	110102	9.00	10.00
	PCA	110A	110102	9.00	10.00
	PCA	220	220102	9.00	10.00
	PCP	110	110106	7.50	8.50
	PCP-R	110	110106	7.50	8.50
	PCP-F	110	110106	7.50	8.50

When ordering ATR Inverter Vibrators, be sure to mention type number, model number, and serial number of the ATR Inverter r which it is intended.

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AMERICAN TELEVISION & RADIO CO.

ATR Low Power INVERTERS

Illustrating all ATR Low Power Inverters except Types 6 and 12.

For Operating Small A. C. Motors, Electric Razors, and Devices of Approximately 35 watts Consumption from 6, 12, 24, 32, 110, and 220 volt D. C. Lines.

This line of ATR Low Power Inverters was specially brought out to meet the insistent demand for a good, low power, inexpensive portable Inverter for operating phonograph and other A. C. motors and a host of small A. C. devices from D. C. voltage sources. These Inverters operate at an efficiency in excess of 90% and are designed for operation of loads having a power factor as low as 60%. They are ruggedly built and powered by a special ATR six-contact plug-in Inverter Vibrator utilizing four ¼″ diameter tungsten power contacts and two silver alloy driver contacts.

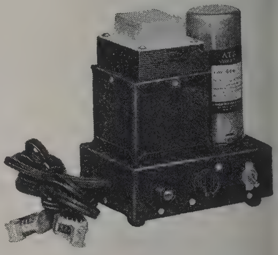
Type	Input D. C. volts	A.C. Output 60 cycles	Wattage		Code Word	List Price
			Intermittent	Continuous		
6 LIC	6	110 volts	35	25	ALICM	$21.50
12 LIC	12	110	50	35	BLICN	21.50
24 LIC	24	110	50	35	FLICR	25.00
32 LIC	32	110	50	35	CLICO	25.00
110 LIC	110	110	75	35	DLICP	21.50
220 LIC	220	110	75	35	ELICQ	25.00

Radio frequency interference not suppressed. Built-in filter model available, $7.95 additional. Protective cover, $2.00 additional.

Any of the above type Low Power Inverters are available with 220 volt A. C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Low Power Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "DLICT".

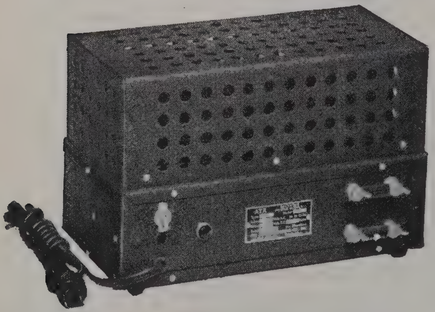
Dimensions, 5⅜″ x 4″ x 6⅝″; shipping weight, 6½ lbs.

Replacement Vibrators for any of the above Low Power Inverters are available. Be sure to mention the type number as well as model number when ordering. Consult Inverter Vibrator Guide.



Illustrating Types 6 and 12 Low Power Inverters only.

ATR "A" BATTERY ELIMINATORS



Illustrating Heavy Duty "A" Battery Eliminator, Type 120C ELIO.

Specially Designed for Testing D. C. Electrical Apparatus on Regular A. C. Lines, 105-125 Volts 50-60 Cycles

- Eliminates Storage Batteries and Battery Chargers.
- Operates the Equipment at Maximum Efficiency at all Times.
- Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.
- Fully Automatic and Fool-Proof.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages by simply using a rheostat in one side of the A.C. cord.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

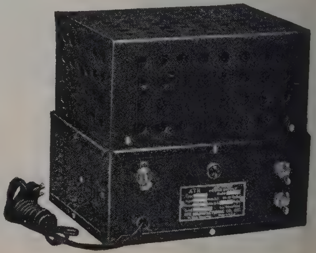
Equipped with Full-Wave Dry Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

TYPE 60 ELIA—Rated output 6.3 volts at 6.5 amperes. Size 8″x6¼″x7¼″; shipping weight, 18¾ lbs. Code word "SELIA". **List Price**........................$38.00

TYPE 120C ELIO—Uses dual rectifiers. Size 11⅝″x6¼″x7¼″. Shipping weight, 32 lbs. Code word "HELIM".

Rated Output: 6.3 volts at 14 amperes or 14 volts at 7 amperes. Either output obtainable by means of simple output terminal switching arrangement.
List Price $62.00

All ATR Eliminators have as standard equipment: On-Off Switch, Pilot Light Indicator, 10-Ampere Fuse, Rubber Mounting Feet, 6-ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having attractive black-wrinkled finish.



Illustrating Standard "A" Battery Eliminator, Type 60 ELIA.

ATR · INVERTERS · ATR
AMERICAN TELEVISION & RADIO CO.

ATR STANDARD AND HEAVY DUTY RADIO INVERTERS

Illustrating all Standard Types ATR Radio Inverters except Types 6 and 12. For Heavy Duty Styles—see cut below.

Specially Designed for Operating A. C. Radios, Public Address Systems, Television Sets, Amplifiers, Intercall Systems, and Radio Test Equipment from D. C. Voltages in Vehicles, Ships, Trains, Planes, and in D. C. Districts.

This group of ATR Inverters is especially recommended for use with A. C. radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference-free radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life radio operation. All models indicated are equipped with an ATR ten-contact plug-in Inverter Vibrator of new design and construction having dual arms and utilizing eight ¼" diameter tungsten power contacts and two silver alloy driver contacts, insuring increased long life and reliable service. These Inverters also come equipped with four point voltage regulators, which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal; the operating efficiency is in excess of 85%.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 RSB	6	110 volts	85	75	ARSBD	$38.00
12 RSB	12	110	125	100	BRSBE	38.00
24 RSB	24	110	125	100	NRSBQ	42.00
32 RSB	32	110	150	100	CRSBF	39.50
32B-RHB	32	110	200	180	DRHBG	59.50
50 RSB	50	110	150	100	ERSBH	49.50
110 RSB	110	110	250	150	GRSBJ	39.50
110A-RHB	110	110	325	225	HRHBK	57.00
110B-RHB	110	110	500	350	IRHBL	65.00
110C-RSB	110	110/220	250	150	JRSBM	49.50
220 RSB	220	110	250	150	LRSBO	42.00
220A-RSB	220	110/220	250	150	MRSBP	49.50

Illustrating Types 6 and 12 Standard Radio and Industrial Inverters only.

Radio frequency interference completely suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "GRSBT".

ATR Standard and Heavy Duty Radio Inverters are housed in attractively finished black-wrinkled metal cabinets.

Dimensions of Standard Model Radio Inverters, 7⅞"x8-3/16"x4½"; Shipping weight, 17 lbs.

Dimensions of Heavy Duty Model Radio Inverters, 7⅞"x9⅝"x6¼"; Shipping weight, 26 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

ATR STANDARD AND HEAVY DUTY INDUSTRIAL INVERTERS

For Operating A. C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A. C. Electrical Appliances from D. C. Lines.

These units are specially designed for applications as indicated, permitting the use of standard A. C. equipment on D. C. lines. These Inverters operate at an efficiency in excess of 80% and are carefully built and equipped to give the longest possible life and operating satisfaction. All Inverters indicated utilize ATR ten contact plug-in vibrators, and are also equipped with four point voltage regulators as fully described above. These Industrial Inverters are recommended for use with loads having power factors as low as 60%, and as low as 50% for the "P" Inverters indicated. These Inverters should not be used with Neon signs.

Illustrating Heavy Duty Models Radio and Industrial Inverters except types 6 and 12. Types 6 and 12 Industrial Inverters are illustrated by center cut above.

Type	Input D.C. volts	A.C. Output 60 cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 ISO	6	110 volts	85	75	AISOD	$38.00
12 ISO	12	110	125	100	BISOE	38.00
24 ISO	24	110	125	100	LISON	42.00
32 ISO	32	110	150	100	CISOE	39.50
32P*-ISO	32	110	150	125	DISOF	49.50
32B-IHO	32	110	200	180	EIHOG	59.50
110 ISO	110	110	250	150	FISOH	39.50
110P*-ISO	110	110	250	150	GISOI	49.50
110A-IHO	110	110	325	225	HIHOJ	57.00
110B-IHO	110	110	500	350	IIHOK	65.00
220 ISO	220	110	250	150	JISOL	42.00
220P*-ISO	220	110	300	150	KISOM	49.50

Radio frequency interference not suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at slightly higher prices. In ordering, follow similar directions given above.

ATR Standard and Heavy Duty Industrial Inverters are housed in attractively finished black-wrinkled metal cabinets.

Dimensions of Standard Model Industrial Inverters, 7⅞"x8$\frac{3}{16}$"x4½".

Shipping weight, 17 lbs.

Dimensions of Heavy Duty Industrial Inverters, 7⅞"x9⅝"x6¼"; shipping weight, 26 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

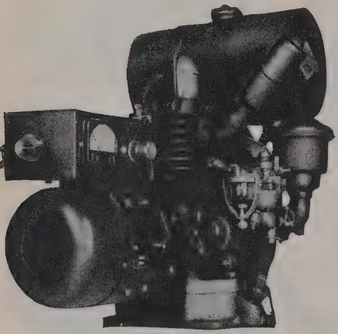
*"P" Inverters are corrected for loads having power factors as low as 50%.

Built-in filter, $10.00 additional.

Cyclohm POWER PLANTS

CYCLOHM POWER PLANTS, which proved their dependability and popularity with the Armed Forces of the Allied Nations, are now available for civilian use. Powered by Briggs & Stratton air-cooled gasoline engines . . . embodying the most advanced features of power unit design. Known for their efficient, dependable performance as LIGHTING PLANTS (portable or stationary) for homes, boats, fisheries, farms, mines, camps, etc. . . . BATTERY CHARGERS for mechanized equipment, industrial works, radio, farms, boats, mobile repair plants, truck fleets, etc.

The following optional equipment is available at additional cost: — ignition radio shielding — carrying handle — battery charging cables with terminals in lengths of 3, 9 and 15 feet — connections and flexible hose for exhaust extension — remote control starting and stopping — vibration insulated sub-base — fungus proofing — stellite faced valves and seats for operation on highly leaded fuels.

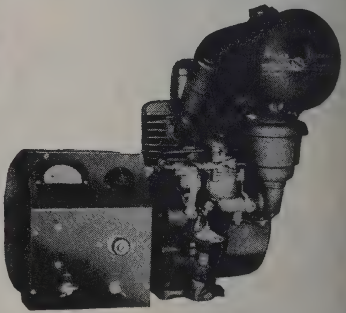


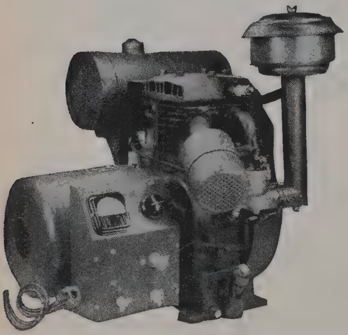
SERIES "C"
D.C. GENERATOR UNIT

Model	Watts		Volts	Max. Charg. Rate	RPM	Net Weight	List Price
C6A	350	@	6	58 amps.	3600	56 lbs.	$153.00
C12A	350 175	@ @	12 6	29 amps.	3600	56 lbs.	153.00
C24A	350	@	24	15 amps.	3600	56 lbs.	153.00
C32A	350	@	32	11 amps.	3600	56 lbs.	153.00

SERIES "E"
D.C. GENERATOR UNIT

Model	Watts		Volts	Max. Charge Rate	RPM	Net Weight	List Price
E6A	500	@	6	75 amps.	3600	75 lbs.	$164.00
E12A	500 250	@ @	12 6	42 amps.	3600	75 lbs.	164.00
E24A	500	@	24	21 amps.	3600	75 lbs.	164.00
E32A	500	@	32	16 amps.	3600	75 lbs.	164.00





SERIES "G"
A.C. GENERATOR UNIT

Model	Watts	Power Factor	Volts	Frequency Cycles	R.P.M.	Net Weight	Electric Starting	List Price
G11A01	800	1.0	110 AC	60	1800	145 lbs.	yes	$223.00
G12A01	800	1.0	110 AC	60	1800	145 lbs.	no	218.00
G13A01	800	1.0	220 AC	60	1800	145 lbs.	yes	223.00
G14A01	800	1.0	220 AC	60	1800	145 lbs.	no	218.00

a product of **CYCLOHM MOTOR CORPORATION**

Long Island City 1, N. Y., U. S. A.

DYNAMOTORS CONVERTERS

Carter

MAGMOTORS GENERATORS

CARTER—the oldest name in Rotary Power Supplies for mobile radio

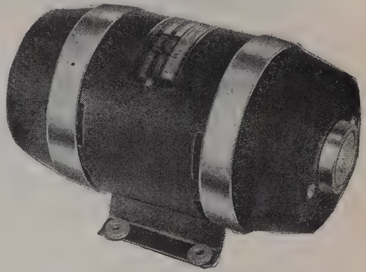
CARTER SUPER DYNAMOTOR

The Carter Super Dynamotor is widely acclaimed as the finest and most reliable Power Supply by leading Communications Equipment Manufacturers, Engineers, Police Departments, Government Agencies, etc. Exacting care in the selection and design of armature, brushes, commutators, bearings, and other component parts, assures trouble-free, efficient operation. Excellent regulation, minimum AC ripple, easy to filter and install.

SUPER DYNAMOTOR
8¼″ long, 4½″ wide, 4¾″ high, weight 13 lb.

Code No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
A450	6	26.4	400	250	Con.	$60.00
A520	6	26.4	500	200	Con.	65.50
A530	6	39.2	500	300	Con.	82.00
A650	6	39.2	600	250	Con.	82.00
VSF630	5.5	56.	600	300	Int.	86.00
HIGH VOLTAGE SUPER DYNAMOTOR 10¼″ long, 4½″ wide, 4¾″ high, weight 19½ lbs.						
B540	12	24.9	500	400	Con.	$100.00
B820	12	21.3	800	200	Con.	104.00
B1150	12	19.1	1000	150	Con.	114.00
BS1250	12	20.5	1000	250	Int.	125.00

Multi Output Super models for two or three outputs available. Other outputs to 3000 volts. Add "X" to code No. for filter, $27.50 extra. Add "R" to code No. for starting relay, $8.00 extra. Above models avaliable from 5.5 to 115 volts DC input.



CARTER SUPER DYNAMOTOR

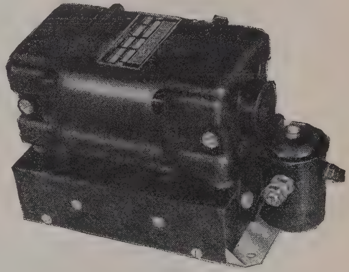
CARTER GENEMOTOR

The oldest Genemotor in continuous production! That's the record of the Carter Original Genemotor. Available in 3 frame sizes, it is the recognized standard Power Supply of Police Radio, Aircraft, Amplifier, and Marine radio equipment. Minimum ripple, efficient and dependable. Complete filter and starting relay available as illustrated.

1½″ frame, 5$\frac{9}{16}$″ long, 4⅛″ wide, 3½″ high, weight 7 lbs.

Code No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
251A	6	7.9	250	100	Con.	$40.75
351A	6	10.9	350	100	Con.	44.20
2″ frame, 6⅛″ long, 4⅛″ wide, 3½″ high, weight 8 lbs.						
355A	6	14.0	350	150	Con.	$48.00
15A	6	18.2	400	150	Con.	51.00
3″ frame, 7⅛″ long, 4⅛″ wide, 3½″ high, weight 10 lbs.						
320A	6	18.2	300	200	Con.	$53.00
20A	6	23.4	400	200	Con.	56.00
50AS	6	27.4	400	250	Int.	58.00
20AS	6	27.4	500	200	Int.	58.00
20AS	6	32.0	600	200	Int.	64.50

Add "X" to code No. for filter. 1½″ and 2″ frame $24.00 extra. 3″ frame, 25.00 extra. Add "R" to code No. for starting relay, $8.00 extra. Available rom 5.5 to 115 volt DC input.



CARTER ORIGINAL GENEMOTOR

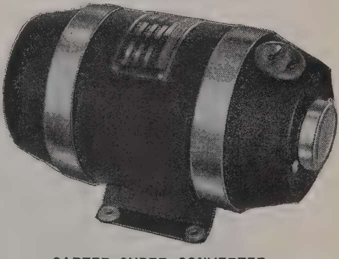
CARTER SUPER CONVERTER

he Carter Super Converter is a small, compact, quiet running, two pole, 3600 PM fan-cooled unit for changing DC to AC. This long life double-wound type nit is ideally suited for non-inductive loads such as radio equipment, public ddress systems, musical instruments, testing devices, small signs, etc. Available n 85% to 100% Power Factor only, ball bearing equipped, from 40 to 250 att capacities.

8¼″ long, 4½″ wide, 4¾″ high, weight 13 lbs.

ode No.	Input Volts	Input Amps	Output Volt	Output Volts-Amps	List Price
1080C	115	1.3	110	80	$52.00
1010C	115	1.9	110	110	54.75
1015C	115	2.6	110	150	58.70
HV FRAME, 10¼″ long, 4½″ wide, 4¾″ high, weight 19 lbs.					
1020C	115	2.9	110	200	$68.00
1025C	115	3.5	110	250	70.00

Add "X" to code No. for filter, $25.00 extra. Above Converters available from 2 to 115 volts DC input. 6-volt models available up to 150 watts output. requency Controlled models available on special order.



CARTER SUPER CONVERTER

CARTER MAGMOTOR

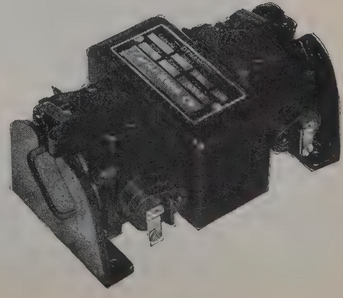
he exclusive patented Permanent Magnet field design of the Carter Magmotor ermits higher efficiency, longer life, and greater output from a small, compact rame.

he preferred Power Supply for Police Mobile FM and AM receivers, small aircraft transmitters. Low drain, ball bearing equipped.

5⅝″ long, 3$\frac{11}{16}$″ wide, 2½″ high, weight 4¾ lbs.

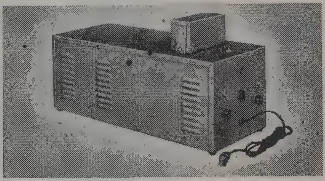
ode No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
B250	12	2.1	250	50	Con.	$43.30
B251	12	3.9	250	100	Con.	45.90
B301	12	4.5	300	100	Con.	47.00
BS355	12	7.1	350	150	Int.	51.00
BS420	12	10.8	400	200	Int.	56.00
BS450	12	12.8	400	250	Int.	65.50
BS520	12	12.8	500	200	Int.	65.50

Magmotors available from 5.5 to 115 volt DC input. Add "X" to code No. r filter, $24.00 extra.

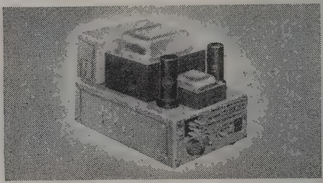


CARTER MAGMOTOR

E-L VIBRATOR CONVERTERS RECTIFIER PACKS FREQUENCY CHANGERS



801 *A typical standard E-L frequency changer. Input: 115 volts AC, 25 cycle; Output: 115 volts AC, 60 cycle; Output power: 100 watts; Dimensions: 19⅝" x 8¼" x 10"; Weight: 29 pounds.*



619 *A typical E-L standard vibrator converter for transmitter application. Input: 6 volt DC and 115 volt AC; Output: 300 volts DC; Output power: 60 watts; Dimensions: 9¾" x 5¾" x 6": Weight: 14½ pounds.*

E-L Vibrator Converters have been designed to make possible the operation of equipment requiring high DC voltages from 6, 12 or 24 volt storage batteries. Offered in an extensive line of models, there is a Standard E-L Converter for every popular application, including the provision of plate and grid supply of radio receivers and transmitters in stationary, portable, or mobile applications, public address systems, communications equipment, electrical and electronic test equipment, and the like.

RECTIFIER PACKS

The rectifier pack is a power supply with an AC input and DC output, and is useful in electrical and electronic laboratories as well as in radio service shops.

FREQUENCY CHANGERS

A frequency changer is a vibrator power supply with an AC input of one frequency, and an AC output of a different frequency. This makes possible the use of standard 110 volt 60 cycle AC equipment, such as amplifiers, public address systems, etc. from 110 volt AC of different frequency.

SPECIAL FOR AMATEUR PORTABLE MOBILE RADIO OPERATION

2606 *A brand new improved E-L portable amateur radio power supply, completely filtered with hum-free output. Input: 6 volts DC at 8 amps.; Output: 300 volts DC at 100 ma; uses vibrator number 1823. Dimensions: 4¼" x 4⅞" x 5¼"; Wt.: 5 lbs. 2 ozs.*

Electronic LABORATORIES INC.
INDIANAPOLIS

VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION · ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

E-L SPECIFICATION CHARTS INVERTERS...CONVERTERS

DC to AC STANDARD VIBRATOR INVERTERS

MOD. NO.	INPUT VOLTS DC	OUTPUT VOLTS AC	OUTPUT WATTS	LOAD† P.F. (%)	DIMENSIONS (In.)	WT. (Lbs.)	PRINCIPAL APPLICATIONS
308	6	115	10	70–100	3 x 3 x 5	2	Electric Razors
*303	6	115	25	80–100	7⅛ x 4¼ x 5¼	6	Electric Motors, Appliances
*320	6 & 115AC	115 & 6DC	75	80–100	14½ x 9½ x 10	23¼	Portable Inverter and Battery Charger
307	6	115	100	80–100	10¾ x 7½ x 8¼	23¼	Radio Receivers, Appliances
*502	12	115	100	80–100	9⅜ x 6⅜ x 4⅝	14½	Radio Receivers, Appliances
507	12	115	150	80–100	10¾ x 7½ x 8¼	25	Radio Receivers, Transmitters, Appliances
2115	32	115	100 max	60–100	9½ x 7½ x 6½	13	Dual Outlet Appliances and Radio
102	32	115	100	80–100	9⅜ x 6⅜ x 4⅝	12¾	Radio Receivers, Transmitters, Appliances
144	32	115	250	80–100	10¾ x 7½ x 8¼	27	
146	32	115	350	80–100	16 x 10 x 8⅜	48	Receivers, Transmitters, Coin Phonographs
267	115	115	5	80–100	9⅜ x 2⅛ x 2¼	2	Flea Motors
2120	115	110	25 max	60–80	4½ x 4 x 2½	1	Phonograph Motors
261	115	115	75	80–100	7⅛ x 4¼ x 5¼	6¼	Radio Receivers, Appliances
204	115	115	150	80–100	9⅜ x 6⅜ x 4⅝	12½	Receivers, Transmitters, Appliances
262	115	115	250	85–100	10¾ x 7½ x 8¼	27	Receivers, Transmitters, Appliances
268	115	115	750	80–100	20⅛ x 11¾ x 7½	66	Motors, Communications Equipment
424	230	115	150	80–100	9⅜ x 6⅜ x 4⅝	23¼	Radio Receivers, Transmitters, Appliances
*434	230	115	350	80–100	10¾ x 7½ x 8¼	24	Receivers, Transmitters, General Purpose

†Typical High Power Factor Loads: Universal (Brush Type) AC-DC Motors, Radio Receivers and Transmitters, Coin Phonographs; Typical Low Power Factor Loads: Neon Signs, Fluorescent Lights, Synchronous Motors, Repulsion-Induction Motors, Refrigerator Motors, P. A. Systems, Sun Lamps. *These Models, as well as many other types of E-L Power Supplies, available on quantity orders only.

FREQUENCY CHANGERS

MODEL NO.	INPUT VOLTS AC	OUTPUT VOLTS AC	OUTPUT WATTS	DIMENSIONS (In.)
801	115 at 25 Cycles	115 at 60 Cycles	100	9¾ x 8⅛ x 16⅞
802	115 at 50 Cycles	115 at 60 Cycles	100	9¾ x 8⅛ x 16⅞

DC to DC STANDARD VIBRATOR CONVERTERS

MOD. NO.	INPUT VOLTS DC	OUTPUT VOLTS DC	OUT-PUT WATTS	RECTIFI-CATION	DIMENSIONS (In.)	WT. (Lbs.)	PRINCIPAL APPLICATIONS
605A	6	275	19	Synch.	5½ x 3¼ x 6	5½	Power Pack, Tapped Output
601	6	300	30	Tube	4¾ x 4 x 6	6	Power Pack, Tapped Output
604A	6	300	30	Synch.	5½ x 3¼ x 6	5½	Power Pack, Tapped Output
619	6 & 115AC	300 & 6.3AC	60	Tube	9¾ x 5¾ x 6	14½	Transmitters
616	6 & 115AC	400 & 115AC	100	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; 115 V AC for Phono-Motor
2606	6	300	30	Synch. (Completely Filtered)	4½ x 4⅞ x 5¼	6½	Receivers, Transmitters, Sound Equipment
*620	12 & 115AC	400 & 115AC	80	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; 115 V AC out for Phono-Motor
*618	12	600	200	Tube	11¼ x 6¼ x 7⁹⁄₁₆	25½	Tapped Output; Transmitter

*These Models, as well as many other types of E-L Power supplies, available on quantity orders only.

RECTIFIER PACKS

MODEL NO.	INPUT VOLTS AC	OUTPUT VOLTS DC	OUTPUT POWER	DIMENSIONS (In.)	WEIGHT (Lbs.)	NOTES
902	115	6	10 Amps.	9 x 8⅞ x 5½	19	Filtered
976	115	6	7 Amps.	8⅛ x 6⅝ x 6⅝	11	Filtered
904	115	6-16	10 Amps.	12½ x 10 x 7½	29	Filtered, Tapped Output, Metered

Electronic LABORATORIES INC.

INDIANAPOLIS

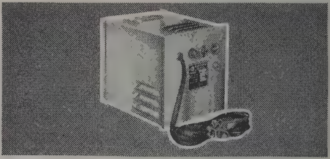
VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION · ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

ELECTRONIC LABORATORIES
VIBRATOR INVERTERS
DC TO AC POWER CONVERSION

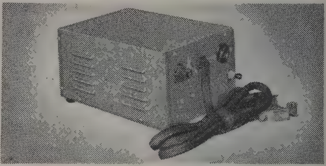
For EFFICIENCY ECONOMY SERVICE

Changing the characteristics of electric power is the job of E-L Vibrator Power Supplies. Available for applications up to 1500 watts, they have established an outstanding record of efficiency and economy in accomplishing these basic power conversions: Inverters for changing direct current to alternating current; Rectifier Packs for changing alternating current to direct current; Converters for increasing or decreasing DC voltages as desired, and Frequency Changers for changing frequency of alternating current.

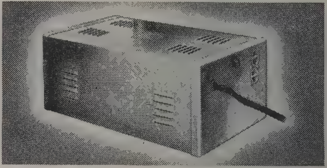
E-L Vibrator Inverters have been designed to make possible the operation of standard 115-volt AC equipment and appliances from various DC voltages. Offered in an extensive line of standard models, there is an E-L Inverter for every popular application, such as the operation of radio receivers and transmitters, public address systems, intercommunication systems, coin-operated equipment, motors, electrical appliances, refrigerators, etc.



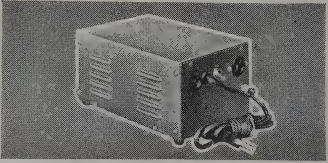
307 *A standard E-L vibrator inverter operating on 115-volt AC equipment (up to 100 watts) from 6-volt storage batteries. Input: 6 volts DC; Output: 115 volts AC; Output power: 100 watts (max.); Dimensions: 10¾"x7½"x8¼"; Wt.: 23½ lbs.*



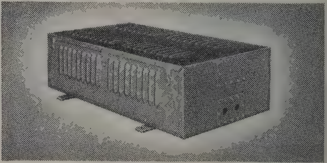
502 *A typical E-L standard vibrator inverter operating on 12 volts DC for powering radio receivers and electric appliances. Input: 12 volts DC; Output: 115 volts AC; Output power: 100 watts; Dimensions: 9⅜" x 6⅜" x 4⅝"; Weight: 14½ pounds.*



146 *A standard E-L vibrator inverter operating on 32 volts DC for powering radio receivers and transmitters, coin phonographs and other equipment which demands 350 watts power. Input: 32 volts DC; Output: 115 volts AC; Output power: 350 watts; Dimensions: 16" x 10" x 8⅜"; Weight: 48 pounds.*



204 *A standard E-L vibrator inverter operating on 115-volt DC source. Especially useful in DC areas existing in large cities, as well as with Marine and Farm power plants producing 115 volts DC. Input: 115 volts DC; Output: 115 volts AC; Output power: 150 watts (max.); Dimensions: 9⅜"x6⅜"x4⅝"; Wt.: 12½ lbs.*



268 *A standard E-L vibrator inverter with output power of 750 watts operating on 115-volts DC for powering radio transmitters, electric motors and appliances. Input: 115 volts DC; Output: 115 volts AC; Output power: 750 watts; Dimensions: 20⅛"x11¾" x7½"; Wt.: 66 lbs.*

Electronic LABORATORIES INC.
INDIANAPOLIS
VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION · ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

Auto·Radio VIBRATORS

4 E·L Models Service 95% of Current Replacement Demand

VIBRATOR
1703
Electronic
LABORATORIES

Typical E-L Auto-Radio Replacement Vibrator

The E·L "BIG FOUR"

	LIST
Model 1703 Services 755 Auto Radios	$4.10
Model 2041 Services 9 Auto Radios	4.10
Model 2689 Services 52 Auto Radios	4.10
Model 2092 Services 20 Auto Radios	6.90

● E·L has led the way in the standardization and simplification of auto-radio vibrators with its outstanding new line. Just 4 E·L Models will service 95% of the current demand for auto-radio vibrator replacement! Also, E·L makes available nine additional models, which, together with the four volume leaders, provide exact replacements for *all* current auto-radio demands. Here's simplification that really counts—reducing vibrator inventories over *two-thirds*—speeding up turnover—and increasing profits in vibrator sales!

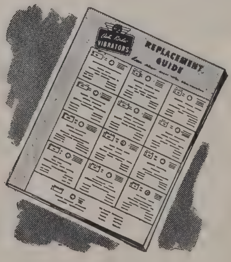
● E·L Auto Radio Vibrators leave nothing to be desired in service and performance. Embodying many improvements in design and construction, developed during the war, they produce life and operating characteristics far superior to the best that was known prior to the war.

Write for full information on E·L Auto Radio Vibrators. They'll please your customers . . . build your business . . . and make you money!

A complete Vibrator Replacement Guide is available. It lists alphabetically every auto radio model serviced by E-L Vibrators, and the proper E-L Vibrator Model Number.

These E·L Vibrator Models Plus the "Big 4" Provide Exact Replacements for all Current Auto Radios

	LIST
Model 2088 Services 54 Auto Radios	$4.10
Model 2089 Services 257 Auto Radios	6.90
Model 2090 Services 38 Auto Radios	4.10
Model 2605 Services 255 Auto Radios	3.45
Model 2107 Services 44 Auto Radios	6.90
Model 2682 Services 64 Auto Radios	7.65
Model 2685 Services 146 Auto Radios	3.45
Model 2687 Services 26 Auto Radios	6.90
Model 2688 Services 281 Auto Radios	6.90



Electronic LABORATORIES, INC.
INDIANAPOLIS
VIBRATORS AND VIBRATOR POWER EQUIPMENT FOR LIGHTING, COMMUNICATIONS, ELECTRIC AND ELECTRONIC APPLICATIONS

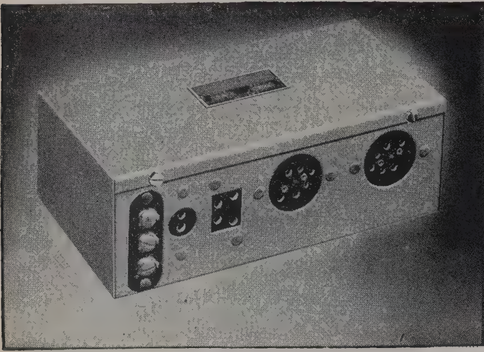
Electro
ELECTRICAL AND RADIO EQUIPMENT

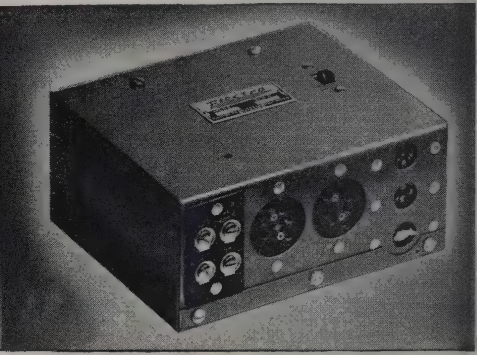
BATTERY ELIMINATORS *of Distinction*

ELECTRIFY *with* ELECTRO

Now battery radio reception can be enjoyed at its best without the usual grief and expense incurred when using batteries. Radio can be used for unlimited periods without fading. Costs but a few cents per hundred hours of operation.

FOUR TYPICAL MODELS are shown on this and the following page. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue crystallac





MODEL "Q" SYNCRO POWER

Operates Any 1.4 Volt—4, 5, or 6 Tube Battery Radio from 6 Volt D.C. Source

This Eliminator is to be used where 115 volt A.C. lines are not available. Will provide all "A" and "B" voltages more efficiently and at lower cost from 6 volt battery. Will operate a 4-tube radio three weeks at 3 hours a day on a single storage battery (100 A.H.) charge. Low battery drain—one-eighth that of ordinary auto radio—one-third that of 6-volt farm radio. Excellent for use at farm, summer cottage or camp, in automobile, motor boat, etc.

Technical Data

"A" Supply Output

5-6 tubes (average)	1.4 V. @ 320 ma.
4 tubes	1.4 V. @ 250 ma.
4 tubes	1.4 V. @ 200 ma.

"B" Supply Output

90 Volts D.C. @ 12 ma. (max.)

Primary

6 Volts D.C. @ 0.8 amp. (for 4 tube radio).

Specifications

Cord and battery clips on primary.
On and Off switch in Eliminator turns power on.
Size: 5" x 5" x 2⅜".
Weight packed: 3½ pounds.

LIST PRICE $16.50

MODEL "R" SYNCRO POWER

Operates Any 2 Volt—4, 5, 6 or 7 Tube Battery Radio from 6 Volt D.C. Source

Ideal for use where 115 volt 60 cycle lines are not available. Provides "A" and "B" power for portable radios for 3 weeks at 3 hours per day from single 100 A.H. storage battery charge. For use with 1A4 1C7, 1D5, 1E5, 1F5, 1F7, 1G5, 1H4G, etc. Permits longer use of portable radios at less cost and with greater volume. Fine for use at the farm, summer cottage, camp, in motor boat, trailer or auto.

Technical Data

"A" Supply Output

7 tubes	2 V. @ 480 ma
6 tubes	2 V. @ 420 ma
4-5 tubes (average)	2 V. @ 325 ma

"B" Supply Output

67, 90, 112, 135 volts @ 18 ma. (max.).

Primary

6 Volts D.C. @ 1.2 amps. (for 4 tube radio).

Specifications

Cord and battery clips on primary.
On and Off switch in Eliminator turns power on.
Size: 5½" x 5" x 2⅜".
Weight packed: 3½ pounds.

LIST PRICE $18.95

ELECTRO PRODUCTS LABORATORIES

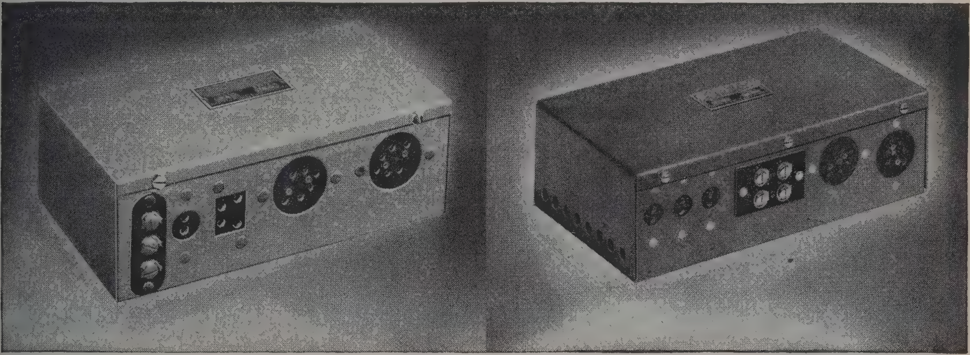
Electro
ELECTRICAL AND RADIO EQUIPMENT

BATTERY ELIMINATORS of Distinction

ELECTRIFY with ELECTRO

Now battery radio reception can be enjoyed at its best without the usual grief and expense incurred when using batteries. Radio can be used for unlimited periods without fading. Costs but a few cents per hundred hours of operation.

FOUR TYPICAL MODELS are shown on this and the preceding page. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue crystallac.



MODEL "P" COMPACT

Operates Any 1.4 Volt—4, 5, or 6 Tube Battery Radio from 115 Volt 60 Cycle Source

Designed for sets using 1A7, 1E4, 1N5G, 1N5G, 1Q5G, etc., tubes to convert battery radio to an efficient AC receiver with low operating cost. Fits in battery compartment of most radios. Ideal for use in home, hotel, camp or any place where normal AC is available.

Technical Data

"A" Supply Output

5-6 tubes (average)	1.4 V. @ 320 ma.
4 tubes	1.4 V. @ 250 ma.
4 tubes	1.4 V. @ 200 ma.

"B" Supply Output

90 Volts D.C. @ 12 ma. max.

Primary

115 Volts A.C. @ 60 cycles.

Specifications

Six foot card and plug—switch in cord.
Size: 2⅜" x 3½" x 6¾".
Weight packed: 3½ pounds.

LIST PRICE $15.00

MODEL "F" COMPACT

Operates Any 2 Volt—4, 5, 6 or 7 Tube Battery Radio from 115 Volt 60 Cycle Source

For use in receivers employing 1A4, 1C7, 1D5, 1E5, 1F5, 1F7, 1H4G, etc., tubes to change radio into an all-electric set giving maximum performance at all times. Inexpensive to operate. Excellent to use when AC current is available and save batteries for occasions when used as portable.

Technical Data

"A" Supply Output

7 tubes	2 V. @ 480 ma.
6 tubes	2 V. @ 420 ma.
4-5 tubes (average)	2 V. @ 325 ma.

"B" Supply Output

67, 90, 112, 135 Volts D.C. @ 18 ma.

Primary

115 Volts A.C. @ 60 cycles.

Specifications

Six foot card and plug—switch in cord.
Size: 2⅜" x 4½" x 8¼".
Weight packed: 5½ pounds.

LIST PRICE $17.95

ELECTRO PRODUCTS LABORATORIES

GTC Porta-Power

Take advantage of the high lines — A necessity wherever rural electrification has come, or portable radios are owned.

Convert Battery Radios to 105-125 volt, 50-60 cycle lines

Supply all needed power to convert radios to ALL-ELECTRIC operation. Provide constant peak source of completely filtered, hum-free power at a small fraction of the cost of batteries

Model "H"

HUM-FREE OPERATION

of 4, 5, or 6 tube, 1½ volt battery farm or portable radios

High Capacity Condensers and Oversized Iron Core Chokes in "A" and "B" Supply Positively Block Out Hum.

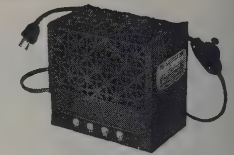
Universal sockets for battery plugs.
Fits in 99% of all portables.
Circuit designed for optimum voltage regulation and changes in line voltages.

Size 2⅛" x 4½" x 6¾"
Shipping weight 5 pounds

PROVIDES	**"A"**	**"B"**
	1.5v at 200 m.a.	90v at 13 m.a.
	1.35v at 250 m.a.	101v at 8.5 m.a.
	1.55v at 300 m.a.	
	1.35v at 350 m.a.	

LIST $15.00

Model "P"



FOR 6 VOLT RADIOS

"TWIN-POWERED"

CONVERTS 98% OF ALL 6 VOLT RADIOS

Vibrator disturbance is eliminated and high fidelity performance assured by sensational new design having two separate sources; one for the vibrator and one for the filaments.

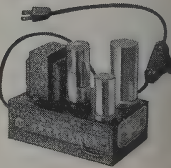
Provides two sources of 6 volts at 1½ amps. or connected in parallel 3 amps—Screw type terminals.

LIST $24.25

Shipping weight approximately 8 lbs. (Size: 3⅝" x 6⅛" x 5½")

Model "L"

for 2 VOLT RADIOS



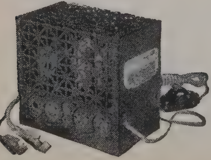
Supplies "A", "B" and "C" Power to 4 to 8 tube sets designed for 3 volt Dry Battery, 2.5 volt Air Cell, or 2 volt Storage Cell "A" Power.

PROVIDES:
"A"—2v, D.C.
"B"—67½, 90, 112½, 135v (Can be adapted for 45 volts)
"C"—1½ to 22½v, (2 or 3 "C" voltages if necessary.)
Screw Type Terminals

Shipping weight approximately 6 lbs. (Size: 6 1/16" x 4" x 5⅛")

OPERATE 1½ VOLT BATTERY RADIOS FROM 6 VOLT STORAGE BATTERY

Model "C"



SUPPLIES 1.4 VOLTS "A" AND 90 VOLTS "B" FROM 6 VOLTS D. C. INPUT

- Replaces "A" and "B" batteries in 1.4 volt portable or farm radios having 4, 5, or 6 tubes.
- Hum and hash free operation.

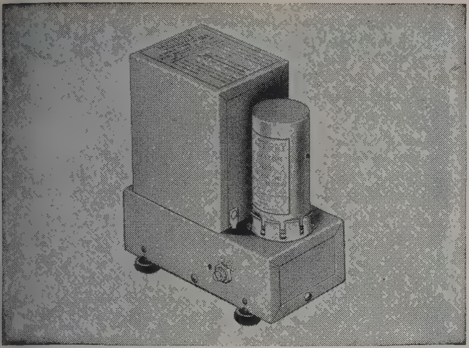
PROVIDES:
"A"—1.4v at 200, 250 and 300 m.a.
"B"—90v at 10 m.a.
Six Battery Type Sockets

GTC

Shipping weight approximately 5½ lbs. (Size 3¾"x6¼"x6")

MALLORY VIBRAPACKS* (Vibrator Power Supplies)

*REG U. S. PAT. OFF.



TYPE VP-552

● Vibrapacks are the ideal vibrator power supplies designed for providing dependable and low cost high voltage direct current from a low voltage storage battery. Proved efficient and dependable by more than ten years of actual field service. Available in various types and sizes, with outputs up to 50 watts at 300 and 400 volts.

Outstanding Advantages:

1. High efficiency—low battery drain.
2. Dependable—trouble free—time-tested in thousands of nstallations.
3. Low cost—low maintenance.
4. Compact—light in weight.
5. Ease of installation.
6. Flexibility. Single unit Vibrapacks can be adjusted to give 4 output voltage ranges each.

Applications

Vibrapacks are widely used for furnishing "B" power in he following applications:

Automobile receivers—police, sheriff, amateur short wave, tc.

Aircraft and marine receivers and transmitters.

Farm receivers.

Police mobile two-way equipment.

Automobile P. A. systems.

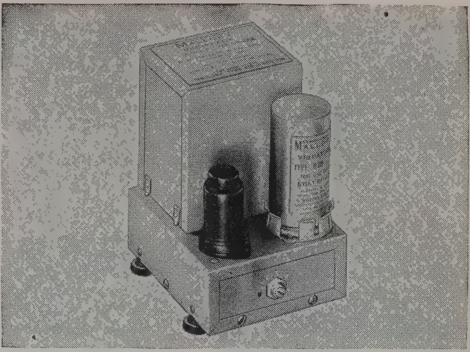
Military, lighthouse, and forestry service radio communication apparatus.

Miscellaneous electronic applications where commercial power is unavailable.

Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type	List Price
VP-551	6.3	125-150 175-200	100 ma.	Self-Rectifying	$18.50
VP-552	6.3	225-250 275-300	100 ma.	Self-Rectifying	22.50
VP-553	6.3	125-150 175-200	100 ma.	Tube Rectifier	19.50
VP-554	6.3	225-250 275-300	100 ma.	Tube Rectifier	23.50
VP-555	6.3	300	200 ma.	Tube Rectifier	46.00
VP-557	6.3	400	150 ma.	Tube Rectifier	46.00
VP-G556	12.6	225-250 275-300	100 ma.	Self-Rectifying	23.50
VP-F558	32.	225-250 275-300	100 ma.	Tube-Rectifying	24.50

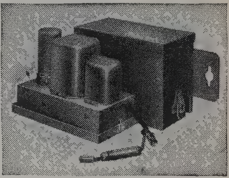
NOISE SUPPRESSION

● Vibrapacks are equipped with complete, built-in noise uppression equipment. Type VP-555 also includes an efficient low-frequency hum filter. Type VP-557 incorporates he first input filter condenser only. Other Vibrapacks do not include the high voltage hum filter. High voltage filter requirements are similar to equivalent AC power packs.



TYPE VP-554

TYPE VP-540



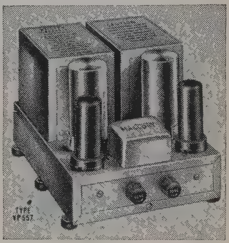
● Designed for use as a complete "B" power unit for automobile, airplane, and marine service. May be used to operate long wave, broadcast-band, and short wave receivers, or any electronic device within its load capabilities. Rigid anchorage of components permits satisfactory operation under conditions of considerable vibration. Completely filtered for both RF and audio so that the hum and hash level is extremely low.

Universal mounting, any position, with horizontal preferred. VP-540 is of the synchonrous, or self-rectifying type. Nominal output, 250 volts at 60 ma. Nominal input, 6.3 volts. Size 7½ x 3^{15}⁄$_{16}$ x 5⅛" high, exclusive of mounting brackets and leads. Weight, 7 lbs., 14 oz.

No. VP-540 Vibrapack. List price...................... **$26.00**

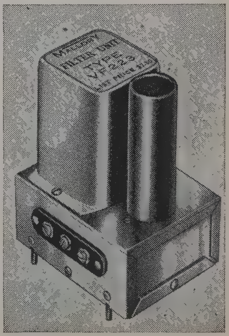
TYPES VP-555, VP-557

(See listing at left)



● Special Dual Packs for high output. Tube rectifier types permit "B—" to be isolated from ground if desired. Output voltages indicated are nominal. Actual average output voltages at various loads will be found in the graphs of our Form No. 555E, when operated at rated terminal voltage. Vibrapacks are supplied complete with special Mallory vibrator. Rectifier tubes included in the interrupter types.

TYPE VF-223 AUDIO FILTER



● A complete audio filter system for use with all single-unit Vibrapacks. Designed to give maximum suppression of hum with minimum voltage drop. Especially recommended for applications which are sensitive to hum, or where voltage regulation is important as in Class "B" audio amplifiers.

No. VF-223 Filter.
List price............. **$8.00**

MALLORY REPLACEMENT VIBRATORS

● Mallory Vibrators are better than ever today—and here's why:

—Heavy frame holds springs in permanent alignment
—Extra heavy cans insure better sound deadening
—High-grade clock spring steel eliminates reed breakage
—Precision measurements in increments of .0001″ insure long life
—105-strand lead wire defies vibration—connections stay intact
—Optical adjustment methods insure accuracy not obtainable with unaided eye
—Individual testing for output, starting voltage and wave form assures high quality

There is a Mallory Replacement Vibrator for most automobile receivers and vibrator-powered equipment.

For recommendations by receiver make and model number, see your distributor for the Mallory Vibrator Guide, or consult the 5th Edition Mallory Radio Service Encyclopedia.

P.R. MALLORY
MALLORY
VIBRATOR
FOR USE ON
6 VOLT BATTERY
MFG. UNDER ONE OR MORE U.S. PATS.
1,943,240 - 2,031,474
2,049,310 - 2,111,550
2,190,685 - 2,187,367
2,223,516 - 2,260,072
2,339,973
ET. AL.
INDIANAPOLIS, IND.
MADE IN U.S.A.

RECOMMENDED SUBSTITUTIONS FOR DISCONTINUED VIBRATORS

Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement
220B	See Note 2	**299**	298
F220C	See Note 2	**500P**	507P
221	292	**501P**	853
223	222 (See Note 1)	**503**	292
F223	See Note 2	**504**	246 (See Note 1)
224	222 (See Note 1)	**508P**	859
226	222 (See Note 1)	**509P**	859
245SW	245	**510P**	859
G245	G749C	**722A**	246 (See Note 1)
G249	G725C	**728A**	246 (See Note 1)
F251	F294	**850**	859
G253	G826C	**G850**	G826C
253Y	294	**866**	859
277S	286S (See Note 1)	**868**	870
P285Y	246 (See Note 1)	**869**	859
289Y	249	**902M**	859
294SW	854	**903M**	859
296	298	**951P**	246
297	298		

NOTE 1. To make this substitution certain wiring changes are necessary. See instruction sheet packed with vibrator or installation note in the Mallory Vibrator Guide and the 5th Edition Radio Service Encyclopedia.

NOTE 2. An exact duplicate is no longer available. Every effort is being exerted to determine a satisfactory substitute. If a substitute can be made available, your Mallory Distributor will be advised.

Type No.	Volt	Type	Base Dia.	Can Type	Size	List Price
222	6	Syn.	20	2	4⅞ x 1⅞ x 1 13/16	**$ 7.65**
245	6	Syn.	21	1	1½ x 3¼	**6.90**
245A	6	Syn.	21	1	1 15/16 x 3½	**6.90**
245C	6	Syn.	28	1	1½ x 3¼	**6.90**
W245	4	Syn.	21	1	1½ x 3¼	**6.90**
W245A	4	Syn.	21	1	1 15/16 x 3½	**6.90**
246	6	Syn.	38	1	1½ x 3¼	**6.90**
246A	6	Syn.	38	1	1 15/16 x 3½	**6.90**
W246	4	Syn.	38	1	1½ x 3¼	**6.90**
247	6	Syn.	46	1	1½ x 3¼	**6.90**
F247	32	Syn.	46	1	1½ x 3¼	**7.65**
248	6	Syn.	44	1	1½ x 3¼	**6.90**
249	6	Syn.	32	1	1½ x 3¼	**6.90**
270B	6	Syn.	23	1	2 x 4½	**8.30**
†271	6	Syn.	24	1	2 x 4½	**8.30**
ADAPTER	..	....	..	.	....	**1.35**
271HD	6	Syn.	24	1	2 x 4½	**8.30**
273C	6	Syn.	29	1	2 x 4½	**7.65**
273D	6	Syn.	31	1	2 x 4½	**7.65**
†286S	6	Syn.	44	1	2 x 4½	**7.65**
†G286S	12	Syn.	44	1	2 x 4½	**10.40**
292	6	Int.	3	2	1½ x 1⅜ x 2 7/16	**4.80**
294	6	Int.	8	1	1½ x 3¼	**4.10**
F294	32	Int.	8	1	1½ x 3¼	**6.20**
†F297	32	Int.	33	1	1½ x 3¼	**6.90**
298	6	Int.	51	1	1½ x 2⅞	**5.50**
F502P	32	Int.	9	5	1⅝ x 3⅝	**8.30**
505P	6	Int.	8	1	1 15/16 x 3½	**3.45**
506P	6	Int.	36	1	1 15/16 x 3½	**5.50**
507P	6	Int.	10	3	1⅝ x 4¾	**3.45**
514	6	Syn.	30	6	1 15/16 x 3½	**6.90**
716	6	Syn.	30	7	1 15/16 x 3½	**6.90**
***725C**	6	Syn.	32	1	1½ x 3¼	**7.65**
***G725C**	12	Syn.	32	1	1½ x 3¼	**9.05**
742	6	Syn.	32	1	1½ x 2⅞	**6.90**
743	6	Syn.	38	1	1¼ x 3¼	**6.90**
748	6	Syn.	44	1	1½ x 2⅞	**6.90**
***G749C**	12	Syn.	21	1	1½ x 3¼	**9.05**
***825C**	6	Int.	8	1	1½ x 3¼	**6.25**
***826C**	6	Int.	8	1	1½ x 3¼	**5.50**
***F826C**	32	Int.	8	1	1½ x 3¼	**6.90**
***G826C**	12	Int.	8	1	1½ x 3¼	**6.90**
839	6	Int.	8	1	1½ x 3¼	**4.80**
852	6	Int.	14	3	1⅝ x 3⅝	**4.10**
853	6	Int.	10	3	1⅝ x 3⅝	**4.10**
854	6	Int.	11	1	1½ x 3¼	**4.10**
859	6	Int.	8	1	1½ x 2⅞	**4.10**
860	6	Int.	14	7	1½ x 3¼	**4.10**
870	6	Int.	14	1	1½ x 3	**4.10**
901M	6	Int.	8	1	1½ x 3¼	**3.45**
952W	6	Syn.	16	1	1⅜ x 2⅞	**6.90**
953W	6	Syn.	16	1	1½ x 3 5/16	**6.90**
954	6	Syn.	39	1	1½ x 3 5/16	**6.90**
1100	6	Int.	8	1	1 5/16 x 2⅜	**4.10**

*Hermetically Sealed Construction.
†A substitution will be made available after present inventory is depleted.

Int.—Interrupter
Syn.—Synchronous

MALLORY REPLACEMENT VIBRATOR GUIDE

● Bigger and better than ever before, this Vibrator Guide lists replacements for all prewar auto radios and is sectionalized for quick reference. It includes a new section on buffer capacitor circuits . . . another section on servicing old radios that need obsolete or discontinued types of vibrators . . . even information on vibrator power supplies. No charge.

MALLORY REPLACEMENT VIBRATORS

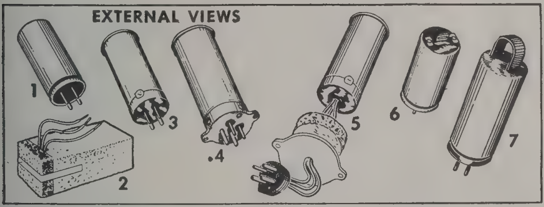
These Mallory Vibrators Meet 90% of Your Replacement Needs

● The 12 basic vibrator types listed at right cover 90% of your replacement needs. The entire line of Mallory Vibrators has been simplified so that replacements can be made easily and quickly. By effecting substitutions, Mallory is materially reducing the number of vibrators needed to meet your requirements.

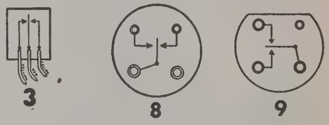
This Mallory standardization program means that your distributor will stock fewer vibrator types and more units of each—thus delivery will be tremendously speeded up.

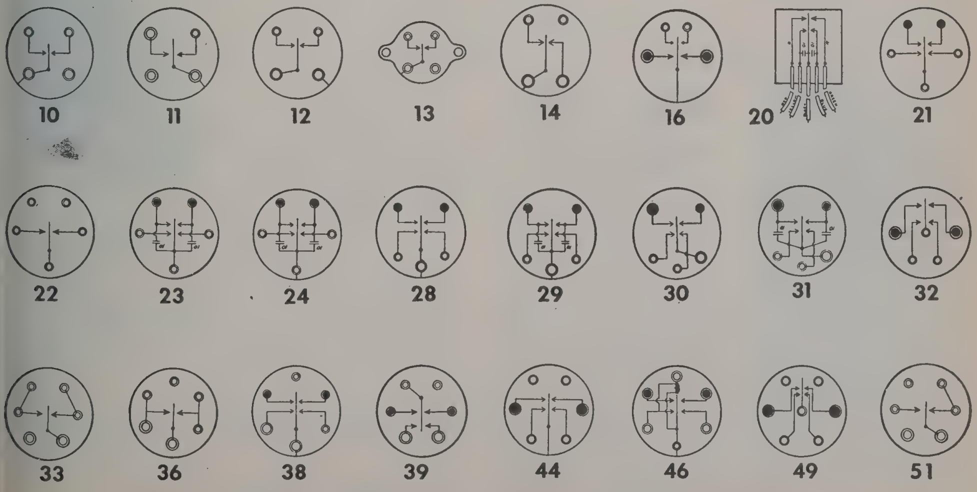
The vibrator replacement problem is being simplified but Mallory quality remains the same. Mallory precision vibrators, backed by years of outstanding performance, still offer the dependability, the long life and the trouble-free service that you and your customers expect. It pays to insist on Mallory Approved Precision Products.

Type No.	Volt	Type	Base Dia.	Size	List Price
245	6	Syn.	21	1½ x 3¼	$6.90
246	6	Syn.	38	1½ x 3¼	6.90
248	6	Syn.	44	1½ x 3¼	6.90
249	6	Syn.	32	1½ x 3¼	6.90
273C	6	Syn.	29	2 x 4½	7.65
294	6	Int.	8	1½ x 3¼	4.10
716	6	Syn.	30	1 15/16 x 3½	6.90
852	6	Int.	14	1⅝ x 3⅝	4.10
854	6	Int.	11	1½ x 3¼	4.10
859	6	Int.	8	1½ x 2⅞	4.10
870	6	Int.	14	1½ x 3	4.10
1100	6	Int.	8	1 5/16 x 2⅜	4.10



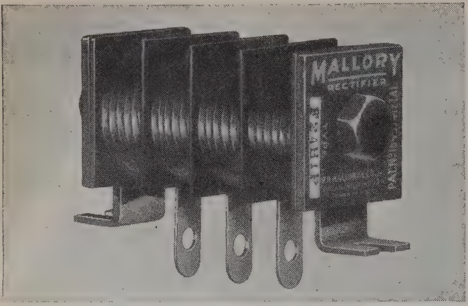
BASE DIAGRAMS





NOTE—Pins shown in black on above diagrams are rectifier contact connections.

MALLORY DRY-DISC RECTIFIERS · BATTERY CHARGERS



RECTIFIERS DRY-DISC TYPE

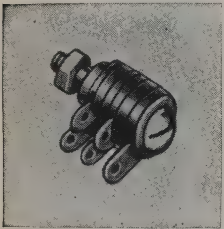
● Low voltage, direct current—from a watt to kilowatts—is easy and economical to obtain with Mallory Magnesium-Copper Sulphide Rectifiers.

For battery charging, electroplating, energizing magnetic chucks, there is no substitute for direct current. There are countless other applications where it does a better job than alternating current. They range from operating train models to powering motion picture arc lights. High gain speech amplifiers, for instance, can be made more hum-free by operating the tube heaters from DC Solenoids and electromagnets operate smoothly and without chattering when powered by direct current.

Full details are incorporated in Form R-615A, available without charge from your Mallory distributor or from the factory. Inquiries from manufacturers whose products employ dry-disc rectifiers are also invited.

Catalog Number	Replacement for Type Number	List Price
B8C3M	8A3, 4A3, W8A3	**$3.85**
IB12C1M	12C1, F12C1, IF12C1B, 12C1F, F12C1K, IB12CX1, X112, X12, U12, 3C Booster	**5.30**
F16C3M	16C3, F16CB3, 16CD3, X116, X16, ME16, 16C3B*, XB16*, M16*	**6.15**
F16H1P	W16A1, F16G1	**3.60**
IS16CB7M	For 5535 B Charger	**7.65**
IF16CB7M	For 5535 A Charger	**7.80**
IS16B7M	For 107 Charger	**9.60**
F20H1P	F20G1, W20A1, 20A1, X20	**4.30**
F24H1P	F24G1, W24A1	**5.10**
F28H1PM	F28G1, F28H1P	**5.80**
F32H1PM	F32H1P	**6.55**

*Use base from old rectifier.



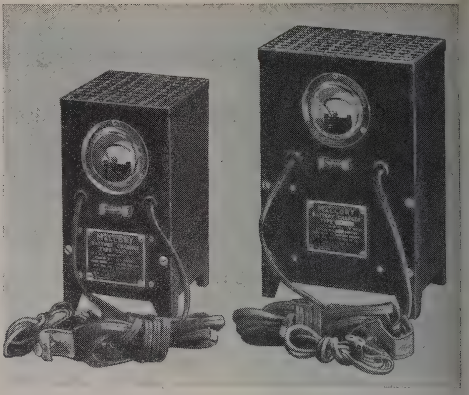
IB4R · IB8R

ULTRA-COMPACT RECTIFIERS

● These midget rectifiers, measuring 9/16-inch in diameter and 7/8-inch overall height including terminals, have been widely used during recent years in battery eliminators, power packs and similar equipment. For complete electrical specifications of their use on specific types of loads—inductive, resistive, capacitive and taper charging—refer to Booklet R-615A.

No. IB4R. Replaces similar rectifier supplying filament power in packs (GTC Porta-Power, Electro Battery Eliminators, etc.) for conversion of 1½-volt portable or farm radios, of 4, 5 or 6 tubes, to 105-125 volt 50-60 cycle lines. List price each **$1.75**

No. IB8R. Similar to IB4R but with eight rectifying junctions instead of four. Maximum AC volts (115 volt line or equivalent), 7.2 at no load, 6.44 operating. Maximum intermittent DC amps., 5. List price each **$2.40**



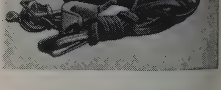
TYPE 5535B TYPES 107 and 125

BATTERY CHARGERS

● Mallory Chargers and Boosters are designed primarily for charging automobile storage batteries. For this purpose they are provided with clamp-on dash receptacle and plug for easy attachment to any automobile, truck, bus, taxi-cab or trailer, They offer a simple, economical and dependable method of keeping the battery charged to give prompt starting on cold mornings and to provide an abundance of current for lights, radio, heater and other accessories.

Mallory Chargers and Boosters are also ideal for charging storage batteries used in small boats, farm radios, laboratories, and aircraft. They are designed to operate from 115 volts, 50-60 cycles, and to automatically provide a tapering charge; that is, a high charging rate into a discharged battery, the rate gradually decreasing as the battery becomes charged and a safe charging rate when the battery is fully charged. Mallory Chargers and Boosters are equipped with an automotive type fuse which protects the charger from improper connection to the battery and from serious overloads. The fuse is located on the front of the box for accessibility and convenience in replacing.

Although designed especially for battery charging, Mallory Chargers and Boosters may be used as a direct current power supply for: electroplating, toy and model train operation, operating loud speaker fields, coin machines, relays, solenoids, scientific apparatus, small generator and alternator fields and other applications requiring a low voltage direct current.



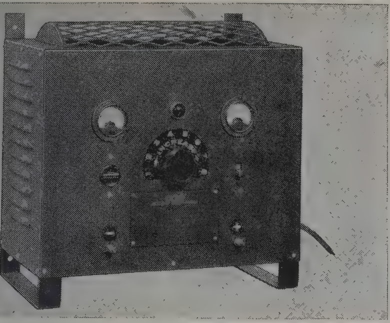
TYPE 3C BOOSTER

Type Charger	Max. Charg. Rate (Amps.)	Tapered Rate (Amps.)	Charging Meter	Height (In.)	Width (In.)	Depth (In.)	Approx. Shipping Weight	Length A.C. Cord (Ft.)	Length. D.C. Cord (Ft.)	List Price
3C	4	2	No	6 x	3⅞ x	3⅜	4¾	6	4	**$ 9.55**
5535B	6	4	Yes	7⅞ x	4½ x	4¾	7¼	6	6	**13.80**
107	10	7	Yes	9¼ x	6¼ x	5¾	11	6	6	**18.00**
125†	5	3	Yes	9¼ x	6¼ x	5¾	11	6	6	**27.00**

†For charging 12-volt storage batteries in aircraft, boats, buses and fire trucks. Types 3C, 5535B and 107 are for charging batteries of 6 volts or less. All chargers are equipped with one No. 652 dash receptacle.

No. 652—Extra dash receptacle and plug for Mallory 3C, No. 5535A, No. 5535B and 107 charger **$1.80**

MALLORY BATTERY CHARGERS · RECTIFIER POWER SUPPLIES



RECTOPOWER** STATIONARY TYPES

● A compact, heavy-duty Mallory Dry Disc Rectifier that urnishes constant and adequate DC power. The unit is articularly suited for testing and repairing electrical communications and electronic equipment in all applications mploying voltage within specified ranges.

May also be used for the economical and efficient taper harging of batteries.

Requires no special foundation; may be quickly and easily mounted on wall or bench for the most convenient location.

Featuring a variable voltage output to simulate actual operation under different conditions, the power supply has ow ripple characteristics—3% at full load, lower at light oad. Send for catalog sheet R-659-A.

Type	D.C. Output		A.C. Input		Dimensions				Approx. Net Weight	Net Price††
	Volts	Amps.	Volts	Phase/ Cycle	Length	Depth	Height	Overall Height		
6VA10	6	10	115	1/60	14	10	15	18	20	$ 65.00
2VA10†	12	10	115	1/60	14	10	15	18	32	95.00
4VA10†	24	10	115	1/60	20	12	15	18	60	145.00
2VA10†	32	10	115	1/60	20	12	15	18	75	180.00
6VA25*	6	25	115	1/60	17	14	24	28	45	125.00
2VA25*	12	25	115	1/60	17	14	24	28	72	180.00
4VA25†*	24	25	115	1/60	24	16	24	28	140	265.00
2VA25†*	32	25	115	1/60	24	16	24	28	175	335.00

Fan cooled.
Can be furnished for dual operation, i.e., half voltage, double current.
*Reg. U. S. Pat. Off.
†Prices, F.O.B. Indianapolis.

RECTOPOWER** PORTABLE TYPES

The portable rectopower requires no special foundation, ut may be rolled easily about the laboratory or assembly oor to the exact spots where it can be used most convenently. Radio transmitters and receivers, and other electric nd electronic equipment, may be tested while in the process f manufacture or after being installed.

Rectopowers have variable voltage output to simulate ctual operation under different conditions, good regulation, nd low ripple characteristics—3% at full load, lower at light oads. Circuits are arranged to deliver both 12 and 24 volts multaneously. A DC contactor prevents discharge of battery if AC starting switch is open when unit is used as a battery charger or in parallel with a battery for precision egulation.

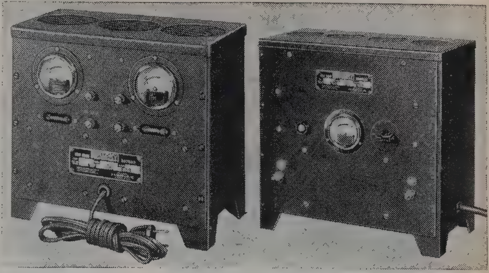
YPE VA 1500

ype No.	AC Input
A1500	208 or 230 V. 3 phase 60 cycle
A1500-A	460 V. 3 phase 60 cycle

DC Output for Both Types: 100 amps. at 10-16 volts or 50 amps. at 20-32 volts.

VA1500 net price **$400.00**

VA1500-A net price **420.00**



BATTERY CHARGERS AVIATION TYPES

● Mallory aviation rectifier battery chargers have been designed and developed to answer the need for a practical and economical unit to charge 12 and 24-volt aircraft batteries and battery carts.

Featuring a tapering charge, these units supply a high charging rate for a discharged battery with a gradually decreasing rate as the battery becomes charged.

Mallory aircraft battery chargers employ the tried and proven Mallory magnesium-copper sulfide dry disc method of rectification. This method eliminates all moving parts and assures long life and dependability.

Write for catalog sheet R-662.

Type Charger	5AC24D	10AC24
Battery Volts	12* and 24*	24
Number of Cells	6 and 12	12
Amps. Charg. Initial	7½ and 5	10
Amps. Tapered	4½ and 3	6
DC Output		
Connection	Parallel Series	Straight
Type	4 Studs	Studs
Length	10 in.	12 in.
Width	5½ in.	10 in.
Height	9 in.	14 in.
Approx. Shipping Weight	20 lbs.	85 lbs.
AC Cord Length	8 feet	8 feet
Net Price††	**$37.50**	**$72.50**

*Two 12-volt batteries may be charged simultaneously from independent circuits or connected in series and charged from 24-volt output.

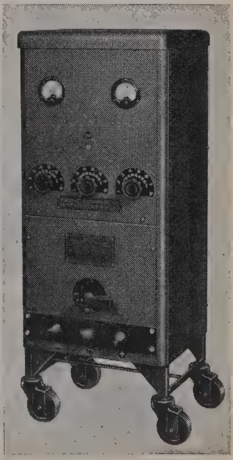
TYPE VA 3000

Type No.	AC Input
VA3000	208 or 230 V. 3 phase 60 cycle
VA3000-A	460 V. 3 phase 60 cycle

DC Output for Both Types: 200 amps. at 10-16 volts or 100 amps. at 20-32 volts.

VA3000 net price **$500.00**

VA3000-A net price **520.00**



TYPE VA 4500

Type No.	AC Input
VA4500	208 or 230 V. 3 phase 60 cycle
VA4500-A	460 V. 3 phase 60 cycle

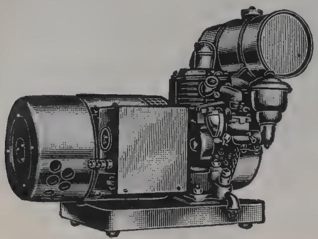
DC Output for Both Types: 300 amps. at 10-16 volts or 150 amps. at 20-32 volts.

VA4500 net price **$625.00**

VA4500-A net price **645.00**

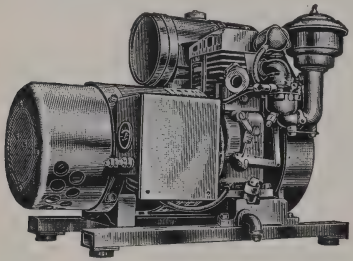
Prices F.O.B. Indianapolis

110 VOLT AC ANYWHERE WITH KATOLIGHT!



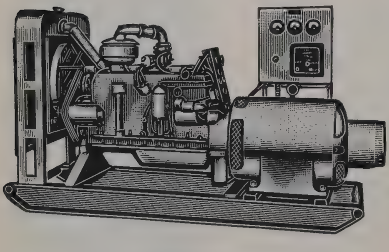
Model 23HAB4

500 watt, 115-volt, 60-cycle, AC KATOLIGHT plant powered with a 1 h.p., single cylinder, 4 cycle, aircooled engine. Approximately 25″ long x 11″ wide x 20″ high, net wt. 135 lbs., shipping wt. 170 lbs. As a special feature this model is furnished with start and stop button right on the generator, with cutout, D.C. ammeter, charge control resistor and battery cables.



Model 28HAB4

1500 watt, 115-volt, 60-cycle, A.C. KATOLIGHT plant powered with Briggs & Stratton 4 h.p., 1 cylinder, 4 cycles, aircooled engine. (Illustrated with 40-ft. Remote Control. Standard models are furnished with manual cranking arrangement.) 31″ long x 40″ high x 21″ wide, net wt. approximately 350 lbs., shipping wt. 410 lbs.



MODEL 55MPK6

25,000 watt, 127/220 volt, three phase, 60 cycle, 4 wire, 1200 r.p.m., A.C. revolving field type Katolight generator powered with Chrysler Industrial engine. This type unit suitable for continuous duty or for standby service. Net wt. approximately 3300 lbs.

CONTINUOUS DUTY — ECONOMICAL
RUGGEDLY CONSTRUCTED — PORTABL

Designed for sound trucks, homes, cottages, trailers, farms or place where plant is desired for running many hours daily expected to give years of trouble-free service.

KATOLIGHT PLANTS are the result of actual experienc the light plant field; the result of much laboratory and actual tests. The engine that will give the best performance is sele for each model. Engine manufacturers are known internation and maintain service stations in key cities in U. S., Canada foreign countries. The user is assured of service and parts f authorized service stations.

KATOLIGHT PLANTS are already to go by simply addi little gasoline and oil and connecting to the lines; complete engine, generator, base, fuel tank, instruction manual, hand cr

GAS ENGINE DRIVEN PLANTS

500 to 5000 Watts, Aircooled, 110-volt A.C., 60 Cycle, 1800 R.P.M.

Watts Capacity	Model	Code	Battery Necessary for Self-Cranking	Net Wt.	Ship. Wt.	
500 A.C.	23HAB4	ABTOL	1-6V.	125	175	$1
600 A.C.	14HAB4	ALERT	2-6V.	170	225	2
1000 A.C.	26HAB4	ABBOT	2-6V.	265	295	3
1500 A.C.	28HAB4	ABEAR	3-6V.	350	410	4
2000 A.C.	30HAB4	ABIDE	3-6V.	350	410	5
5000 A.C.	45HAW4	ACTAN	5-6V.	860	990	9
10,000 to 25,000 Watts, A.C., Watercooled, 1800 R.P.M.						
10,000 A.C.	49MPK4	ALBUN	1-6V.	1100	1300	$16
15,000 A.C.	52MPK4	ACTIV	1-6V.	1300	1500	18
25,000 A.C.	55MPK4 (3 ph only)	ACTAV	1-6V.	2250	2500	26
10,000 to 25,000 Watts, A.C., Watercooled, 1200 R.P.M.						
10,000 A.C.	49MPK6	ALBUS	1-6V.	1300	1500	$18
15,000 A.C.	52MPK6	ALBAT	1-6V.	1300	1500	20
25,000 A.C.	55MPK6 (3 ph only)	ALBUT	1-6V.	2250	2500	29

Watts Rating at 100% Power Factor (Lamp Load)

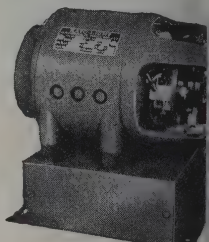
Available in all standard voltages other than list, at a LIST EXTRA cost of $40.25. Also available for 32-volt direct current operation on specification a ADDITIONAL LIST of $17.25 on sizes through 2000 watts or an ADDITIO LIST of $40.25 on sizes to 5000 watts.

LIST PRICES—ACCESSORIES

40-Ft. Remote Control (For starting and stopping plant 40 ft. or less away)—A.C. models only	$2
500-Ft. Remote Control (For starting and stopping plant 500 ft. or less away)—A.C. models only. 2000 watt plants and under. (No control wire furnished.)	4
500-Ft. Remote Control (For starting and stopping plant 500 ft. or less away)—A.C. and D.C. plants over 2000 watts. (No control wire furnished.)	13
Full Automatic Control — 2000 watt plants and under. A.C. plants only	115.00
Full Automatic Control — For model 45HAW4	172.50
Special Mufflers and 5-Ft. Flexible Exhaust Tubing	10.35
Remote Control Station Only—Including 40-ft., 3-wire control cable	5.75

KATO KONVERTERS

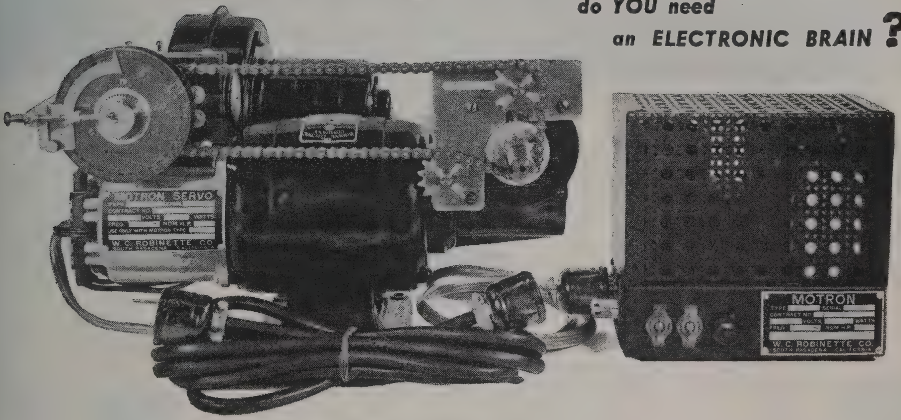
Kato Konverters furnish standard 115-volt, 60-cycle A.C. from a source of 32, 115 or 230-volts direct current. Ideal for operating radio and electronic equipment, appliances, etc. All steel frames available. Send for bulletins and prices. (Model 5 KA43, 225-watt illustrated.)



Manufacturers of A.C. & D.C. Generators, Rotary Konverters, A.C. & D.C Power Plants, Motor-Generators, Frequency Changers, High Frequenc Generators, Gas-Engine Driven Battery Chargers, etc. Write for quotation and specifications.

MOTRON—

do YOU need
an ELECTRONIC BRAIN?



ELECTRONIC SERVOMECHANISM

may be YOUR answer

The MOTRON (MOTor-electRON, TM, Reg.) Servo Model 61A is a packaged continuous-balance control system of practical infinite sensitivity that can be applied to the automatic control or regulation of a large variety of practical problems to eliminate the need of human supervision. Several miniature vacuum tubes directly control (without circuit-breaking contactors) the speed and direction of a standard 1/15 horsepower induction motor, (according to the setting of the input-dial), which can be used to ontrol other larger power sources.

The input-dial is mounted on selected precision nstrument ball bearings and may be rotated by extremely small forces, such as electrical meter movements, pressure gages, flow gages, nylon or ilk filaments, precision weighing balances, miniature motors and repeaters, synchronous electric clocks, wet paper fibres, air vanes, metal bellows and magnetic compass needles.

The input-dial controls either the velocity or position of the motor to very accurate limits. The velocity in either direction may be limited from zero to maximum independent of input-dial setting, so that unting instability can never occur. The motor may actuate any device or mechanism (with 33-75 in-lb. torque, 0-29 R P M) that controls the process, state, or condition that is measured on the input-dial, thus controlling and regulating the process. Alternately the motor may act as a torque amplifier or remote positioning agent. Since the motor velocity (*not* torque) is controlled, load change or complete loss of load cannot cause instability.

The 61 A Servo is designed for short time-constant systems and is usually capable of great sensitivity, 15/100 of one percent to 3/100 of one percent. Electronic components are in a replaceable plug-in can for instant servicing.

Suggested uses:

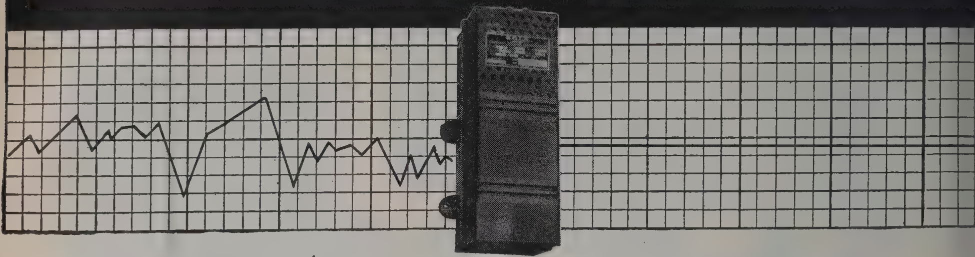
Air velocity controller to within as close as 25 or 50 F P M or .01 inch of water for separation of food products from chaff or sizing coal or other granular material; Vehicle steering or cam following; Tracer controlled mechanisms such as oxy-acetelyne cutting or lathe duplicators; Automatic weighing; Antenna positioning; Tensioning, guiding and winding paper, cloth, thread, wire, etc.

An inquiry on your company letterhead will bring further information

W. C. ROBINETTE COMPANY

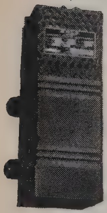
302 FAIR OAKS AVENUE • SOUTH PASADENA, CALIFORNIA

SOLA Constant Voltage Transformers



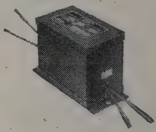
FLUCTUATING LINE VOLTAGE

CONSTANT OUTPUT VOLTAGE



SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 3

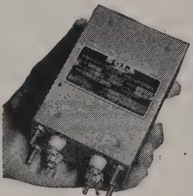
Constant Voltage Transformers are designed to provide a constant output voltage which is unaffected by changes in input voltage. Stabilization is instantaneous and automatic and there are no moving parts. Constant Voltage Transformers also provide isolation between input and output circuits. Low output voltage wave distortion and small size make these transformers especially attractive for use with all types of electronic equipment.



SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 21

SOLA
CONSTA
VOLTAG
TRANSFOR
TYPE

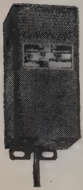
FOR CHASSIS MOUNTING



TYPE 11

Output capacities up to 15 VA, with output at either 6.3 volts or 115 volts. Both types are immersion proof and capable of tropical service. Type 12 furnished with separate condenser. Prices include condenser.

TYPE 12



SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 2

SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 22

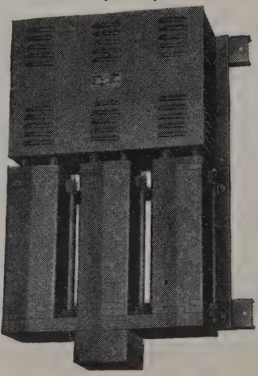
FOR COMPLETE CATALOG INFORMATION SEE OPPOSITE PAGE →

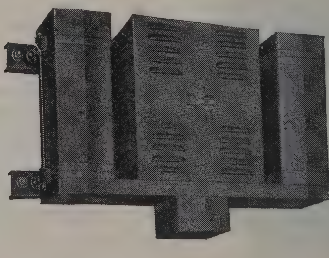
For complete operational data write for Bulletin 13CV-102

SOLA CONSTANT VOLTAGE TRANSFORMER

←TYPE 4

TYPE 6→





SOLA CONSTANT VOLTAGE TRANSFORMERS

↑ TYPE 5 **TYPE 41→**

SOLA ELECTRIC COMPANY • 2525 CLYBOURN AVENUE, CHICAGO 14, ILLI

SOLA Constant Voltage Transformers

ELECTRICAL AND MECHANICAL SPECIFICATIONS **60 CYCLE**

Catalog Number	Output Capacity in VA	Input Volts	Output Volts	Dimensions in Inches A	B	C	E	F	Approx. Shipping Weight	List Price Each
YPE 1										
30488	15	95-125	6.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	$ 15.00
30492	15	95-125	6.3	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
30498	15	95-125	115.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
YPE 2										
30804	30	95-125	115.0	8 9/16	4 3/16	4 3/8	7 13/16	2 3/8	12	17.00
30805	60	95-125	115.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	24.00
30806	120	95-125	115.0	9 11/16	4 3/16	4 3/8	8 15/16	2 3/8	17	32.00
YPE 3										
30807	250	95-125	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30M807	250	190-250	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30808	500	95-125	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
30M808	500	190-250	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
YPE 4										
30809	1000	95-125	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30M809	1000	190-250	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30811	2000	95-125	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
30M811	2000	190-250	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
YPE 5										
30M814	4000	95 /190-125 /250	115.0	21 5/8	42 3/4	9 7/16	12 1/4	40 1/4	520	380.00
30M815	5000	95 /190-125 /250	115.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
30M816	5000	95 /190-125 /250	230.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
YPE 6										
30M817	10,000	190 /380-250 /500	115.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
30M818	10,000	190 /380-250 /500	230.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
YPE 11										
30785	17	95-125	6.3	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
30955	17	95-125	115.0	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
YPE 12										
301002	15	95-125	6.3	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
301003	15	95-125	115.0	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
YPE 21										
30801	25	95-125	6.0	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30881	25	95-125	6.3	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30802	50	95-125	6.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
30882	50	95-125	6.3	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
YPE 22										
30885	60	95-125	115.0	10 5/16	4 3/16	4 3/8	9 9/16	2 3/8	13	24.00
30886	120	95-125	115.0	11 3/16	4 3/16	4 3/8	10 7/16	2 3/8	19	32.00
YPE 41										
30M813	3000	95 /190-125 /250	115.0	44 11/16	10	9 3/8	42 5/8	8 1/2	325	300.00

DIMENSIONS–
A: OVERALL LENGTH
B: OVERALL WIDTH
C: OVERALL HEIGHT
E&F: MOUNTING DIMENSIONS

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OLA ELECTRIC COMPANY • 2525 CLYBOURN AVENUE, CHICAGO 14, ILLINOIS

The SUPERIOR ELECTRIC CO.

613 LAUREL STREET • BRISTOL, CONN., U.S.A.

POWERSTAT VARIABLE TRANSFORMERS

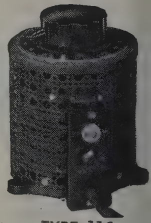
The **POWERSTAT** is a variable auto-transformer used in applications requiring a smooth continuously adjustable output voltage from a-c power lines. Essentially this device consists of a single layer toroidal winding on a silicon-steel core with a set of brushes contacting a bared portion of each turn. By rotating these brushes on the bared part of the winding, any voltage can be "picked-off" from zero to above line.

TYPE 20

Input: 115 volts, 50/60 cycles, 1 phase
Output: 0-135 volts, 3.0 amps., 405 va

THE ½ KVA SERIES

For applications that require a small compact variable transformer of relatively low electrical capacity, there is no greater value than type 20. Ruggedly constructed yet requiring a space of only 3½ by 3¾ inches, this unit delivers a variable output of 0-115 or 0-135 volts (depending upon terminals employed) from a 115 volt single phase line.



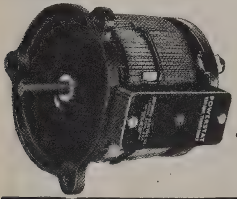
TYPE 116

Input: 115 volts 50/60 cycles, 1 phase. **Output:** 0-135 volts, 7.5 amps., 1 KVA.

THE 1 KVA SERIES

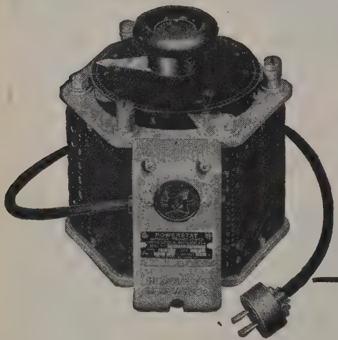
TYPE 116U

Input: 115 volts, 50/60 cycles, 1 phase. **Output:** 0-115/135 volts, 7.5 amps.

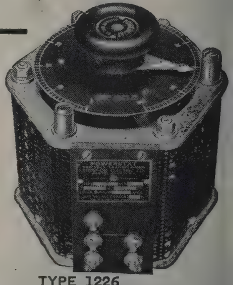


When used for general purposes, these **POWERSTATS** are offered with protective screening, fuse protection, "on-off" switch, output receptacle, and input cord-plug. If the unit is to be incorporated with other apparatus, the accessory equipment is not furnished. These **POWERSTATS** are available in the tabulated rating and also for 230 volt single phase service. Two and three phase operation is possible by mounting individual **POWERSTATS** in tandem.

THE 2 KVA SERIES



To suit each need—in the laboratory or in the shop—the 2 KVA **POWERSTATS** are obtainable in a variety of models for single or poly phase duty. Different types feature . . . exposed terminals . . . fuse protection with bakelite terminal cover . . . or enclosed aluminum terminal box with output receptacle, fuse protection, and input cord-plug. Type 2PF1126 can be furnished for either 2 or 3 wire service as can the 230 volt units.



TYPE 2PF1126

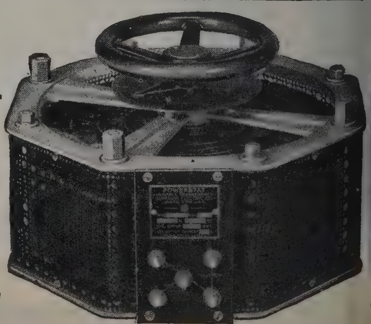
Input: 115 volts, 50/60 cycles, 1 phase
Output: 0-135 volts, 15 amps., 2.0 KVA

TYPE 1226

Input: 230/115 volts, 50/60 cycles 1 phase
Output: 0-270 volts, 9.0 amps., 2.4 KVA

THE 5 KVA SERIES

With high output current capacities, the 5 KVA **POWERSTATS** find wide application for large power requirements. Both the 115 volt (1156) and the 230 volt (1256) units are readily adaptable to gang mounting to supply a continuously adjustable output from 115, 230, or 440 volt single or poly phase lines. Standard types are offered in capacities up to 100 KVA.



TYPE 1256

Input: 230/115 volts, 50/60 cycles, 1 phase
Output: 0-270 volts, 28 amps., 7.5 KVA

SEND FOR BULLETIN MR1

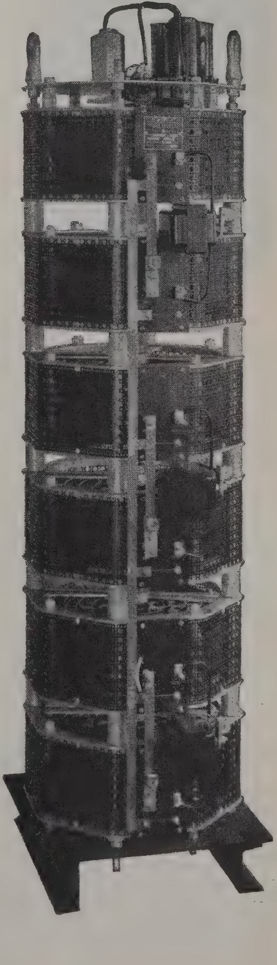
The SUPERIOR ELECTRIC CO.

613 LAUREL STREET • BRISTOL, CONN., U.S.A.

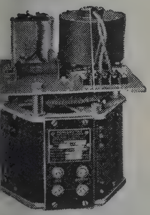
MOTOR-DRIVEN
POWERSTATS

FOR PUSH BUTTON OR AUTOMATIC CONTROL

ere it is necessary to locate the **POWERSTAT** away from the control
tion or it is desirable to automatically control the source of variable
tage . . . **POWERSTATS** can be equipped with motor-drives. This arrange-
nt enables the operator to remotely control kilowatts of power in a safe
l convenient manner. A smooth continuously adjustable output voltage is
the finger-tips and with a push of the control button, any voltage from
o to above line is obtainable.

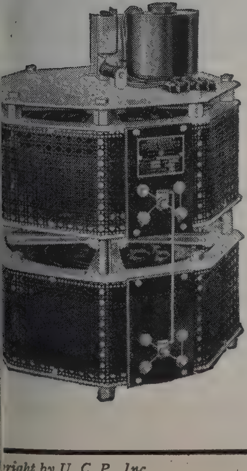


SINGLE PHASE UNITS



For operation from 115, 230, or 440 volt single phase lines, **POWERSTATS** with motor-drives are offered in ratings up to 50 KVA. The driving motor is a reversible, highly damped, rapid starting, synchronous type of low fundamental speed. It is a three wire ball-bearing mounted unit that operates from a 115 volt single phase source. Since the motor-driven **POWERSTAT** has the same fine adjustment of voltage as found in manually-operated units, it is ideal for numerous applications requiring efficient, quick, convenient and continuous control of a-c power.

POLYPHASE UNITS

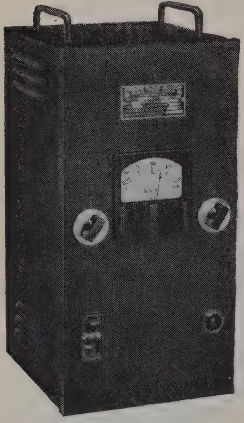


Although the motor used to drive the **POWERSTAT** is physically small, the torque delivered is sufficient to drive even the largest tandem mounted 5 KVA units. As with the single phase **POWERSTATS**, all manually-operated two and three phase units can be motor driven. It is recommended that an investigation be made of **POWERSTAT** variable transformers where a self-contained piece of apparatus is required for rapidly controlling 115, 230, or 440 volt two or three phase power lines. Already this equipment has found wide use in radio transmitters, electrical testing, induction heating, electric furnace temperature control, and automatic voltage regulators. Perhaps it is the solution to your voltage control problem.

SEND FOR BULLETIN MR1

The SUPERIOR ELECTRIC CO.
613 LAUREL STREET • BRISTOL, CONN., U.S.A.

SECO AUTOMATIC VOLTAGE REGULATOR



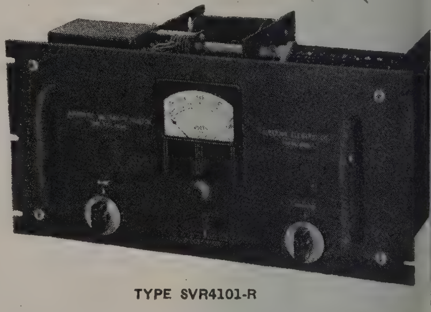
TYPE SVR4101-H

For automatic control of a-c power lines, the **SECO** Automatic Volta
Regulator has no equal. Regardless of variations in input voltage or outp
load current, it always maintains a constant output voltage. In addition
there is no waveform distortion—no internal mechanical adjustmen
—operation is not affected by changes in power factor of the syste

SINGLE PHASE UNITS

The many advantages offered by **SECO** Automatic Voltage Regulators, n
found in other types of voltage stabilizers, is the result of combining
motor-driven **POWERSTAT** variable transformer with a special electro
detector circuit. When the detector circuit notes a variation from t
nominal output voltage (set by means of knob on the panel) it authoriz
the motor controlling the **POWERSTAT** to rotate in the required directi
This bucks or boosts the incoming line to the pre-determined output volta
value. When this value is reached, the detector circuit calls for no furth
correction until the incoming line again fluctuates.

No matter what the requirements of a particular voltage control application, there is a **SECO** Automatic Voltage Regulator to fulfill the need. Standard single phase **SECO** regulators are available in ratings from 1 to 28 KVA in 115, 230, and 440 volt models. Most units will correct line variations of approximately 15% from the nominal voltage. The self-contained cabinet type SVR4101-H illustrated above is representative of the entire line of **SECO** Regulators. It shows the combination quick-trip circuit-breaker and "on-off" switch, pilot light, and easily read voltmeter all housed in a compact black wrinkle-finish cabinet. Whereas the SVR4101-H is designed for table or wall mounting, its companion the SVR4101-R is for relay rack mounting as a component part of existing equipment.



TYPE SVR4101-R

POLYPHASE UNITS

In capacities ranging up to 75 KVA, the three phase **SECO** Automatic Voltage Regulators are indispensable for many factory and laboratory requirements. All equipment on a power line can be controlled by one **SECO** regulator. An installation will insure proper operation of motors, electric furnaces, heater units and other equipment that is critical of line voltage. Standard models are wye connected for use on 230 or 440 volt three phase lines. The three phase

SECO Automatic Voltage Regulators possess all t
characteristics inherent in single phase types. So
features not mentioned previously are . . . efficien
runs as high as 98 percent or better at full load .
low exciting current . . . low cost per KVA .
built-in circuit protection on all units . . . and
though not instantaneous, the **SECO** regulator
extremely rapid in correcting line voltage variatio

SEND FOR BULLETIN MR1

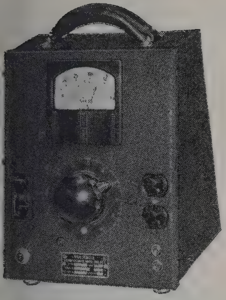
The SUPERIOR ELECTRIC CO.

613 LAUREL STREET • BRISTOL, CONN., U.S.A.

THE VOLTBOX

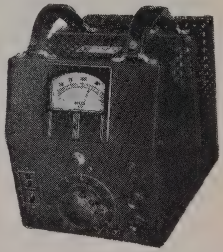
a-c power supply

For the laboratory, assembly line, and maintenance shop, the **VOLTBOX** a-c power supply offers a compact portable source of variable a-c voltage. Unregulated and automatically regulated models are available. The unregulated **VOLTBOX** consists of a strong, light weight, steel enclosure with a **POWERSTAT** variable transformer to supply any voltage from zero to above line, a 1% voltmeter, high speed circuit protection, pilot light, binding post inserts and input cord-plug. In addition to the type U-1000 tabulated to the left, a companion 230 volt model is available as are 2 KVA 115 or 230 volt units. The regulated type, the R-500, has all the components of type U-1000 plus a voltage stabilizer. Its rating is tabulated under the photograph.



TYPE U-1000

Input: 115 volts, 60 cycles, 1 phase.
Output: 0-135 volts, 7.5 amps., 1 KVA.



TYPE R-500

Input: 95-125 volts, 60 cycles 1 phase.
Output: 0-135 volts, 4.0 amps.

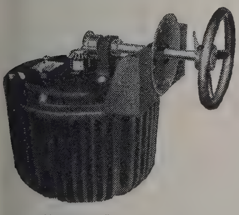
SECO CUSTOM-BUILT EQUIPMENT

SECO REMOTE POSITIONER—This instrument affords a method of remotely controlling a **POWERSTAT** variable transformer with a high degree of accuracy. Servo-operation is achieved by turning the dial of the remote controller causing the motor-driven **POWERSTAT** to follow in accordance with the dial position. Control wires between the Remote Positioner and the **POWERSTAT** act as an "electrical flexible shaft."

SECO D-C POWER SUPPLIES—In addition to its line of superior a-c voltage control apparatus, **SECO** offers d-c power supplies. Both regulated and unregulated models can be designed and built to specific requirements. Capacities range up to 3000 volts, 2 KVA for regulated types and up to 5000 volts, 5 KVA for unregulated. Inquiries are invited.

SECO FIXED-RATIO TRANSFORMERS — For those who desire fixed-ratio transformers of the same high quality as found in **POWERSTAT** variable transformers and other **SECO** manufactured equipment, it is recommended that the **SECO** engineers be consulted on requirements of 500 va and larger. A request for information will receive immediate attention.

SECO SATURABLE REACTORS—At times the use of **POWERSTAT** variable transformers for unusually large current requirements is not feasible. Other times, definite requirements necessitate the employment of saturable reactors. To meet these needs, **SECO** has engineers who will be most pleased to cooperate in supplying a saturable reactor to rigid specifications.



TYPE 0-1226

Input: 230/115 volts 50/60 cycles, 1 phase
Output: 0-270 volts, 18.0 amps., 4.9 KVA.

OIL-COOLED POWERSTATS

By mounting any air-cooled **POWERSTAT** variable transformer in a sufficient quantity of transformer oil, its rating can be increased up to 100 percent above normal air operation. For a high continuous output from a variable transformer of small physical size, **SECO** offers the standard 1, 2, and 5 KVA **POWERSTATS** in a compact, cast-aluminum oil-container. Not only do these units allow increased output currents but immersion in oil permits their use in hazardous or humid atmospheres and where high momentary overloads are occasioned. Standard oil-cooled **POWERSTATS** can be obtained for 115, or 230 volt single phase duty in capacities up to approximately 10 KVA.

SEND FOR BULLETIN MR1

Thank You!

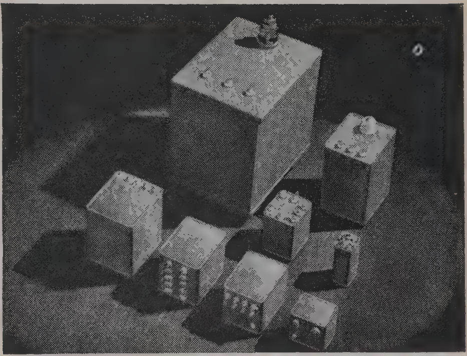
When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

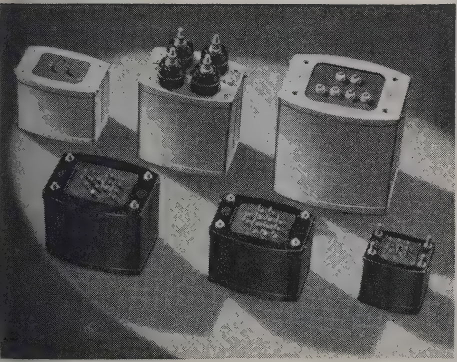
TRANSFORMERS AND REACTORS
For Radio and Other Electronic Devices

Hermetically Sealed Units

Compound-filled and hermetically sealed against the entrance of moisture. Designed to meet U. S. Navy salt water immersion tests. Standard hermetic case types range from very small up to units approximately 200 volt-amperes physical size. Special construction is employed for larger units.



Hermetically sealed units



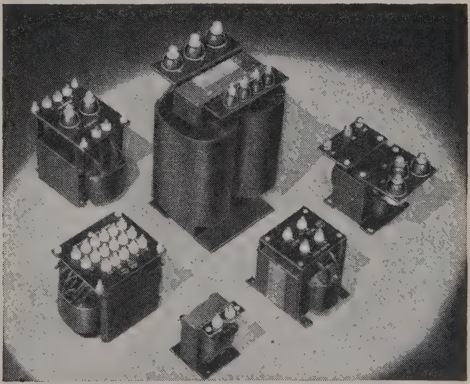
Conventional compound-filled units

Conventional Compound-filled Units

Not hermetically sealed. Moisture resistant, but not immersion-proof. Wide application in the Frequency-Modulation field. Top or bottom mounting for open or underdeck wiring. Standard case types include units up to 250 volt-amperes physical size. Larger units employ special construction.

Core-and-coil Units

Usually applied where moisture resistance is not a factor, and where size and weight must be kept to the minimum. Standard core laminations are utilized in core-and-coil units 15 kva and smaller (physical size). Larger units are built up from special parts and ratings above 15 kva require special laminations.



Core-and-coil units

Three general types of transformers and a com-
ete line of reactors assembled from standard unit
ırts to meet specified requirements: **power**—with
ate, and plate-and-filament units; **filament**—both
ınventional types and high-voltage units; **audio-
equency**—include microphone, input, interstage (or
id), modulation, and output types.
The line of reactors contains microphone, plate, filter (conventional or swinging), and modulation units.

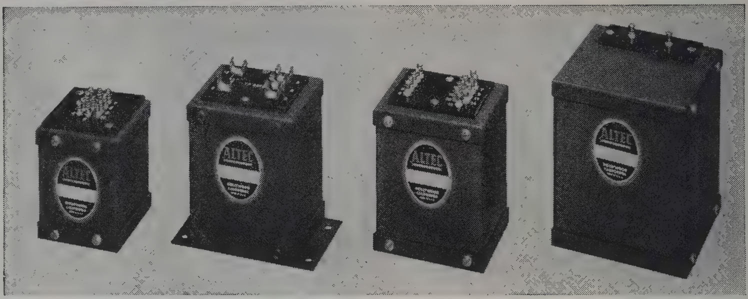
No standard ratings are listed as being in stock, but standard parts are available for manufacturing to specifications. This method of production enables every transformer to be specially designed for its given application.

Write for Bulletin GEA-4280

ALTEC
LANSING CORPORATION

SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y



TRANSFORMERS

Altec Lansing has developed a complete line of transformers which have the necessary frequency range, power carrying capacity, low insertion loss, low phase shift, and ample electro-magnetic and electrostatic shielding, good balance of windings for push pull operation, and proper impregnation and treatment so that heat and moisture will not adversely affect their continued operation. Ability to handle the rated power at low frequencies insures that intermodulation products will be very low.

The use of negative feedback in amplifiers requires that the frequency range of the amplifier must be made much broader than the actual amplification characteristic needed. The required frequency range over which the transmission characteristics of th feedback loop must be controlled is surprisingly hig and represents the price that must be paid in orde to obtain the benefits of negative feedback.

Altec Lansing transformers, unless otherwise spec fied, have a transmission range of 20-20,000 cycle (± 1 db) and this condition will hold over a range 60 db in power. In most cases the transformers wi have good transmission up to 50 KC so that it is n necessary to use special compensation in the fee back path when the transformer is part of it. Th same is true at the very low frequencies since in ge eral the transformers will not be down over 3 db 10 cycles.

INPUT AND INTERSTAGE TRANSFORMERS

TYPE	Application	Balanced to Ground	Impedances—Ohms Input	Impedances—Ohms Output	Frequency Range	Response ±	Max. Level Ref. 6 mw.	Shielding	Overall Dimensions as Mounted (Inches)	Shipping Weight	LIS PRI
TB-103	Input line to single or PP grids	Secondary only	500 250 30	70000 17500	20–20000	1DB	−20DB	25 DB Magnetic & Electrostatic	1¾ x 1⅝ dia.	9½ oz.	$25.
TB-151	Interstage or bridging Single or PP grids to single or PP grids	Primary & Secondary	10000 2500	40000 10000	20–20000	1DB	−20DB	20 DB Magnetic & Electrostatic	1¾ x 1⅝ dia.	9½ oz.	30.
TBB-102	Input line to single or PP grids	Secondary only	250 125 62.5 31	70000 17500	20–20000	1DB	−20DB	90 DB Magnetic & Electrostatic	2¼ x 2⅜ x 2⅞H	1¾ lb.	40
TBB-103	Input line to single or PP grids	Secondary only	500 250 30	70000 17500	20–20000	1DB	−20DB	90 DB Magnetic & Electrostatic	2¼ x 2⅜ x 2⅞H	1¾ lb.	40.
TBB-115	Input line to single or PP grids	Secondary only	20 5	70000 17500	20–20000	1DB	−20DB	90 DB Magnetic & Electrostatic	2¼ x 2⅜ x 2⅞H	1¾ lb.	40.
TBB-151	Interstage or bridging Single or PP grids to single or PP grids	Primary & Secondary	10000 −2500	40000 10000	20–20000	1DB	−20DB	90 DB Magnetic & Electrostatic	2¼ x 2⅜ x 2⅞H	1¾ lb.	40.
TL-101B	Input A-287F ampl.	Primary & Secondary	500 220 125 56 14	30000 7500	20–20000	1DB	+34 DB 15 watts	None	3½ x 3⅝ x 4⅛H	5½ lbs.	40.

MATCHING TRANSFORMERS

TYPE	Application	Balanced to Ground	Impedances—Ohms Input	Impedances—Ohms Output	Frequency Range	Response ±	Max. Level Ref. 6 mw.	Shielding	Overall Dimensions as Mounted (Inches)	Shipping Weight	LIS PRI
TL-262	Medium Level	No	1000 500 250	20 10	20–20000	1DB	+35DB 19 watts	None	3½ x 3⅝ x 4⅛H	7 lbs.	$18.
TP-255A	Hybrid 3 winding	All windings	500 500	500	20–10000 20–20000	1DB 2DB	+15DB 0.2 watt	30DB	2⅞ x 2½ x 3½H	2 lbs. 5 oz.	45.
	Matching Low Level	All windings	1000 250	500 125	20–10000 20–20000	1DB 2DB	+15DB 0.2 watt		2⅞ x 2½ x 3½H		
TP-256A	Low Level	All windings	500/600 250/300 125/150 62.5/75	500/600 250/300 125/150 62.5/75	20–20000	1DB	+15DB 0.2 watt	40DB	2⅞ x 2½ x 3½H	2 lbs. 9 oz.	45.

ALTEC LANSING CORPORATION

SPEAKERS
AMPLIFIERS
TRANSFORMERS

1161 N. VINE ST., HOLLYWOOD, CALIFORNIA • 250 WEST 57 STREET, NEW YORK, N. Y.

OUTPUT TRANSFORMERS

TYPE	Application	Impedances—Ohms		Frequency Range	Response ±	Max. Level REF. 6 mw.	Shielding	Total Max. D.C. Plate Current	Max. D.C. Unbalance	Overall Dimensions as Mounted (Inches)	Shipping Wt.	LIST PRICE
		Input	Output									
TJ-152A	Output or interstage PP high level with tertiary winding	9500 2375	3000 2000 750 500	20–20000	1DB	+39DB 48 watts	None	200MA	10MA	4 x 4⅝ x 5¼H	11½ lbs.	$60.00
TJ-211B	PP high level	9500	20 10	20–20000	1DB	+39DB 48 watts	None	130MA	7MA	4 x 4⅝ x 5¼H	11½ lbs.	55.00
TL-216A	PP medium level with tertiary winding	6600 1650	500 220 125 56 14	20–20000	1DB	+35DB 19 watts	None	130MA	7MA 6600 ohm 14MA 1650 ohm	3½ x 3⅝ x 4⅛H	6 lbs.	32.00
TL-217A	PP medium level	6600	20 10	20–20000	1DB	+35DB 19 watts	None	130MA	7MA	3½ x 3⅝ x 4⅛H	6 lbs.	18.00
TL-217B	An output transformer identical in design to the TL-217-A. The TL-217-B has no terminal boards. It has 12″ long leads.											16.00
TL-219	Output or interstage PP medium level with tertiary	6600 1650	3000 2000 750 500	20–20000	1DB	+35DB 19 watts	None	130MA	7MA 6600 ohm 14MA 1650 ohm	3½ x 3⅝ x 4⅛H	6 lbs.	35.00
TM-220A	PP high level	4000	16 8 4 2	20–20000	1DB	+41DB 75 watts	None	240MA	12MA	5⁹⁄₁₆ x 6 x 6H	23 lbs.	60.00
TP-202	PP low level	20000 5000	500 250 125 62.5	20–20000	1DB	+15DB 0.2 watt	60DB	Parallel Feed		2⅞ x 2½ x 3½H	2 lbs. 5 oz.	35.00
TP-204	PP low level	12500 3125	500 250 125 62.5	20–20000	1DB	+15DB 0.2 watt	60DB	Parallel Feed		2⅞ x 2½ x 3½	2 lbs. 5 oz.	40.00

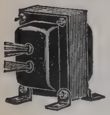
POWER TRANSFORMERS

TYPE	Frequency	Primary Volts	Secondary Volts	Amps	Electrostatic Shield	Overall Dimensions as Mounted (Inches)	Shipping Weight	LIST PRICE
TJ-604B	50–60	105 117 130	350–0–350 6.3 CT 5.0	0.125 DC 5.0 3.0	Yes	4 x 4⅝ x 5¼ H.	11¼ lbs.	$28.00
TJ-618D	50–60	105 117 130	605–0–605 565–0–565 6.3 CT 5.0	0.150 DC 0.150 DC 3.5 3.0	No	4 x 4⅝ x 5¼ H.	11¼ lbs.	30.00
TJ-619C	50–60	105 117 130	545–0–545 6.3 CT 5.0 6.3 6.3	0.200 DC 3.0 3.0 3.0 0.7	No	4 x 4⅝ x 5¼ H.	11¼ lbs.	35.00
TL-608	50–60	117	350–0–350 6.3 CT 5.0	0.100 DC 2.4 3.0	Yes	3½ x 3⅝ x 4⅛ H.	6 lbs.	20.00

CHOKE COILS

TYPE	Application	Inductance		D. C. Resistance Ohms	Overall Dimensions As Mounted (Inches)	Shipping Weight	LIST PRICE
		Henries	D.C.M.A.				
TBB-301	Plate feeder with TP 202 and TP 204 TRANS.	100 25	5 10	4600 1150	2¼ x 2⅜ x 2⅞ H.	1 lb. 10 oz.	$18.00
TBB-314	Filter	35+	40	400	2¼ x 2⅜ x 2⅞ H.	1 lb. 13 oz.	16.00
TP-506B	Filter	9	150	170	2⅞ x 2½ x 3½ H.	2 lb. 6 oz.	25.00

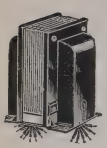
HALLDORSON REPLACEMENT TRANSFORMERS



L Mtg.

OUTPUT TRANSFORMERS

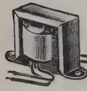
Number	To Feed From	Voice Call Impedance	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
D4-604	Universal	Given in Chart	D4	2"	½"x½"	1⅜"x2⅜"x1⅜"	½
A4-777			A4	2⅜"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
B6-816			B6	Universal	¾"x ¾"	2" x2⅜"x1¾"	1
B5-816			B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
S-72	P. P. 6L6—(60 Watt)	4, 8, 15, 500	S	2½"x2½"	1¼" 1¼"	4¼"x3¼"x3⅝"	5½
E-1042	P. P. 6L6, 2A3, 6B5 (30 Watt)	4, 8, 15, 500	E	2" x1¾"	1" x1"	3" x2⅝"x2⅜"	2½
S-81	P. P. 6L6, Reverse Feedback (35W.)	4, 8, 15, 500	S	2½"x2¼"	1¼"x1¼"	4" x3¼"x3⅜"	4¾
B4-850	2A3, 43, 45 50, 59, 71A	4, 8, 15	B4	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B4-851	31, 33, 42, 47, 79, 2A5		B4	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B4-852	6A4, 10, 38, 41, 53		B4	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B5-853	P. P. 2A3, 43, 45, 50, 59, 71A, 6B5		B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B5-854	P. P. 31, 33, 42, 47, 79, 2A5		B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B5-855	P. P. 6A4, 10, 38, 41, 53		B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
A5-700	P. P. 2A3, 43, 45, 50, 59, 71A, 6B5	2, 4, 8	A5	2"	⅝"x ⅝"	2" x2½"x1½"	10 oz.
D4-600	2A5, 42, 47, 79 — For Midget —	3 to 6 Ohm Voice Coil	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
D4-601	43 —and A.C.-D.C. Sets—		D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
D4-602	41, 19, 38 —		D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
A4-770	Universal Types for Midget and A.C.-D.C. Sets 2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A4	2 5/16"	⅝"x ⅝"	1¾"x2⅞"x1½"	10 oz.
A5-772	Single and P. P. 2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A5	2"	⅝"x ⅝"	2" x2½" x1½"	10 oz.
K4-800	Single 1S4	3 to 6 Ohm Voice Coil	K4	1¾"	⅜"x⅜"	1⅛"x2⅛"x ⅞"	6 oz.
A4-775	Single 1A5G, 1E7G, 1N6G, 6V7G		A4	2⅜"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.



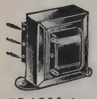
S Mtg.

AUDIO TRANSFORMERS

Number	Application	Mounting	Over All Ratio	Mounting Centers	Core	Sizes H. L. W.	Wt.
B4-805	**Single Plate to Single Grid Class A** From general purpose tubes such as 27, 56, etc. To 27, 45, 2A5, etc	B4	2½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
B4-807		B4	3½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
A4-751		A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
A4-752		A4	2½—1	2 5/16	⅝"x⅝"	1¾"x2⅞"x1½"	9 oz.
E- 1027	**Single Plate to Pushpull Grids Class A** From general purpose tubes such as 27, 56, etc. To 27's, 45's, 2A5's, etc., in Push Pull.	E	4—1	2"x2"	1"x1"	3" x2⅝"x2⅜"	2½
B4-810		B4	4—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1
B4-893		B4	3—1	2⅜"	¾"x¾"	2½"x2⅞"x1⅞"	1⅛
B4-815		B4	3½—1	2 13/16"	¾"x⅝"	1¾"x2⅞"x1½"	15 oz.
A4-761		A4	3½—1	2 5/16"	⅝"x⅝"	1¾x"2⅞"x1½"	9 oz.
A4-760		A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
B4-818	**Universal Pushpull Input** To replace any input transformer used in Class A Circuit.	B4	3—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
B5-818		B5	3—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1
B -811	**Two Plates to Two Grids—Class A**	B	1½—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½
B4-811		B4	1½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1



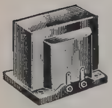
A4, B4, E4 D4 Mtg.



B5 A5 Mtg.

MICROPHONE AND LINE TRANSFORMERS

Number	Application	Pri. Impedance	Sec. Impedance	Mtg.	Mounting Centers	Size H. L. W.	Wt.
E-1040	Microphone, Line or Mixer to Single Grid	*500 C.T., 250, *200 C.T., 50	Grid of Tube C.T.	E	2"x2"	3"x2⅝"x2⅜"	2½
E-1041	Line to Line or Line to Voice Coil	*500 C.T., 250, *200 C.T., 50	4, 8, 15, 500	E	2"x2"	3"x2⅝"x2⅜"	2½
B7-822	Microphone to Single Grid	200 C.T.	Grid of Tube	B7	2½"	3"x2¾" diam.	1¾
P-300	Line to Multiple Speakers—60 Watt	250 or 500	Adjustable to Match 1 to 6 Speakers	Special		3"x5" x4½"	6½



B Mtg.

FILTER CHOKES

Number	Ohms	Henries	At M.A.	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
E -1030	250	23	110	E	2"x2"	1"x1"	3" x2½"x2½"	2½
E4-1030	250	23	110	E4	3 9/16"	1"x1"	2⅝"x4" x3"	2¼
C4-967	350	31	80	C4	3⅛"	⅞"x⅞"	2¼"x3¾"x2¼"	1½
C4-968	1400	50	60	C4	3⅛"	⅞"x⅞"	2¼"x3¾"x2¼"	1½
B4-836	700	30	35	B4	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
B4-837	400	15	40	B4	2 13/16"	¾"x¾"	2" x2⅜"x1¾"	1
T -1002	300	11	50	A4	2 9/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -1001	400	12	40	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -391	350	14.5	35	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -333	200	6.5	60	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -341	400	12.5	30	D4	2"	½"x⅝"	1⅜"x2½"x1⅜	6 oz.
T -343	200	5.5	35	D4	2"	½"x⅝"	1⅜"x2½"x1⅜"	6 oz.
E -1031	2200	80	28	E	2"x1¾"	1"x1"	3¼"x2⅝"x2¾"	2½
E -1032	160	7.5	150	E	2"x2"	1"x1¼"	3¼"x2⅝"x3"	2½

E Mtg.

HALLDORSON Replacement Transformers

POWER TRANSFORMERS

Cat. No.	Plate Voltage C.T.	5 V. Fil.	2.5 V. Fil.	6.3 V. Fil.	Tube Combinations		Mtg. Type	Dimensions H. W. D.	Mounting Centers	Wtg. Lbs.
21	500 V.— 60 M.A.	2 A.		2 A., C.T.			S			
20	700 V.— 70 M.A.	3 A.		2.5 A., C.T.			L	3¼"x3" x2½"	Universal	4½
84	800 V.—160 M.A.	3 A.	14 A., C.T.	4.5 A., C.T.			S	4¾"x3⅞"x4½"	3" x3⅜"	10½
63	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 10.5 A.		2-47, 2A5 6-24, 27, or 10-56, 57		L	3⅝"x4⅛"x3½"	Universal	6½
663	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T., or 3.5 A., C.T. (2) 10.5 A., C.T.		2-47, 2A5, or 7-77, 6K7; 2-42, 6F6 6-24, 27, or 10-56, 57		L	3⅝"x4⅛"x3½"	Universal	6¾
64	700 V.—100 M.A.	3 A.	(1) 3.5 A., C.T. (2) 15 A.		2-47, 2A5 8-24, 27, or 15-56, 57		L	3⅝"x4⅛"x3½"	Universal	7½
65	650 V.— 40 M.A.	3 A.		1.6 A., C.T.	3-77, 78, 6K7; 1-42, 6F6		S L	3⅛"x2⅝"x2¾" 2¾"x3" x2½"	2" x1¾" Universal	2¾ 2¾
66	650 V.— 50 M.A.	3 A.		2 A., C.T.	4-77, 78, 6K7; 1-42, 6F6		S	3½"x2⅞"x3¼"	2¼"x2⅛"	3¾
67	700 V.— 70 M.A	3 A.		3 A., C.T.	5-77, 78, 6K7; 2-42, 6F6		S	4" x3¼"x3⅜"	2½"x2⅛"	5
68	700 V.—120 M A.	3 A.		4.5 A., C.T.	10-76, 6C6, 6K7; 2-42, 6F6		L	3⅝"x4⅛"x3½"	Universal	6½
58	700 V.—100 M.A.	3 A.		5 A., C.T.	12-76, 6C6, 6K7; 2-42, 6F6		S	4¾"x4" x3½"	3" x2⅝"	7½
59	800 V.—120 M.A.	3 A.	(1) 3.5 A., C.T. (2) 14.5 A., C.T.		2-47, 2A5 8-24, 27 or 14-56, 57		S	4¾"x4" x3¾"	3" x2⅞"	9
70	700 V.—100 M.A.	3 A.	6 A., C.T.	3.3 A., C.T.	Including 77, 78, 6K7; 42, 6F6, 47 2A5, 24, 27, 56. 58		S L	4¾"x4" x3½" 3½"x4⅛"x3½"	3" x2½" Universal	8 8
80	800 V.—150 M.A.	3 A.		2.5 A., C T	6J7, 6Y7, 2-6L6		S	4¾"x3⅞"x3¾"	3 1/16"x2⅞"	7¾
75	750 V.—180 M.A.	3 A.	6 A., C.T.	3.5 A., C.T.			S L	4¾"x3⅞"x3¾" 4⅛"x4½"x3¾"	3 1/16"x2 13/16" Universal	8 8
77	800 V.—200 M.A.	3 A.		5.5 A., C.T.			S	4¾"x3⅞"x3⅞"	3 1/16"x3"	9
74	745 V.—145 M.A.	3 A.		5 A., C.T.	6L6, 42, 6F6		S L	4¾"x4" x3½" 3⅝"x4½"x3¾"	3" x2½" Universal	8¾ 8¾
85	560 V.—50 M.A.			(1) 1.5 A. (2) .6 A.			L	3" x3" x2½"	Universal	3
					7.5 V. Fil.	1.5 V. Fil.				
50	600 V.— 70 M.A.	(1) 3 A. (2) ½ A.	3.5 A., C.T.			(1) 4.2 A. (2) 1.05 A.	S	4¼"x3¼"x3⅝"	2½"x2⅜"	5
54	800 V.—110 M.A.	3 A.	(1) 3.5 A. (2) 3 A., C.T.			(1) 1.05 A. (2) 5.25 A.	S	4¾"x4" x4"	3" x3"	8¾
73	900 V.—110 M.A.		10.5 A.		(1) 2.5 A. (2) 2.5 A., C.T.		S	4¾"x4" x4½"	3" x3⅜"	10½
76	700 V.—100 M.A.	3 A.	(1) 2 A., C.T. (2) 3 A., C.T.			(1) 5A. (2) 1A.	S	4" x3¼"x3½"	2½"x2 7/16"	5¼

The above are 117V-60 cycle.

FILAMENT TRANSFORMERS

Number	Capacity at 50-60 Cycles	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
E-1051	115 V. to 2½ Volts, 12 A. C.T.	E	3 9/16"	1 "x1"	2½"x4" x2¼"	2¼
B5-860	115 V. to 6.3 Volts, 3 A.	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
B5-861	115 V. to 2½ Volts, 6 A. C.T.	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
S-25	115 V. to 6.3 V., 4 A. C.T., 5 V., 3 A.	S	2½"x2⅛"	1¼"x1⅛"	4⅛"x3¼"x3⅜"	3
B5-859	115 V. to 5 V., 3 A.	B5	2⅜	¾"x ¾"	2⅜"x2⅞"x1¾"	1

DRIVER TRANSFORMERS

Number	Drivers	Class	Driving	Mounting	Ratio Pri. to ½ Sec.	Mounting Centers	Size H. L. W.	Wt.
E-1045	6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	E	5-1	2"x1¾"	3¼"x2⅝"x2¾"	2½
B7-830	6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1
B7-831	6A6 or 53 Paralleled		6N7 P.P.	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1
B4-819	30	B	1-19 or 2-30	B4	2.5-1	2 13/16"	2" x3⅜"x1¾"	1
B7-832	89 Triode	B	1-79	B7	2.2-1	2⅜"	2½"x2⅞"x1⅞"	1
	or 46 or 59	B	2-46 or 2-59					

SIX VOLT VIBRATOR TRANSFORMERS

Cat. No.	Sec. D.C. Volts to Filter	Sec. M.A.	Mounting	Size Height, Width, Depth	Weight, Lbs.
J-92	250	60	J	3⅛"x2½"x2⅜"	2
J-94	285	75	J	2⅞"x3⅜"x2¼"	2¾

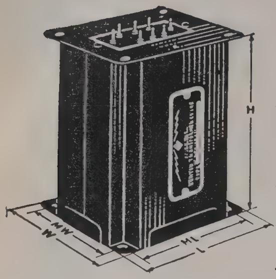
SIX VOLT D.C. OR 115-VOLT A.C. VIBRATOR TRANSFORMERS

S-500	350 Fil. 6.3 V., C.T.	135 4.75 AMP.	S	4¾"x3⅞"x4¼"	10
S-501	375 Fil. 6.3 V., C.T.	115 3 AMP.	S	4¼"x3½"x4⅛"	7

STEP-DOWN TRANSFORMERS

P-610			160 WATTS		220 V. to 110 V., 50–60 CYCLE
P-612			100 WATTS		220 V. to 110 V., 50–60 CYCLE

KENYON "T" LINE TRANSFORMERS



DIMENSIONS OF "T" LINE TRANSFORMERS

MOUNTING DIMENSIONS			OVERALL DIMENSIONS		
Case No.	ML	MW	Length (L)	Width (W)	Height (H)
1A	2 1/32	1 9/16	2 7/16	2	2 7/8
2A	2 1/8	1 15/16	2 3/4	2 3/8	3 3/16
3A	2 7/16	1 15/16	3 1/16	2 9/16	3 5/8
4A	3 7/8	2 7/16	4 1/2	3	3 7/8
5A	4 5/16	3 3/16	5	3 7/8	5
5½A	4 5/16	3 27/32	5	4 1/2	5
6A	4 5/16	4 1/2	5	5 1/8	5
7A	5 1/2	4 5/16	6 5/16	5 3/16	6 3/8
8A	5 3/4	4 13/16	6 9/16	5 11/16	7 1/8
9A	6 15/16	5 3/4	7 3/4	6 5/8	7 3/16
10A	8 5/8	7 11/32	9 1/2	8 1/4	10 5/8

LOW IMPEDANCE SOURCE TO GRID TRANSFORMERS

Type No.	From	Primary Ohms	Secondary Ohms	Case No.	Weight	List Price
T-1 (Hum bucking type)	S.B. or D.B. Mic.	400-300-200-100-50	80,000 Single Grid	1A	1 lb. 1 oz.	$7.30
T-2 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 Single Grid	1A	1 lb. 1 oz.	7.30
T-3 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 P.P. Grids	1A	1 lb. 1 oz.	7.30
T-6 (See Bottom Page 9)	Any line	500-333-250-200-125-50	20,000 Single Grid	1A	1 lb.	12.95

LINE-TRANSFORMERS—LINE TO LINE AND LINE TO VOICE COIL

Type No.	Primary Ohms	Secondary Ohms	Maximum Level	Case No.	Weight	List Price
T-25	500-200-50	500-200-50	+24 D.B.	2A	1 lb. 14 ozs.	$7.30
T-26 (Hum bucking type)	500-333-250-200-125-50	500-333-250-200-125-50	+24 D.B.	1A	1 lb. 10 ozs.	7.30
T-28	500-200	15-8-4	30 watts	4A	5 lbs. 10 ozs.	9.30

INTERSTAGE AUDIO TRANSFORMERS

Type No.	From	To	Ratio	Case No.	Weight	List Price
T-51	Single 10,000 ohm plate	Single Grid	1:4	1A	1 lb. 4 ozs.	$5.65
T-52	Single 10,000 ohm plate	P.P. Grids	1:4	1A	1 lb. 4 ozs.	5.65
T-54	P.P. 10,000 ohm plates	P.P. Grids	1:1.8	2A	1 lb. 14 ozs.	7.30
T-55	Single 10,000 ohm plate	Single Grid	1:3	2A	1 lb. 14 ozs.	6.65
T-56	Single 10,000 ohm plate	P.P. Grids	1:2	2A	1 lb. 14 ozs.	6.65
T-57 (Hum bucking type)	Single 10,000 ohm plate	Single Grid	1:2	2A	1 lb. 7 ozs.	7.30
T-58 (Hum bucking type)	Single 10,000 ohm plate	P.P. Grids	1:2	2A	1 lb. 7 ozs.	7.30

DRIVER TRANSFORMERS

Type No.	Primary to match	Class AB or Class B Tubes	Ratio (pri. to ½ Sec.)	Case No.	Weight	List Price
T-251	Single 53, 6A6, 6N7, 56, 6C5	53, 6A6, 6N7	2.3:1	2A	1 lb. 14 ozs.	$5.65
T-252	Single 30, 49, 89	19, 30's, 49's	1.7:1	1A	13 ozs.	4.95
T-253	Single 46, 59	46's, 59's, 6F6's	2.3:1	2A	1 lb. 14 ozs.	5.95
T-255	P.P. 56, 6C5, 53, 6N7	6L6's	3.2:1	2A	1 lb. 14 ozs.	5.65
T-267	4-2A3's	354E's, 354F's	2.1:1	4A	5 lbs. 10 ozs.	11.60
T-271	P.P. 45's, 2A3's, 6F6's	6L6's, 809's, T4Z0's	3.7:1	3A	2 lbs. 13 ozs.	7.95

PREAMPLIFIER OUTPUT TRANSFORMERS

Type No.	From	Secondary Ohms	Case No.	Weight	List Price
T-101	Single 56, 76, 6C5	200-500	1A	1 lb. 4 ozs.	$5.65
T-102	P.P. 56, 76, 6C5	200-500	1A	1 lb. 4 ozs.	5.65

OUPUT TRANSFORMERS TO 500-200 OR 15-8-4 OHMS

Type No.	From	Primary Ohms	Case No.	Weight	List Price
T-104	Single 2A5, 6F6, 42, 47, 89	7,000	2A	1 lb. 14 ozs.	$6.65
T-105	Class "A," P.P. 2A5's, 6F6's, 42's, 47's, 89's	14,000	2A	2 lbs.	7.30
T-317	Class "AB" P.P. 6L6's	6,600 or 3,800	4A	5 lbs. 6 ozs.	11.60
T-319	Class "AB2" P.P. 6L6's	6,000 or 3,800	5A	8 lbs. 7 ozs.	13.55
T-301	Class "A," P.P. 6L6's, Class AB 45's, 2A3's	5,000 or 3,000	4A	4 lbs. 5 ozs.	9.95

KENYON "T" LINE TRANSFORMERS

KEN-O-DYNE UNIVERSAL OUTPUT TRANSFORMERS

Type No.		Case No.	Weight	List Price	
T-108 T-109 T-110	15 watts 30 watts 60 watts	3A 4A 5A	2 lbs. 13 ozs. 5 lbs. 2 ozs. 10 lbs. 1 oz.	$9.30 12.95 15.95	Will match any set of Push-Pull or Push-Pull Parallel or a single plate to 500-200 or speaker voice-coils. Low impedance connection for speaker voice coils range from .5 to 25 ohms.

KEN-O-TAP MODULATION TRANSFORMERS

Ken-o-Tap Transformers never grow obsolete! Ideal for amateurs who wish to keep up to date with new tube combinations. Will match any Class B tube or tubes to any Class C load.

Type No.	Audio Output Primary	Class "C" Secondary	Primary Range	Secondary Range	Case No.	Weight	List Price
T-489	15 watts	30 watts	2000-20000	200-20000	3A	2 lbs. 13 ozs.	$7.30
T-493	40 watts	80 watts	2000-20000	200-20000	4A	5 lbs. 10 ozs.	10.60
T-494	75 watts	150 watts	2000-20000	200-20000	5A	9 lbs.	15.95
T-495	125 watts	250 watts	500-18000	200-19000	7A	19 lbs. 2 ozs.	35.25
T-496	300 watts	600 watts	500-18000	200-19000	8A	26 lbs. 4 ozs.	53.50

PLATE TRANSFORMERS FOR STANDARD AMATEUR DUTY

Type No.	Secondary Voltage	D.C. Volts	D.C.M.A.	Case No.	Weight	List Price
T-668	1000/750-0-750/1000	500/750	300	5½A	12 lbs. 6 ozs.	$15.20
T-669	1460/1180-0-1180/1460	1000/1250	300	7A	19 lbs. 2 ozs.	24.45
T-670	2360/2080/1760-0-1760/2080/2360	1500/1750/2000	300	8A	31 lbs. 9 ozs.	33.65
T-671	1460/1180-0-1180/1460	1000/1250	500	8A	31 lbs. 9 ozs.	33.65

PLATE TRANSFORMERS FOR HEAVY AMATEUR DUTY

Type No.	Primary Conn.	SECONDARY NO. 1 VOLTS		M.A.	SECONDARY NO. 2 VOLTS		M.A.	SECONDARY NO. 3 VOLTS		M.A.	Standard—Amateur M.A. D.C.	Case No.	Weight	List Price
		D.C.	A.C.	D.C.	D.C.	A.C.	D.C.	D.C.	A.C.	D.C.				
T-664		600	740-0-740	150							200	5A	10 lbs. 10 ozs.	$13.00
T-655	High Low	450 350	575-0-575 460-0-460	250 250							325	5A	10 lbs. 1 oz.	13.65
T-656	High Low	750 600	925-0-925 740-0-740	300 300							400	6A	15 lbs. 9 ozs.	18.70
T-657	High Low	1000 750	1170-0-1170 900-0-900	200 200	1000 750	1170-0-1170 900-0-900	200 200				250	7A	21 lbs. 9 ozs.	39.35
T-658	High Medium Low	500 450 400	650-0-650 585-0-585 520-0-520	175 175 175	560 510 450	710-0-710 640-0-640 570-0-570	175 175 175	560 510 450	710-0-710 640-0-640 570-0-570	175 175 175	All windings 20% higher current	7A	22 lbs. 12 ozs.	35.85
T-654	High Medium Low	470 420 375	610-0-610 550-0-550 490-0-490	250 250 250	625 560 500	785-0-785 710-0-710 630-0-630	250 250 250	625 560 500	785-0-785 710-0-710 630-0-630	250 250 250		8A	32 lbs. 9 ozs.	47.00
T-659	High Medium Low	500 450 400	650-0-650 585-0-585 520-0-520	350 350 350	560 510 450	710-0-710 640-0-640 570-0-570	350 350 350	560 510 450	710-0-710 640-0-640 570-0-570	350 350 350		9A	48 lbs.	51.10
T-665	High Low	1250 1000	1470-0-1470 1180-0-1180	250 250							300	7A	23 lbs. 4 ozs.	33.65
T-666		1250	1460-0-1460	350	500	630-0-630	200				400	8A	32 lbs. 2 ozs.	40.95
T-667		1250	1460-0-1460	500							600	9A	50 lbs.	50.45
T-660		1250	1460-0-1460	500							600-400	9A	49 lbs. 11 ozs.	59.35
T-652	High	1750	2080-0-2080	450							550	9A	50 lbs. 8 ozs.	64.45
	Low	1500	1760-0-1760	450										
T-663		2000	2360-0-2360	600							700	10A	82 lbs.	101.90

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For any other voltage 50 to 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation, add 60% to list prices. For any other voltage 25 cycle operation add 100% to list prices. Case sizes for 25 cycle application are different from those specified for standard 115 volt 50 to 60 cycle operation.

KENYON "T" LINE TRANSFORMERS

FILTER REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Resistance	Insulation Test	Case No.	Weight	List Price
T-155	290	10	4700	1000 V	2A	2 lbs.	$5.65
T-156	30	25	800	1000 V	1A	1 lb. 4 ozs.	4.30
T-157	20	50	200	1000 V	1A	1 lb. 4 ozs.	3.65
T-153	30	90	350	1000 V	3A	2 lbs. 12 ozs.	5.65
T-154	15	165	210	1000 V	3A	3 lbs. 2 ozs.	5.95
T-151	10	250	100	1000 V	4A	5 lbs. 10 ozs.	9.30
T-152	10	200	100	1000 V	3A	2 lbs. 13 ozs.	6.65
T-164	14	250	135	1500 V	5A	10 lbs. 1 oz.	12.95
T-166	11	300	125	1500 V	5A	10 lbs. 1 oz.	12.95
T-159	12	500	77	1500 V	6A	15 lbs. 9 ozs.	15.95
T-165	10	150	275	3000 V	3A	3 lbs. 2 ozs.	6.65
T-168	13	250	125	3000 V	5A	10 lbs. 10 ozs.	12.95
T-160	11	300	120	3000 V	5A	10 lbs. 1 oz.	14.25
T-167	11	400	80	3000 V	6A	15 lbs. 9 ozs.	16.95
T-175	10	200	140	5000 V	4A	5 lbs. 10 ozs.	9.30
T-176	10	300	110	5000 V	5A	10 lbs. 11 ozs.	12.95
T-178	10	400	90	5000 V	6A	15 lbs. 2 ozs.	17.95
T-177	12	500	95	5000 V	7A	21 lbs. 1 oz.	27.60
T-161	10	600	50	5000 V	7A	21 lbs. 4 ozs.	27.60

SWINGING REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Resistance	Insulation Test	Case No.	Weight	List Price
T-517	15-45	90-20	350	1000 V	3A	2 lbs. 12 ozs.	$5.65
T-515	10-25	165-30	210	1000 V	3A	3 lbs. 2 ozs.	5.95
T-506	5-20	200-30	100	1000 V	3A	2 lbs. 13 ozs.	6.65
T-501	5-15	250-30	100	1000 V	4A	5 lbs. 10 ozs.	9.30
T-510	6-19	300-30	125	1500 V	5A	10 lbs. 1 oz.	12.95
T-502	6-18	500-50	77	1500 V	6A	15 lbs. 9 ozs.	15.95
T-509	6-19	200-30	140	5000 V	4A	5 lbs. 10 ozs.	9.95
T-512	5-15	300-40	110	5000 V	5A	10 lbs. 1 oz.	12.95
T-513	5-18	400-50	90	5000 V	6A	15 lbs. 2 ozs.	17.95
T-521	6-21	500-60	95	5000 V	7A	21 lbs. 1 oz.	26.90
T-505	5-17	600-60	50	5000 V	7A	21 lbs. 4 ozs.	26.25
T-516	5-20	400-50	80	3000 V	6A	15 lbs. 9 ozs.	16.95

PLATE AND FILAMENT TRANSFORMERS

Type No.	High Voltage—		Filament No. 1		Filament No. 2		Filament No. 3		Filament No. 4		Case No.	Weight	List Price
	Volts	M.A.	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps			
T-249*	235-0-235	20	6.3 C.T.	0.6	6.3 C.T.	0.9					2A	2 lbs.	$6.95
T-245*	320-0-320	40	5	2	6.3 C.T.	2					3A	2 lbs. 13 ozs.	7.90
T-205*	350-0-350	75	5	2	6.3 C.T.	3					4A	5 lbs. 10 ozs.	10.15
T-222*	250-0-250	50	5	2	6.3 C.T.	2					3A	2 lbs. 13 ozs.	8.55
T-206*	325-0-325	100	5	3	6.3 C.T.	3	6.3 C.T.	2			5A	9 lbs.	13.00
T-212	420-0-420	125	5	3	6.3 C.T.	3	2.5 C.T.	4			5A	9 lbs. 2 ozs.	14.60
T-244*	425-0-425	165	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	13 lbs. 11 ozs.	17.10
T-248*	425-0-425	165	5	3	2.5 C.T.	6	2.5 C.T.	6			6A	13 lbs. 11 ozs.	19.05
T-213	520-110-0-520	180	5	3	2.5	3	6.3 C.T.	3	6.3 C.T.	3	5A	10 lbs. 6 ozs.	17.10
T-215	360-125-0-360	200	5	3	2.5 C.T.	3	2.5 C.T.	10	6.3 C.T.	2.1	5A	10 lbs. 10 ozs.	17.10
T-247	590-0-590	200	5	3	6.3 C.T.	3	6.3 C.T.	3			5A	10 lbs. 10 ozs.	17.10
T-216	520-85-0-520	250	5	3	2.5 C.T.	3	6.3 C.T.	3	6.3 C.T.	3	6A	15 lbs. 9 ozs.	19.65
T-202*	0-150	20	6.3	0.6							1A	1 lb. 4 ozs.	6.35
T-220*	125-0-125	200	5	3							4A	5 lbs.	9.50
T-246	625-0-625	250	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	15 lbs. 9 ozs.	20.60
T-223	600-0-600	300	5	6	6.3 C.T.	3	6.3 C.T.	2			6A	15 lbs. 9 ozs.	18.10
T-221	High voltage se		condary 520-390- and 300		105-390-520 to de V. D.C. at 160		liver 400 V. D.C. M.A.		at 400 M.A.		7A	21 lbs. 10 ozs.	39.35
	Filament No. 1 5 V.-6A		Filament No. 2 5 V.-3A		Filament No. 3 2.5 V.-3A		Filament No. 4 6.3 V. C.T.-4A		Filament No. 5 6.3 V. C.T.-4A				

* Indicates unit designed for condenser input. (All other units should be used choke input.)

POWER LINE AUTO TRANSFORMERS

Type No.	Input	Output	Capacity Volt-Amperes	Case No.	Weight	List Price
T-219	88 to 130 volts	115 volts	500	5A	10 lbs. 1 oz.	$17.10

FILAMENT TRANSFORMERS

Type No.			Case No.	Weight	List Price
T-388	2.5, 5, 6.3 V.—3A	1000 V. Test	1A	1 lb. 7 ozs.	$4.75
T-379	2.5 V.—5 A. C.T.	2000 V. Test	1A	1 lb. 6 ozs.	5.05
T-352	2.5 V.—10 A. C.T.	2000 V. Test	2A	1 lb. 14 ozs.	5.70
T-360	2.5 V.—10 A. C.T.	5000 V. Test	3A	2 lbs. 13 ozs.	7.90
T-389	2.5 V.—10 A. C.T.	9000 V. Test	4A	4 lbs. 14 ozs.	11.75
T-354	5 V.—3 A. C.T.	2000 V. Test	2A	1 lb. 14 ozs.	5.70
T-357	5.25 V.—12 A. C.T.	2000 V. Test	4A	5 lbs. 10 ozs.	9.50
T-358	5.25 V.—20 A. C.T.	2000 V. Test	5A	9 lbs. 2 ozs.	11.10
T-380	5, 5.1, 5.25 V.—8 A. C.T.	2000 V. Test	4A	4 lbs. 5 ozs.	9.50
T-381	5, 5.1, 5.25 V.—10.5 A. C.T.	2000 V. Test	4A	5 lbs.	10.15
T-382	5, 5.1, 5.25 V.—16 A. C.T.	2000 V. Test	4A	5 lbs. 10 ozs.	11.40
T-383	5, 5.1, 5.25 V.—21 A. C.T.	2000 V. Test	5A	9 lbs. 2 ozs.	12.70

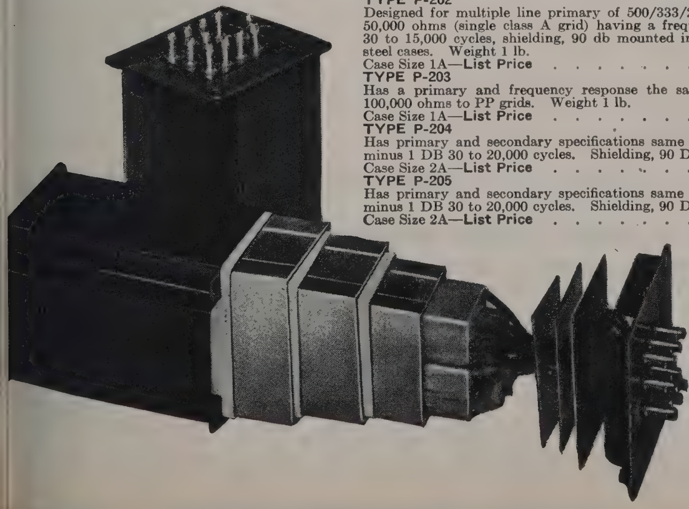
KENYON "T" LINE TRANSFORMERS

FILAMENT TRANSFORMERS

ype No.		Case No.	Weight	List Price
T-390	5 V.-20 A. CT. 10000 V. Test	5½A	11 lbs. 9 ozs.	**$21.90**
T-351	6.3 V.-3 A. CT. 2000 V. Test	2A	1 lb. 14 ozs.	**5.35**
T-378	6.3, 7.5 V.-7 A. CT. 2000 V. Test	3A	2 lbs. 13 ozs.	**6.95**
T-387	6.3, 6.45, 6.6 V.-8 A. CT. 2000 V. Test	3A	2 lbs. 13 ozs.	**6.35**
T-392	7.5, 7.7, 7.9 V.-6 A. CT. 2000 V. Test	3A	2 lbs. 13 ozs.	**6.65**
T-353	7.5 V.-4½ A. CT. 2000 V. Test	2A	2 lbs.	**5.70**
T-359	7.5 V.-9 A. CT. 2000 V. Test	4A	5 lbs.	**8.85**
T-365	10 V.-4 A. CT. 5000 V. Test	3A	2 lbs. 13 ozs.	**7.90**
T-361	10 V.-8 A. CT. 5000 V. Test	4A	5 lbs. 10 ozs.	**10.15**
T-384	10, 10.5, 11 V.-5 A. CT. 2000 V. Test	4A	5 lbs.	**10.15**
T-385	10, 10.5, 11 V.-10 A. CT. 2000 V. Test	5A	8 lbs. 15 ozs.	**12.70**
	TWO WINDINGS			
T-386	6.3 V.- 3 A. CT. 2000 V. Test 5 V.- 4 A. CT. 2000 V. Test	3A	2 lbs. 13 ozs.	**$6.95**
T-369	2.5 V.- 8 A. CT. 1000 V. Test 6.3 V.- 4 A. CT. 1000 V. Test	4A	4 lbs. 11 ozs.	**8.85**
T-368	6.3 C.- 4 A. CT. 2000 V. Test 6.3 V.- 4 A. CT. 2000 V. Test	4A	4 lbs. 11 ozs.	**8.85**
T-366	2.5 V.-10 A. CT. 5000 V. Test 2.5 V.-10 A. CT. 5000 V. Test	4A	5 lbs. 10 ozs.	**11.10**
	THREE WINDINGS			
T-376	6.3 V.-4 A. CT. 2000 V. Test 6.3 V.-4 A. CT. 2000 V. Test 5 V.-3 A. 2000 V. Test	4A	5 lbs. 10 ozs.	**$10.15**
T-356	6.3 V.-3 A. CT. 750 V. Test 5 V.-4 A. CT. 3000 V. Test 5 V.-8 A. CT. 3000 V. Test	4A	5 lbs. 9 ozs.	**12.35**
T-355	5 V.-3 A. CT. 4000 V. Test 5 V.-3 A. CT. 4000 V. Test 5 V.-6 A.CT. 4000 V. Test	4A	5 lbs. 10 ozs.	**11.10**
T-375	2.5 V.-5 A. CT. 6000 V. Test 2.5 V.-5 A. CT. 6000 V. Test 2.5 V.-10 A. CT. 6000 V. Test	4A	5 lbs. 9 ozs.	**13.00**
	FOUR WINDINGS			
T-367	6.3 V.-5 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test 5 V.-6 A. CT. 2000 V. Test 5 V.-3 A. CT. 2000 V. Test	5A	10 lbs. 1 oz.	**$13.65**
	FIVE WINDINGS			
T-377	5 V.-3 A. 2000 V. Test 5 V.-3 A. 2000 V. Test 6.3 V.-1 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test	5A	10 lbs. 1 oz.	**$15.20**

TELESCOPIC SHIELDED HUMBUCKING TRANSFORMERS

e core type, humbucking, construction employed in these transformers tends to minimize hum pick-up. In addition, they are mounted in ltiple electromagnetic shields of high permeability alloy steel which are annealed after complete construction to remove shearing and bending ains thus assuring maximum permeability upon which depends the efficiency of shielding.



TYPE P-202
Designed for multiple line primary of 500/333/250/200/125/50 ohms and secondary of 50,000 ohms (single class A grid) having a frequency response of plus or minus 2 DB 30 to 15,000 cycles, shielding, 90 db mounted in four high permeability alloy annealed steel cases. Weight 1 lb.
Case Size 1A—**List Price** **$20.60**

TYPE P-203
Has a primary and frequency response the same as type P-202 above. Secondary: 100,000 ohms to PP grids. Weight 1 lb.
Case Size 1A—**List Price** **$24.90**

TYPE P-204
Has primary and secondary specifications same as P-202. Frequency response plus or minus 1 DB 30 to 20,000 cycles. Shielding, 90 DB. Weight 1 lb. 7 ozs.
Case Size 2A—**List Price** **$29.25**

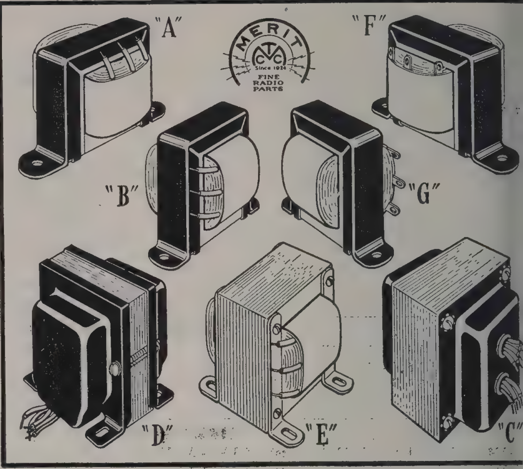
TYPE P-205
Has primary and secondary specifications same as P-203. Frequency response plus or minus 1 DB 30 to 20,000 cycles. Shielding, 90 DB. Weight 1 lb. 7 ozs.
Case Size 2A—**List Price** **$34.25**

TYPE T-6
Designed with a multiple line primary of 500/333/250/200/125/50 ohms and secondary of 20,000 ohms (single class A grid). Frequency response plus or minus 3 db 60 to 10,000 cycles. Shielding, 50 db. Mounted in 2 high permeability annealed alloy steel cases and plain steel outer case. These units are designed for use in low level input circuits where hum-pick-up must be kept to absolute minimum. Weight 1 lb.
Case Size 1A—**List Price** . . **$12.95**

TRANSFORMERS

MERIT presents a line of replacement transformers specially designed to supply the jobber with a simplified, compact line which will meet 90% of customers' requirements and eliminate carrying an excessive stock.

Embodying new developments, Merit Transformers have demonstrated dependable service under the most difficult conditions, and will be recognized and welcomed by thousands of customers. Conforming to the latest and most rigid specifications, Merit Transformers are now standard equipment with many leading radio manufacturers.



OUTPUT TRANSFORMERS

Receiver Replacement Type

To couple the plate or plates of the output stage to the speaker voice coil. Sec. impedance — 3.5 ohms.

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimen. H.	Dimen. W.	Dimen. D.	Mtg
A-2928	$1.25	Single 2A3, 6A3, 6B4, 6Y6, 25AC5, 25B6, 25N6, 25L6, 35A5, 35L6, 50L6, 48	A	2000	60	5	2	1⅜	2⅜	1¼	A
A-2930	1.30	Single 6V6, 7C5, 12A, 12A5, 25A6, 25A7, 35A5, 35L6, 31, 45, 50, 59	A	5000	40	5	2	1⅜	2⅜	1¼	A
A-2935	2.50	PP 6L6	A	5000 c.t.	150	18	2$^{13}/_{16}$	2	3¼	1⅝	A
A-2931	1.30	Single 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 20, 31, 31, 33, 42, 47, 59	A	7000	30	5	2	1⅜	2⅜	1¼	A
A-2932	1.35	Single 1C5, 1Q5, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38, 41, 49	A	10000	30	5	2	1⅜	2⅜	1¼	A
A-2938	1.85	Single 6G6, 19, 38 PP 1H4, 30, 49	A	10000 c.t.	40	5	2	1⅜	2⅜	1¼	A
A-2936	2.10	PP 6AC5 PP 6V6, 7C5	B AB$_1$	10000 c.t.	40	10	2⅜	1⅝	2$^{13}/_{16}$	1½	A
A-2933	1.55	Single 1D8, 7B5, 6K6, 6G6	A	12000	10	5	2	1⅜	2⅜	1¼	A
A-2934	1.40	Single 1D8, 1F4, 1F5, 1J5, 1T5, 6V7, 12A7, 85	A	15000	10	5	2	1⅜	2⅜	1¼	A
A-2937	1.80	Single 1A5, 1N6, 6V7, 85 PP 1E7, 1J5, 6G6	A	25000 c.t.	10	5	2	1⅜	2⅜	1¼	A

UNIVERSAL OUTPUT TRANSFORMERS

To Provide Correct Coupling Between a Variety of Output Tubes and Any Speaker Voice Coil

Type No.	List Price	Tube	Ohms Impedance Pri.	Sec.	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg
A-2900	$2.10	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	35	4	2	1⅜	2⅜	1¼	F
A-2901	2.25	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	8	2⅜	1⅝	2$^{13}/_{16}$	1½	F
A-2902	2.20	Single	1500-2000-4000-5000-7000-10000	.1 to 40	55	10	2⅜	1⅝	2$^{13}/_{16}$	1½	F
A-2904	2.80	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	18	2⅜	2¼	2⅞	1⅞	G
A-2905	3.75	Single or Push-pull	3000-5000-7000-8000-10000 c.t.	.17 to 32	90	24	3⅛	2¼	3$^{11}/_{16}$	2⅛	F

MERIT
Since 1924
FINE RADIO PARTS

TRANSFORMERS

HEAVY DUTY OUTPUT TRANSFORMERS

High Level Type to Couple to Line or Speaker. Sec. Impedance: 4-8-15-250-500 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	Dimensions H.	W.	D.	Mtg.
-3127	$4.25	Single 6L6	A	2500	80	8	3⅛	2⅝	2½	D
-3128	6.75	PP6V6	AB_1	8000 c.t.*	50	14	3½	2 15/16	3⅛	D
-3129	6.75	PP6L6	AB_1	4300 c.t.*	95	25	3½	2 15/16	3⅛	D
-3130	7.50	PP6L6	AB_1	6600 c.t.*	80	34	3⅞	3 3/16	3⅜	D
-3131	5.75	PP6L6 PP2A3, 6A3, 45 PP6N7	A AB B	5000 c.t.	80	30	3½	2 15/16	3⅛	D
-3132	6.00	PP6F6, 2A5 Single 6N7, 6A6	AB_2 B	10000 c.t.	40	25	3½	2 15/16	3⅛	D

*10% Feedback Winding.

UNIVERSAL LINE TRANSFORMERS

To Couple Various Line Impedances to a Voice Coil

Type No.	List Price	Ohms Impedance Pri.	Sec.	Max. Watts	Mtg. Centers	Dimensions H.	W.	D.	Mtg.
A-2907	$3.25	500-1000-1500-2000	6-8	18	2⅜	2¼	2⅞	1⅞	G
A-2908	3.50	500-1000-1500-2000	6-8	24	3⅛	2¼	3 11/16	2⅛	F

TUBE TO LINE TRANSFORMERS

For Coupling Single or Push-Pull Plates to Line or Mixer

Type No.	List Price	Ohms Impedance Pri.	Sec.	Pri. M.A.	Mtg. Centers	Dimensions H.	W.	D.	Mtg.
A-2925	$3.25	20000 c.t.	500/125	10	2 13/16	2	3¼	1⅝	A
A-2926	3.25	20000 c.t.	200/50	10	2 13/16	2	3¼	1⅝	A

INPUT TRANSFORMERS

For Coupling Microphone or Line to Single or Push-Pull Grids

Type No.	List Price	Ohms Impedance Pri.	Sec.	Turns Ratio	Mtg. Centers	Dimensions H.	W.	D.	Mtg.
A-2918	$3.00	100	400000 c.t.	1:64	2 13/16	2	3¼	1⅝	A
A-2919	2.75	200/50	100000	1:22	2 13/16	2	3¼	1⅝	A
A-2924	3.25	500/125	100000 c.t.	1:14	2 13/16	2	3¼	1⅝	A

INTERSTAGE TRANSFORMERS

To Couple a Single Plate to a Single Grid.

ype No.	List Price	Ohms Impedance Pri.	Sec.	Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions H.	W.	D.	Mtg.
-2910	$1.60	10000	90000	3:1	10	2	1⅜	2⅜	1¼	A
-2911	1.85	10000	90000	3:1	10	2⅜	1⅝	2 13/16	1½	A
-2912	2.25	10000	90000	3:1	10	2 13/16	2	3¼	1⅝	A
To Couple a Single Plate to Push-Pull Grids										
-2914	1.80	10000	90000 c.t.	3:1	10	2	1⅜	2⅜	1¼	A
-2915	2.10	10000	90000 c.t.	3:1	10	2⅜	1⅝	2 13/16	1½	A
-2916	2.50	10000	90000 c.t.	3:1	10	2 13/16	2	3¼	1⅝	A
To Couple Push-Pull Plates to Push-Pull Grids										
-2913	2.50	20000 c.t.	20000 c.t.	1:1	10 per side	2⅜	1⅝	2 13/16	1½	A
-2917	3.00	20000 c.t.	45000 c.t.	1.5:1	10 per side	2 15/16	2	3¼	1⅝	A

MERIT
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FINE RADIO PARTS

TRANSFORMERS

DRIVER TRANSFORMERS

To Couple Driver Plate to Amplifier Grids.

Type No.	List Price	Driver	Output	Ratio, Pri. to ½ Sec.	Class	Pri. M.A.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-2920	$2.00	6C5, 30, 49	Single 1J6, 19; Push-pull 30, 49	2.5:1	B	10	2⅜	1⅝	2 13/16	1½	A
A-2921	3.00	6F6, 42	PP6F6, 6L6	1.7:1, 1.5:1, 1.3:1	AB	35	2 13/16	2	3¼	1⅝	A
A-2922	3.50	6A6	Single 6A6	5:1, 4:1, 3:1, 2.5:1	B	10	2 13/16	2	3¼	1⅝	A
A-3123	4.25	PP6A6 PP6C5	PP6N7 PP6L6	5:1*	B AB$_2$	10	2 x 1 11/16	3⅛	3⅝	2⅝	D
A-3125	6.00	6F6	PP6L6	1.4:1*	AB$_2$	40	2¼ x 2	3½	2 15/16	3⅛	D
A-3124	4.25	46, 6F6 2A5, 42	PP6L6	2.2:1	B AB$_2$	30	2 x 1 11/16	3⅛	2⅝	2⅝	D

* Split secondary.

POWER TRANSFORMERS

Receiver Replacement Type

Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded—Mtg. Fig. C

Type No.	List Price	H. V. Secondary		Rectifier		Fil. Wdgs.		Mtg. Centers	Dimensions		
		Volts	DC. M.A.	Volts	Amp.	Volts	Amp.		H.	W.	D.
P-2949	$4.25	240-240	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2½
P-2965	4.50	325-325	40	5	2	2.5 c.t.	4	2 x 2½	2½	3	2¾
P-2966	6.25	350-350	70	5	3	2.5 c.t. 2.5 c.t.	9 3.5	2¼ x 2 13/16	2 13/16	3⅜	3⅝
P-2967	6.75	350-350	90	5	3	2.5 c.t.	12.5	2½ x 3⅛	3⅛	3¾	4 1/16
P-2968	8.75	400-400	110	5	3	2.5 c.t. 2.5 c.t.	15 3.5	3 x 3¾	3¾	4½	3 13/16
P-2950	4.50	325-325	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2⅞
P-2951	5.75	350-350	70	5	3	6.3 c.t.	2.5	2 x 2½	2½	3	3 7/16
P-2952	6.25	350-350	90	5	3	6.3 c.t.	3.5	2¼ x 2 13/16	2 13/16	3⅜	3¾
P-2953	7.00	350-350	120	5	3	6.3 c.t.	4.7	2½ x 3⅛	3⅛	3¾	3 13/16
P-2954	9.00	375-375	150	5	3	6.3 c.t.	5	2½ x 3⅛	3⅛	3¾	4 5/16
P-2955	10.75	400-400	200	5	3	6.3 c.t.	5	3 x 3¾	3¾	4½	4
P-2956	12.75	435-435 (80-volt Bias Tap)	250	5 2.5	3 3	6.3 c.t. 2.5 c.t.	1.5 10	3 x 3¾	3¾	4½	4½

POWER TRANSFORMERS

Fully Shielded Upright Mounting Type—Mtg. Fig. D.

Type No.	List Price	H.V. Secondary		Rectifier		Fil. Wdgs.		Mtg. Centers	Dimensions		
		Volts	DC. M.A.	Volts	Amp.	Volts	Amp.		H.	W.	D.
P-3149	$5.00	240-240	40	5	2	6.3 c.t.	2	2 x 1 11/16	3⅛	2⅝	2⅝
P-3150	5.50	325-325	40	5	2	6.3 c.t.	2	2 x 1⅞	3⅛	2⅝	2 13/16
P-3160	6.00	350-350	50	5	2	6.3 c.t.	2.6	2¼ x 1⅞	3½	2 15/16	3 1/16
P-3151	7.00	350-350	70	5	3	6.3 c.t.	3	2½ x 1 15/16	3⅞	3 3/16	3 3/16
P-3152	7.75	350-350	90	5	3	6.3 c.t.	3.5	2¾ x 2¼	4¼	3½	3 7/16
P-3153	8.75	350-350	110	5	3	6.3 c.t.	4.5	3 x 2¼	4⅝	3 13/16	3 7/16
P-3155	10.75	400-400	200	5	3	6.3 c.t.	5	3 x 3 3/16	4⅝	3 13/16	4⅛
P-3156	12.75	435-435 (80-volt Bias Tap)	250	5 2.5	3 3	6.3 c.t. 2.5 c.t.	1.5 10	3 x 3 3/16	4⅝	3 13/16	4⅝

FILAMENT TRANSFORMERS

For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec.Amp.	Insulation, Volts	Dimensions			Mtg.
					H.	W.	D.	
P-2939	$2.75	2.5 c.t.	5	1500	2	3¼	1⅝	A
P-2940	4.00	2.5 c.t.	10	7500	2 9/16	4	2¼	A
P-2941	3.50	5 c.t.	5	1500	2¼	3 11/16	1⅞	A
P-2942	5.00	5 c.t.	12	1500	3 7/16	2 13/16	2⅜	E
P-2943	7.75	5 c.t.	20	1500	3¾	3⅛	3	E
P-2944	2.00	6.3 c.t.	1	1500	1⅝	2 13/16	1½	A
P-2945	2.25	6.3 c.t.	2	1500	2	3¼	1⅝	A
P-2946	2.75	6.3 c.t.	3	1500	2	3¼	1⅞	A
P-2947	4.00	6.3 c.t.	6	1500	2 9/16	4	2¼	A
P-2948	5.50	6.3 c.t.	10	1500	3 7/16	2 13/16	2⅞	E

MERIT
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FINE RADIO PARTS

TRANSFORMERS

PLATE TRANSFORMERS

For Small Transmitters. DC Voltage Ratings are Approx. Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Rectifier Tubes. Pri. is for 115 V. 60 cy.

Type No.	List Price	Sec. Rms. Volts	Sec. DC Volts	DC Sec M.A.	Dimensions			Mtg.
					H.	W.	D.	
P-3157	$9.25	660-660 ▲ 550-550	500 400	250	4⅝	3 13/16	4⅜	D
P-3158	12.00	1080-1080 500-500	1000 * 400	125 150	4⅝	3 13/16	5	D
P-3159	10.00	900-900 800-800	750 600	225	4⅝	3 13/16	5⅛	D

* For dual operation with simultaneous use of both sec. ratings.

▲ Has 40 V. bias tap.

VIBRATOR TRANSFORMERS

For Operation from 6 V. Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. M.A.	Dimensions			Mtg.
				H.	W.	D.	
P-2969	$3.75	150	40	2	3¼	1¾	A
P-2970	4.00	225	40	3⅛	2½	2⅝	E
P-2971	4.25	250	50	3⅛	2½	2¾	E
P-2972	5.00	260	60	3⅛	2½	2⅞	E

STEP-DOWN AUTOTRANSFORMERS

Input 220—250 V. 60 cy. Output 110—125 V. Pri. Cord and Plug. Sec. Receptical.

Type No.	List Price	Output Watts	Dimensions			Mtg.
			H.	W.	D.	
P-3161	$7.00	80	3½	2 15/16	3	D
P-3162	9.25	150	3⅞	3 3/16	3⅝	D
P-3163	11.75	250	4⅝	3 13/16	4	D

REPLACEMENT TYPE FILTER CHOKES

Inductance Ratings are at 10 V. 60 cy. with Rated Current Flowing as Recommended by the R.M.A.

ype No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Mtg. Centers	Dimensions			Mtg.
							H.	W.	D.	
C-2977	$1.30	4.5	50	200	1500	2⅜	1⅝	2 13/16	1½	A
C-2975	1.25	5.5	50	330	1500	2	1 5/16	2⅜	1⅛	A
C-2981	1.35	8.5	50	400	1500	2⅜	1⅝	2 13/16	1½	A
C-2985	1.35	20	15	900	1500	2⅜	1⅝	2 13/16	1½	A
C-2987	1.75	16	50	550	1500	2 13/16	2	3¼	1⅝	A
C-2990	2.35	15	75	400	1500	3⅛	2¼	3 11/16	2⅛	A
C-2993	3.00	10.5	110	220	1500	3 9/16	2 9/16	4	2¼	A

FILTER CHOKES

For Small Transmitter and Amplifier Applications

ype No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions			Mtg.
						H.	W.	D.	
C-3192	$3.50	15	85	325	1500	3⅛	2⅝	2⅝	D
C-3193	3.25	10	110	200	1500	3⅛	2⅝	2⅝	D
C-3194	4.00	12	150	230	1500	3½	2 15/16	3⅛	D
C-3195	6.00	15	150	180	2000	3⅞	3 3/16	3⅜	D
C-3196	5.35	5	200	80	1500	3½	2 15/16	3⅛	D

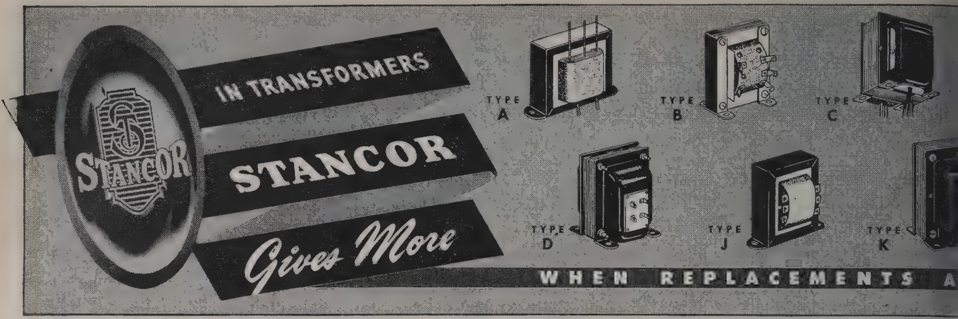
FILTER SMOOTHING CHOKES

For Transmitter Power Supplies

C-3180	$4.50	10	150	210	3000	3⅛	2⅝	2¾	D
C-3181	5.75	10	200	140	3000	3½	2 15/16	3½	D
C-3182	9.75	10	250	125	3000	3⅞	3 3/16	3¾	D

FILTER INPUT OR SWINGING CHOKES

C-3187	$4.50	4-16	150	210	3000	3⅛	2⅝	2¾	D
C-3188	5.75	4-16	200	140	3000	3½	2 15/16	3½	D
C-3189	9.75	4-16	250	125	3000	3⅞	3 3/16	3¾	D



(Write your Stancor Distributor for latest pri

Power Transformers New Universal Type

Stancor's Universal Power Transformers represent the last word in efficient transformer construction, they are designed for compactness without sacrificing efficiency.

Four universal brackets permit their being mounted in either vertical or horizontal position. Special studs* provide underwriters type mounting. Transformers equipped with 8″ flexible RMA color coded leads and static shields.

UNIVERSAL TYPE—2.5 VOLT

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V	Fil. No. 1 A.	Fil. No. 2 V.	Fil. No. 2 A.	Fil. No. 3 V.	Fil. No. 3 A.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	W in Ct
P-6001	4-5	650	40	5.0-C.T.	2.0	2.5-C.T.	4.0	....	....	M	2½″ x3″	2″ x2½″	3
P-6002	5-6	700	50	5.0-C.T.	2.0	2.5-C.T.	7.25	....	....	M	2½″ x3″	2″ x2½″	3
P-6009	6-7	550	70	5.0-C.T.	2.0	5.0-C.T.	0.5	2.5-C.T.	10.5	M	2¹³⁄₁₆x3⅜″	2¼″ x2¹³⁄₁₆″	4
P-6005	6-7	700	70	5.0-C.T.	2.0	2.5-C.T.	9.0	2.5-C.T.	3.5	M	2¹³⁄₁₆x3⅜″	2¼″ x2¹³⁄₁₆″	5
P-6003	6-7	700	70	5.0-C.T.	2.0	2.5-C.T.	9.0	....	....	M	2¹³⁄₁₆″x3⅜″	2¼″ x2¹³⁄₁₆″	3
P-6004	8-9	700	90	5.0-C.T.	2.0	2.5-C.T.	12.5	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5
P-6007	10-12	800	110	5.0-C.T.	3.0	2.5-C.T.	15.0	2.5-C.T.	3.5	M	3⅛″ x3¾″	2½″ x3⅛″	6
P-6006	11-13	700	120	5.0-C.T.	3.0	2.5-C.T.	12.5	2.5-C.T.	3.5	M	3⅛″ x3¾″	2½″ x3⅛″	5
UNIVERSAL TYPE—6.3 VOLT													
P-6289	6-5	420	40	5.0-C.T.	2.0	6.3-CT.	2.0	....	....	M	2½″ x3″	2″ x2½″	3
P-6297	4-5	480	40	5.0-C.T.	2.0	6.3-C.T.	2.0	....	....	M	2½″ x3″	2″ x2½″	3
P-6010	4-5	650	40	5.0-C.T.	2.0	6.3-C.T.	2.0	....	....	M	2½″ x3″	2″ x2½″	3
P-6119	6-7	600	55	5.0-C.T.	2.0	6.3-C.T.	2.7	....	....	M	2½″ x3″	2″ x2½″	3
P-6120	7-9	630	70	5.0-C.T.	2.0	6.3-C.T.	3.5	....	....	M	2¹³⁄₁₆″x3⅜″	2¼″ x2¹³⁄₁₆″	5
P-6011	6-7	700	70	5.0-C.T.	2.0	6.3-C.T.	2.5	....	....	M	2½″ x3″	2″ x2½″	3
P-6312	7-8	580	90	5.0-C.T.	2.0	6.3-C.T.	2.8	....	....	M	3⅜″ x2¹³⁄₁₆″	2¹³⁄₁₆″x2¼″	5
P-6012	8-9	700	90	5.0-C.T.	2.0	6.3-C.T.	3.5	....	....	M	2¹³⁄₁₆″x3⅜″	2¼″ x3¹³⁄₁₆″	5
P-6013	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5
P-6313	11-13	580	125	5.0-C.T.	3.0	6.3-C.T.	4.5	....	....	M	4⅛″ x3⁷⁄₁₆″	3⁹⁄₁₆″ x2¾″	6
P-6014	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5
P-6165	14-16	800	200	5.0-C.T.	4.0	6.3-C.T.	5.5	....	....	M	3¾″ x4½″	3″ x3¾″	6
P-6314	14-16	700	200	5.0-C.T.	3.0	6.3-C.T.	5.5	....	....	M	4½″ x 3¾″	3¾″ x3″	7
P-6315	16-18	740	275	5.0-C.T.	3.0	6.3-C.T.	7.0	....	....	M	4½″ x3¾″	3¾″ x3″	8
UNIVERSAL TYPE—6.3 AND 2.5 VOLT COMBINATION													
P-6293	6-7	600	60	5.0-C.T.	2.0	6.3-C.T.	2.5	2.5-C.T.	7.5	M	2¹³⁄₁₆″x3⅜″	2¼″ x2¹³⁄₁₆″	4
P-6294	8-9	750	85	5.0-C.T.	2.0	2.5-C.T.	9.0	6.3-5.0, 2.5-C.T.	3.5	M	2¹³⁄₁₆″x3⅜″	2¼″ x2¹³⁄₁₆″	4
P-6295	8-9	700	90	5.0-C.T.	2.0	6.3, 2.5 C.T.	3.5	2.5-C.T.	9.0	M	3⅛″ x3¾″	2½″ x3⅛″	5
P-6234	11-13	660	90	5.0-C.T.	2.0	2.5-C.T.	12.0	6.3, 5.0, 2.5-C.T.	4.0	M	3⅛″ x3¾″	2½″ x3⅛″	5
Has an additional 2.5 V. at 1.75 A.C.T. winding.													
P-6008	14-16	750	180	5.0-C.T.	3.0	6.3-C.T.	3.3	2.5-C.T.	6.0	M	3⁷⁄₁₆″ x4⅛″	2¾″ x3⁷⁄₁₆″	6
UNIVERSAL TYPE—WITH MOTOR TUNING WINDINGS													
P-6290	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	50-24-18		M	3¾″ x3⅛″	2½″ x3⅛″	5
P-6291	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	50-24-18		M	3¾″ x3⅛″	3⅛″ x2½″	5
P-6292		800	200	5.0-C.T.	3.0	6.3-C.T.	5.2	50-24-18		M	4½″ x3¾″	3¾″ x3″	7

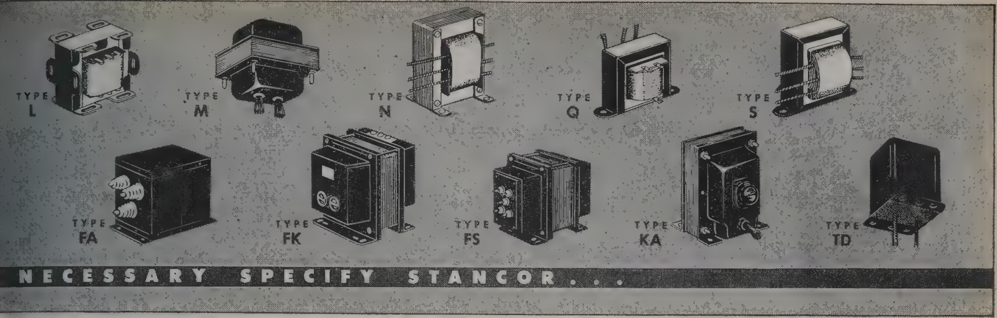
*Underwriters' type mounting studs, tapped to fit the bolts on these transformers. Catalog No. 2053. List price $0.

Half Shell Transformers

HALF SHELL WITH LUGS—2.5 VOLTS

Stancor No.	No. of Tubes	Plate V.C.T.	Plate Ma.	Filament 1 V.	Filament 1 A.	Filament 2 V.	Filament 2 A.	Filament 3 V.	Filament 3 A.	Mounting Type	Mounting Area	Mtg. Ctrs.	Wg in Ct
P-2750	4	650	40	5.0	2.0	2.5-C.T.	3.75	...	....	G	2½″ x3″	2″ x2½″	2
P-2770	4-5	650	40	5.0	2.0	2.5-C.T.	4.5	...	....	G	2½″ x3″	2″ x2½″	2
P-2868	4-5	650	40	5.0	2.0	2.5-C.T.	1.75	2.5	3.5	G	2½″ x3″	2″ x 2½″	2
P-2869	5-6	700	50	5.0	2.0	2.5-C.T.	1.75	2.5	5.25	G	2¹³⁄₁₆″x3⅜″	2¼″x2¹³⁄₁₆″	3
P-2859	6-7	700	70	5.0	2.0	2.5-C.T.	3.5	2.5	7.5	G	3⅛″ x3¾″	2½″x3⅛″	3
P-2860	8-9	700	90	5.0	2.0	2.5-C.T.	3.5	2.5	9.0	G	3⁷⁄₁₆″x4⅛″	2¾″x3⁷⁄₁₆″	5
HALF SHELL WITH LUGS—6.3 VOLTS													
P-2751	4	650	40	5.0	2.0	6.3-C.T.	1.6	...	....	G	2½″ x3″	2″ x2½″	2
P-2771	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	...	....	G	2½″ x3″	2″ x2½″	2
P-947	4-5	700	50	5.0	2.0	6.3-C.T.	2.0	...	....	G	2¹³⁄₁₆x3⅜″	2¼″x2¹³⁄₁₆″	3
P-948	5-6	675	70	5.0	2.0	6.3-C.T.	2.5	...	....	G	3⅛″x3¾″	2½″x3⅛″	4
P-949	7-10	700	120	5.0	3.0	6.3-C.T.	3.0	...	....	G	3⁷⁄₁₆″x4⅛″	2¾″x3⁷⁄₁₆″	5
P-6335	6-8	700	120	5.0	3.0	6.3-C.T.	3.0	...	....	G	2⅞″x3⅜″	2¼″x2⅞″	4
P-6336	6-8	600	150	5.0	3.0	6.3-C.T.	3.0	...	....	G	2⅞″x3⅜″	2¼″x2⅞″	4
P-955	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	...	....	G	3¾″x4½″	3″x 3¾″	

All of the above transformers are for operation on 117 volts, 60 cycles.
Other voltage and frequency combinations available on special order. Write for quotations.



(Write your Stancor Distributor for latest prices)

Power Transformers (Fully Cased)

FULLY SHIELDED WITH LEADS—2.5 VOLTS

tancor	No. of	Plate		Fil. No. 1		Fil. No. 2		Fil. No. 3		Mtg.	Mtg.	Mtg.	Wgt. in	List
No.	Tubes	V.C.T.	Ma.	V.C.T.	A.	V.C.T.	A.	V.C.T.	A.	Type	Area	Ctrs.	Ctn.	Price
-4042	6-7	700	70	5.0	2.0	2.5-C.T.	3.5	2.5	7.5	C	3¼″x3″	2½″ x1⅞″	3.7	
-4043	8-9	700	90	5.0	2.0	2.5-C.T.	3.5	2.5	9.0	C	3⁹⁄₁₆″x3⅜″	2¹¹⁄₁₆″x2½″	4.5	
-4044	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	C	3½″x3⅝″	2¹¹⁄₁₆″x2½″	4.7	
FULLY SHIELDED WITH LEADS—6.3 VOLTS														
-4076	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	......	....	C	2½″x2½″	2¹⁄₁₆″x1¾″	2.7	
-4077	5-6	700	50	5.0	2.0	6.3-C.T.	2.6	....	...	C	3″ x2¾″	2¼″x1⅞″	3.2	
-4078	6-7	700	70	5.0	2.0	6.3-C.T.	3.0	....	....	C	3¼″x3″	2½″x1⅞″	4.0	
-4079	8-9	700	90	5.0	2.0	6.3-C.T.	3.5	....	...	C	3⁹⁄₁₆″x3⅜″	2¾″ 2¼″	4.9	
-4080	10-12	700	110	5.0	3.0	6.3-C.T.	4.5	....	....	C	3⅞″x3⅜″	3″ x2¼″	5.4	
-6143	8-9	880	130	5.0	3.0	6.3-C.T.	3.5	....	....	C	3⅝″x4″	2¾″x3″	5.0	
-4081	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	....	....	C	3⅞″x3⅛″	3″ x2½″	5.0	
-4004*	11-14	800	175	5.0	3.0	6.3-C.T.	2.5	6.3-C.T.	2.5	C	3⅞″x4⅛″	3″ x2¾″	11.0	
-5059	11-14	675	200	5.0	3.0	6.3-C.T.	5.0	....	.....	C	3⅞″x4⅜″	3″ x3⁵⁄₁₆″	10.0	
-6170	.....	1200	200	5.0	3.0	6.3-C.T.	3.0	6.3 C.T.	4.0	C	3⅞″x4⅜″	3 x3⁵⁄₁₆″	13.3	
FULLY SHIELDED WITH LEADS—2.5 AND 6.3 OR 7.5 VOLT COMBINATION														
-4045	4-5	600	40	5.0	2.0	2.5-C.T.	5.25	6.3	2.0	C	2⅝″x2⅝″	2¼″x1¾″	2.7	
-4046	5-6	700	50	5.0	2.0	2.5-C.T.	7.25	6.3	2.6	C	3″ x3″	2¼″x2″	3.2	
-4047	6-7	700	70	5.0	2.0	2.5-C.T.	9.0	6.3	3.0	C	3¼″x3″	2½″x1⅞″	3.7	
-4048	8-9	700	90	5.0	2.0	2.5-C.T.	10.0	6.3	3.5	C	3⁹⁄₁₆″x3½″	2¾″x2⅝″	5.0	
-4049	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞″x3⅜″	3″ x2⅜″	5.3	
-3005†	10-12	720	125	5.0	3.0	2.5-C.T.	10.0	6.3-C.T.	4.0	C	3⅞″x3⅞″	3″ x2¾″	5.5	
-4050*	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞″x3¾″	3″ x2¾″	6.2	
-6169	.....	1200	200	5.0	3.0	2.5-C.T.	10.0	7.5-C.T.	3.0	C	3⅞″x4⅛″	3″ x3¹⁄₁₆″	12.0	

Has 80 V. bias tap and extra 2.5 V. 1.75A filament. †Has 80 V. bias tap and extra 5 V. 2A filament.

FULLY SHIELDED WITH LEADS—1.5; 2.5 AND 5 VOLT COMBINATION

ancor	Plate		Rectifier Filament		Filaments No. 1, 2		Filaments No. 3, 4		Mounting	Mounting	Mounting	Wgt. in	List
No.	V.C.T.	Ma.	V.	A.	V.	A.	V.	A.	Type	Area	Ctrs.	Ctn.	Price
1501	600	60	5.0	2.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 5.0	4 0.5	C	3½″x3⅜″	2½″x2½″	5.0	
1503	700	120	5.0	3.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 2.5-C.T.	5 3.5	C	4″ x3¾″	3⅛″x3⅛″	7.5	
1505	700	120	5.0	3.0	2.5-C.T. 2.5-C.T.	4.0 3.5	2.5-C.T.	9	C	4″ x3¾″	3″ x3″	7.5	

Vibrator Transformers Six Volt Universal

These units equipped with mounting brackets for universal replacement work.

ancor	Secondary		Type	Dimensions			Weight in	List
No.	D.C. Volts	to Filter Ma.	Mounting	H	W	D	Carton	Price
6031	150	40	S	2⁵⁄₁₆″	2⅞″	1¾″	1.3	
4060	225	40	N	3⅛″	2½″	3″	2.2	
4061	250	50	N	3⅛″	2½″	3″	2.3	
4062	260	65	N	3⅛″	2½″	3″	2.6	
4063	285	75	N	3⅛″	2½″	3¼″	3.0	
6131	330	100	N	3½″	2¹³⁄₁₆	3¼″	3.5	
6166	350 V @ Fil. 6.3 V.C.T. @	135 Ma. 2.25 A	C	4⅝″	3⅞″	4″	9.0	

Six Volt D.C. or 115 Volt A.C. Speaker Field Supply Transformers

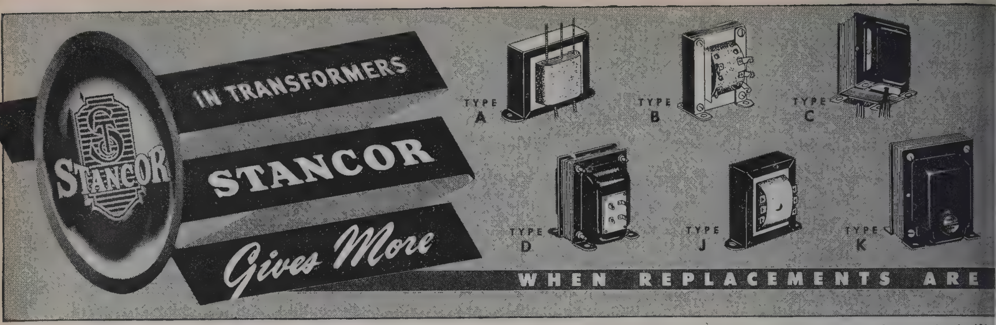
ancor No.	Primary Voltage	Secondary D.C. Volts	Secondary Ma. Output	Filament Winding	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
6149	115	100	150	5 V @ 3 A	C	3⅝″	2¹⁵⁄₁₆″	3¼″	3.2	
6146	115	115	Up to 250	5 V @ 3 A	C	4″	3⁷⁄₃₂″	3¼″	5.0	
6147	115	300	Up to 200	5 V @ 3 A	C	4⅜″	3⁹⁄₁₆″	3¾″	7.5	

Tube Checker Transformer

Especially designed for use in modernizing older types of tube checkers. Ideal for other testing equipment and laboratory. Packed with wiring instructions giving color coding of leads.

ancor	Primary			Type	Dimensions			Weight in	List
No.	Volts	Cycles	Secondary Volts	Mounting	H	W	D	Carton	Price
1834-3	105, 115, 125	50-60	1.1, 1.4, 1.5, 2.0, 2.5, 3.0, 3.3, 5.0, 6.3, 7.0 7.5, 12, 25, 30, 35, 50, 70, 85, 110, 117	A	2⅝″	4¹⁄₁₆″	2″	2.6	

of the above power transformers are for operation on 117 volts, 60 cycles.
ner voltage and frequency combinations available on special order. Write for quotations.



(Write your Stancor Distributor for latest prices)

Universal Output Transformers

Stancor No.	Output Tubes	Impedance Primary	Impedance Sec.	D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Pric
A-3856	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	35	..	Q	1⁵⁄₁₆"	2⅜"	1⅜"	0.6	
A-3849	Universal Single Plate	1,500, 2,000, 4,000, 5,000, 7,000, 10,000	4, 8, 15	55	10	Q	1⅝"	2⅞"	1½"	0.7	
A-3823	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	40	8	Q	2"	2¹³⁄₁₆"	1½"	0.7	
A-3850	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	8	J	2"	2⅜"	1½"	0.7	
A-3852	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	18	J	2⁵⁄₁₆"	2⅞"	2"	1.6	
A-3870	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	50	18	Q	2⅞"	3¼"	2"	1.6	
A-3880	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	15	Q	2¼"	3¾"	2¼"	1.7	
A-3830	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	60	20	Q	2¹¹⁄₁₆"	3⁵⁄₁₆"	2¼"	3.0	
A-3890	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	50	15	TD	2¹¹⁄₁₆"	2¾"	2³⁄₁₆"	1.3	
A-2855	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	50	15	L	2¼"	2³⁄₁₆"	1¾"	1.3	
A-3841	Universal Single Plate	2,500, 4,000, 5,000, 6,000, 7,000	500	60	10	J	2¹¹⁄₁₆"	3⁵⁄₁₆"	2¼"	1.8	
A-3842	Universal P.P. Plates	8,000, 10,000, 12,000, 14,000 C.T.	500	55	10	J	2¹¹⁄₁₆"	3⁵⁄₁₆"	2¼"	1.8	

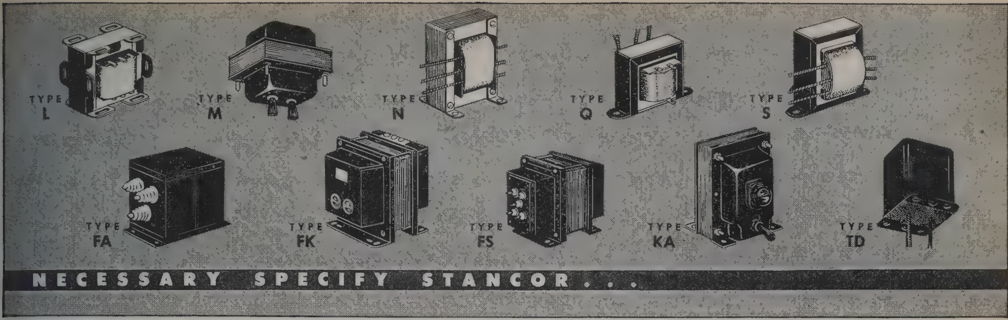
Crystal Recorder Output Transformers

Stancor No.	Output Tubes	Impedance in Ohms Primary	Impedance in Ohms Secondary	Core Size	Max. Watts Level	Type Mtg	Dimensions H	Dimensions W	Dimensions D	Mtg. Ctrs.	Wgt. in Ctn.	Lis Pri
A-3853	Sgl. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	7,000	70,000 or 4-6	¾"x¾"	5	A	2"	3¼"	1¾"	2¹³⁄₁₆"	1.0	
A-3854	Sgl. 2A5, 6AC5. 6B5, 7B5. 6F6, 6K6, 6N6, 42	7,000	70,000 and4-6	⅞"x⅞"	10	A	2¼"	3¾"	2¼"	3⅛"	1.5	
A-3859	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 or 4-6	¾"x¾"	5	A	2"	3¼"	1¾"	2¹³⁄₁₆	1.0	
A-3860	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 and 4-6	⅞"x⅞"	10	A	2¼"x3¾"x2¼"			3⅛"	1.5	
A-3869	P.P. 2A3, 6A3, 6L6 (C1, A1)	3,000-5,000	70,000	⅞"x⅞"	10	W2	3½"	2⅞"	3⅛"	....	3.0	
A-3886	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000	⅞"x⅞"	10	W2	3½"	2⅞"	3⅛"	....	3.0	
A-3897	500 Ohm Line	500	70,000	⅞"x⅞"	10	W2	3½"x2⅞"		3⅛"	....	3.0	

Tube to Line Transformers

(UNIVERSAL)

Stancor No.	From	To	Impedance Pri.	Impedance Sec.	D.C. Pri. Ma.	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	Lis Pri
A-3250	Sgl. or P.P. 27, 30, 12A, 37, 55, 56, 76, 6C5, 6C6.	Line	10,000 or 20,000	50, 125, 200, 333, 500	10	Q	2"	3¼"	1¾"	1.2	
A-3315	Sgl. or P.P. 27, 30, 37, 55, 56, 76, 12A, 6C5, 6C6.	Line	10,000 or 20,000	50, 125, 200, 333, 500	35	D	3¹⁄₁₆"	2⅝"	3⅝"	2.6	
A-4770	Univ. Single Tube	Line	2,500, 4,000, 5,000 6,000, 7,000	500	60	J	3⅛"	2⅝"	2⅝"	2.3	
A-4771	Univ. P.P. Tubes	Line	8,000 10,000, 12,000 14,000 C.T.	500	55	A	2⅝"	4"	2⅝"	2.3	



(Write your Stancor Distributor for latest prices)

Replacement Output Transformers

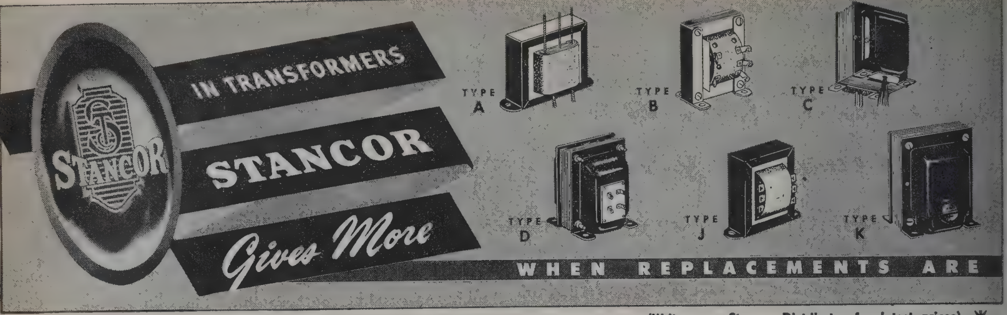
Stancor No.	Output Tubes	Class	Impedance in Ohms Pri.	Impedance in Ohms Sec.	D.C. Pri. Ma.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3865	Sgl. 48, 25B6, 25L6, 50L6	A	1,500	2, 4, 6	55	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-3876	Sgl, 2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	2,000	4	60	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-3825	Sgl, 2A3, 6A3, 6B4, 6L6, 6W6 6Y6, 25AC5, 25B5, 25L6, 25N6, 35N6, 35L6, 50L6	A	2,500	1, 2, 4	75	8	Q	2″	3¼″	1⅝″	1.0	
A-2203	Sgl, 12A5, 25A6, 31, 43, 45, 71, 48	A	4,000	8	40	5	A	1⅝″	2⅞″	1⅝″	0.7	
A-3877	Sgl, 2B6, 6V6, 7C5, 12A, 25A6, 31, 43, 59	A	5,000	4	40	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-3822	Sgl, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 38, 41, 42, 47, 59, 89	A	7,000 10,000	0.7, 1, 1.4 2, 2.8, 4	45	5	Q	1⅜″	2⅜″	1½″	0.5	
A-3878	Sgl, 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 20, 31, 33, 42	A	7,000	4	30	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-2313	Sgl. 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41, 42, 47, 59, 89	A	7,000	8	40	10	A	2″	3¼″	1¾″	1.1	
A-2201	Sgl, 6A6, 53 P.P. 25A6, 43, 45, 48, 71	A	8,000	6	40	10	A	2″	3¼″	1¾″	1.0	
A-3824	Sgl, 6A6, 6N7, 53; P.P. 45	B	8,000	1, 2, 4	75	8	Q	1⅞″	3¼″	2″	1.4	
A-3879	Sgl, 1J6, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38	A	10,000	4	30	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-3831	Sgl, 1G6, 1J6, 19, 6E6 P.P. 30, 49	B	10,000	2, 4, 8	40	5	A	1⅝″	2⅞″	1½″	2.6	
A-3496	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	45	5	A	1⅜″	2⅜″	1⅜″	0.7	
A-2312	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	40	10	A	2″	3¼″	1¾″	1.1	
A-3881	Sgl, 1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	15,000	4	10	5	A	1⅜″	2⅜″	1⅜″	0.5	
A-3848	Sgl, 1D8, 1F4, 1F5, 1J5, 1T5, 6R7, 950	A	16,000	1, 2, 4	10	5	Q	1⅜″	2⅜″	1⅜″	0.5	
A-3857	Sgl, 1A5, 1E7, 1N6, 6V7 P.P. 1F4, 1F5, 1J5, 1T5, 6G6,	A	25,000	4	10	5	A	1⅜″	2 7/16″	1 5/16″	0.7	

Heavy Duty Output Transformers to Line or Speaker

(HIGH LEVEL)

Stancor No.	Output Tubes	Class	Impedance in Ohms Pri.	Impedance in Ohms Sec.	D.C. Pri. Ma.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3306	P.P. PAR. 48, 25L6 P.P. PAR. 2A3, 45	A AB	2,500	4, 8, 15, 500	100	25	C	3⅝″	3″	3⅛″	3.6	
A-3301	P.P. 2A3, 6A3, 6B4 P.P. 48, 25L6	AB A	3,000	4, 8, 15, 500	55	30	C	3⅝″	3″	3⅛″	3.7	
A-3802	P.P. PAR. 6L6 P.P. 45, 6L6	AB1 AB2	3,300 3,800	4, 8, 250, 500	250	75	C	4⅝″	3⅞″	3⅞″	8.3	
A-5523	P.P. 6Y6, 25L6	A	4,000	4, 8, 15, 500	65	8	C	3 3/16″	2⅝″	2⅜″	2.4	
A-3851	P.P. 6L6*	AB1	4,400	4, 8, 15, 250, 500	70	30	C	3⅝″	3″	3⅛″	3.6	
A-3872	P.P. 6L6; P.P. 2A3, 6A3, 45	A	5,000	4, 8, 15	150	18	TD	2 11/16″	2¾″	2 3/16″	1.8	
A-3310	Sgl, 45, 2B6, 6L6, 6V6, 25A6, 25A7	A	5,000	4, 8, 15, 500	55	20	C	3 3/16″	2⅝″	2⅝″	2.5	
A-3800	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8, 15, 250, 500	80	30	C	3⅝″	3″	3⅛″	3.7	
A-3307	P.P. 2A5, 6F6, 42 P.P. 46, 59 P.P. PAR. 6A6, 6N7, 53	AB2 B	6,000	4, 8, 15, 500	100	30	C	3⅝″	3″	3⅛″	3.6	
A-3801	P.P. 6L6	AB1	6,600	4 8, 15, 250, 500	150	35	C	3⅞″	3¼″	3⅜″	5.0	
A-3855	Sgl, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41, 42, 47, 59, 89; P.P. 12A5, 45	A	7,000	10, 2,000	40	5	TD	2 11/16″	2¾″	2 3/16″	1.7	
A-3885	P.P. 6L6	AB1	9,000	4, 8, 15, 250, 500	150	35	C	3⅞″	3¼″	3⅜″	5.0	
A-3304	Sgl, 6A4, 6B5, 6N6 P.P. 6V6, 45 Sgl, 6A6, 6N7, 53; P.P. 6AC5	A B	7,000 7,000 10,000	4, 8, 15, 500	60	25	C	3 3/16″	2⅝″	2⅝″	2.6	
A-3839	Sgl, 1G6, 1J6, 19 P.P. 1H4, 30, 49 Sgl, 1G5, 3C5, 6G6, 6R7, 12A	B A	10,000	4, 8, 15, 2000	30	10	TD	2 11/16″	2¾″	2 3/16″	1.7	
A-3311	Sgl, 6A6, 6N7, 53 P.P. 6B5, 6N6 P.P. 6F6, 6V6	B AB	10,000	4, 8, 15, 500	70	25	C	3⅝″	3″	3⅛″	3.8	
A-3303	Sgl, 6Y7, 6Z7, 79 P.P. 2A5, 6F6, 6K6, 7B5, 41, 42, 47, 59, 89	B A	14,000	4, 8, 15, 500	55	20	C	3 3/16″	2⅝″	2⅝″	2.6	

*10% Inverse Feedback Winding Used. NOTE: All transformers shown for P.P. operation have C.T.



(Write your Stancor Distributor for latest prices)

Interstage Transformers

Designed primarily as radio replacements, this group of transformers has a multiplicity of applications because of the wide range of sizes and types. Listed are units in channel frames, ranging from the smallest to the largest in common usage, a universal bracket universal winding transformer, large core heavy duty units for higher fidelity push-pull and universal interstage transformers and a fine grouping of drivers. Size for size, unit for unit, these transformers represent the finest offering by any manufacturer — and they're so easy to use.

Stancor No.	From	To	Impedance Pri.	Impedance Sec.	Turns Ratio Sec. to Pri.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3³⁄₁₆″	2⅝″	2⅝″	2.5	
A-53C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1⁵⁄₁₆″	2⅜″	1¼″	0.5	
A-63C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1⅝″	2⅞″	1¾″	0.75	
A-73C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2″	3⁵⁄₁₆″	1⅝″	1.0	
A-2132	Screen Grid Tube	P.P. Grids	10,000	10,000	1:1	10	S	3⅛″	3⅝″	2¼″	2.4	
For coupling screen grid or power detector.												
A-52C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅜″	2⅜″	1⅜″	0.5	
A-62C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅝″	2⅞″	1¾″	0.75	
A-4741	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	S	2″	2⅜″	1½″	0.8	
A-4745	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	1.5	
For super-regenerative detector, static shield between windings.												
A-53C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅜″	2⅜″	1⅜″	0.5	
A-63C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅝″	2⅞″	1¾″	0.75	
A-73C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2″	3¼″	1¾″	1.0	
A-103C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2⅝″	4″	2¼″	2.2	
A-4155	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	L	2¼″	2³⁄₁₆″	1¾″	1.2	
A-4719	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	1.5	
A-4750	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2⁵⁄₁₆″	2⅞″	1¾″	1.0	
A-4740	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2″	2⅜″	1½″	0.75	
A-83C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2¼″	3¾″	2¼″	1.5	
A-4206*	20,000 ohm plate	P.P. Grids	20,000	180,000	3:25:1	15	C	3³⁄₁₆″	2⅝″	2⅝″	2.5	
A-64C	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	S	2″	2⅜″	1¾″	0.75	

*Split Secondary.

Stancor No.	From	To	Impedance Pri.	Impedance Sec.	Turns Ratio Sec. to Pri.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4208*	P.P. Plates	P.P. Grids	25,000	13,000	1:1.39	15	C	3³⁄₁₆″	2⅝″	2⅝″	2.5	
A-4711	P.P. Plates	P.P. Grids	20,000	20,000	1:1	10	A	1⅝″	2⅞″	1½″	0.8	
A-4772*	P.P. Plates	P.P. Grids	20,000	45,000	1.5:1	10	S	3⅛″	3⅝″	2¼″	2.2	
A-4777*	P.P. Plates	P.P. Grids	20,000	45,000	1.5:1	10	C	3³⁄₁₆″	2⅝″	2⅝″	2.5	
A-4155	P.P. Plates	P.P. Grids	10,000	90,000	3:1	10	L	2¼″	2¹⁄₁₆″	1¾″	1.2	

*Split Secondary.

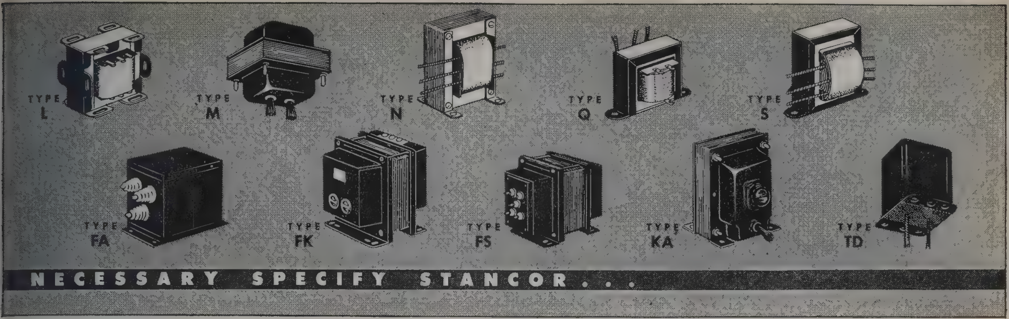
Universal Interstage Transformers (Split Secondaries)

May be used as plate to grid; push pull input or push-pull interstage replacement transformers. Have 3:1 over all ratio, however, primary is center-tapped and secondary has split winding, thus permitting ratios of 1:1, 3:1 and 6:1. Transformers may be used in either step-up or step-down applications.

Stancor No.	Application	Turns Ratio	D.C. Pri. Ma.	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Mtg. Ctrs.	Wgt. in Ctn.	List Price
A-4773	Universal	3:1	10	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	2⅜″	1.5	
A-4774	Universal	3:1	10	S	2⁵⁄₁₆″	2⅞″	1¾″	2⅜″	1.5	
A-4775	Universal	3:1	10	S	2⅝″	3³⁄₁₆″	2¼″	2¹¹⁄₁₆″	1.8	

Driver Transformers

Stancor No.	From	To	Class	Pri. Impedance	½ Sec. Impedance	Turns Ratio Pri. to ½ Sec.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in. Ctn.	List Price
A-4722	1-42, 47 2A5, 6K6	P.P. 42, 2A5, 6F6, 6K6	AB	10,000	2,500	2:1	30	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	1.5	
A-4752	1-6G6G, 6F6, 42, 2A5 as Triodes	P.P. Grids 6V6, 6Y6, 6F6, 6L6, 6Z7	AB	10,000	2,500 4,400 10,000	2:1 1.5:1 1:1	35	A	2″	3¼″	1¾″	1.5	
May be used from P.P. primary with ratio of 2:1.													
A-4713	1-46, 45, 2A5, 6F6,	P.P. Grids 79, 2A5, 6A6, 6F6	AB	10,000	2,500	2:1	30	A	1⅝″	2⅞″	1½″	0.7	
A-4292	1-6C5, 30, 49	1-1J6, 19, 2-30, 2-49	B	10,000	1,600	2.5:1	10	A	1⅝″	2⅞″	1½″	0.7	
A-4734	1-30, 2A5, 6A6, 1G5, 6F6, 6K6	P.P. Grids 19, 2A5, 6A6, 1J6	B	10,000	1,600	2.5:1	15	S	2⁵⁄₁₆″	2⅞″	1¾″	1.4	
A-4401	1-27, 30, 37 56, 76, 6C5, 1H4, 6J5	1-19, 79, 1J6	B	10,000	1,400	2.63:1	15	J	2¼″	2⅞″	1⅝″	1.3	
A-4723	1-30, 2A5, 6A6, 1G5, 6K6 etc.	P.P. Grids 19, 79, 2A5, 6A6 6F6, 1J6, 6K6	B	10,000	1,100	3:1	30	A	1⅝″	2⅞″	1½″	0.7	
A-4712	P.P. 27, 30, 37, 56, 76 6C5, 1H4, 6J5	P.P. 19, 53, 6A6, 1J6, 6N7	B	20,000	2,200	3:1	10	A	1⅝″	2⅞″	1½″	0.7	



(Write your Stancor Distributor for latest prices) ▼

Microphone, Pickup or Line to Grid Transformers

Stancor No.	From	To	Impedance		Ratio Overall	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
			Pri.	Sec.			H	W	D		
A-4742	S.B. Microphone	Sgl. or P.P. Grids	100	400,000 C. T.	1:64	S	2 5/16″	2⅞″	1¾″	1.0	
A-4743	S.B. Microphone	Sgl. or P.P. Grids	100	400,000 C.T.	1:64	S	2 5/16″	2⅞″	1⅞″	1.1	
Has shield cover which encloses entire coil.											
A-4707	S.B. Microphone	Single Grid	100	58,500	1:24.2	J	2″	2⅜″	1⅝″	0.8	
A-4706	S.B. Microphone	Single Grid	100	60,000	1:24.6	A	1⅜″	2⅜″	1½″	0.6	
A-4708	D.B. Microphone	Single Grid	200 C.T.	57,000	1:17	J	2″	2⅜″	1⅝″	0.8	
A-4727	D.B. Microphone	Single Grid	200 C.T.	100,000	1:22.2	TD	2 11/16	2¾″	2 3/16″	1.8	
A-4709	Dynamic or Pickup	Single Grid	4, 8, 15, 30	106,000	1:60	TD	2 11/16″	2¾″	2 3/16″	1.8	
A-4351	S.B. or D.B. Microphone or line	Single Grid	50, 125, 200, 333, 500	89,000	1:13.3	TD	2 11/16″	2¾″	2 3/16″	1.0	
A-4408	S.B. or D.B. Microphone or Line	Single Grid	50, 125, 200, 333,500	80,000	1:12.5	D	3⅛″	2⅝″	3⅛″	2.6	
A-4726	D.B. Microphone and 200 ohm line	P.P. Grids	200 C.T.	100,000	1:22.3	TD	2 11/16″	2¾″	2 3/16″	1.8	
A-4352	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	89,000	1:13.3	Q	2″	3¼″	1¾″	1.0	
A-4409	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	157,000	1:17.7	D	3⅛″	2⅝″	3⅛″	2.6	
A-4705	S.B. Microphone	Single Grid	200 or 70	80,000	1:20	A	1⅜″	2⅜″	1⅜″	0.5	
A-4728	1, 2, 3, or 4 Circuit Mixer	Single Grid	50, 100, 150, 200	100,000	1:22.2	TD	2 11/16″	2¾″	2 3/16″	1.8	
A-4729	1, 2, 3, or 4 Circuit Mixer	Single Grid	200, 400, 600, 800	100,000	1:11.2	TD	2 11/16″	2¾″	2 3/16″	2.0	

Microphone or Line to Line Transformer

A-4350	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500		Q	2″	3¼″	1¾″	1.0	
A-4407	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200 333, 500		D	3 3/16″	2⅝″	3¼″	2.6	

Line to Voice Coil Transformers

Stancor No.	For Coupling	Primary Impedance	Secondary Impedance	Max. Audio Watts	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
						H	W	D		
A-3882	Line to voice coil	250, 333, 500	4, 8, 15	25	D	3 3/16″	2⅝″	3½″	2.6	
A-3883	Line to voice coil	500	4, 6, 8, 15	25	J	2 5/16″	2⅞″	1¾″	1 5	
A-3818	Line to voice coil	500, 1000, 1500	4, 8, 15	25	J	3⅛″	3⅝″	2¼″	2.6	
A-3820	Line to voice coil	500, 1000, 1500, 2000	4, 8, 15	40	D	4 5/16″	3⅝″	4½″	5.8	
A-3838	Line to speakers autoformer	500	250, 166, 125, 100, 84	30	B	3⅛″	2½″	2¼″	2.6	
A-3837	Line to voice coil. 1 to 6 can be paralleled across 500 ohm line	500, 1000, 1500, 2000, 2500, 3000	.06 to 8 ohm from primary of 500 ohms—12 to 16 from 1000, etc.	15	J	2 5/16″	2⅞″	2″	2.0	

Input Transformer Inter communication

Stancor No.	From	To	Impedance in Ohms		Core Size	Type Mtg.	Dimensions			Mtg. Ctrs.	Wgt. in Ctn.	List Price
			Pri.	Sec.			H	W	D			
A-4744	Voice Coil	Sgl. Grid	4	25,000	½″x⅝″	A	1⅜″	2⅜″	1½″	2⅜″	0.5	
Has shield cover enclosing entire coil.												

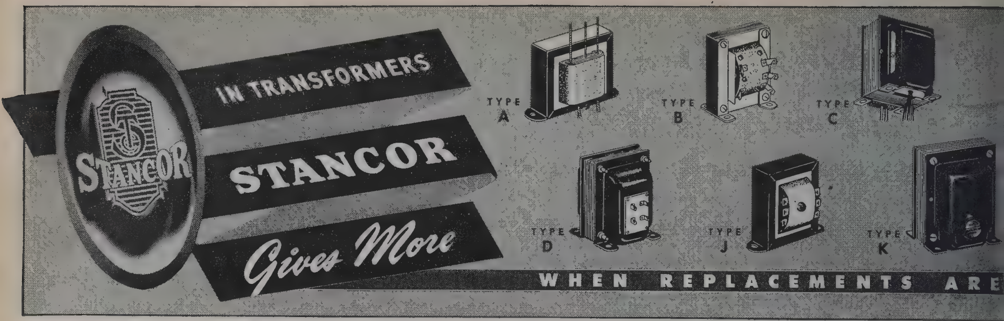
Transceiver Transformers

A-38[illegible]3	Sgl. Button Micro. and Plate to Single Grid.	5,000 200	60,000	10	5	A	1⅝″	2⅞″	1½″	0.7
A-4413	Sgl. Button Micro. and Plate to Single Grid.	10,000 200	90,000	45	10	J	2 5/16″	2⅞″	1¾	1.5
A-3836	Pentode Plate to Low or High Impedance Phone or Oscillator	10,000	2,000 50	30	5	A	1⅝″	2⅞″	1½″	0.7

Tone Control Unit

The necessary components for a dual tone control circuit to provide both bass and treble attentuation when used in conjunction with two dual 250,000 ohm potentiometers. Contained in Hi-Fi-type W-1 cast case for shielding against hum pickup and provided with 12″ Flexible Coded Leads for direct connection in the circuit. Dimensions H.3½″ x W.2¾″ x L.3 1/16″. Packed with complete instructions for installation and use.

STANCOR No. **C-2332-1**..List



(Write your Stancor Distributor for latest prices)

Variable Line Autoformers

These transformers designed so that the associated equipment may be kept at a specific input voltage regardless of line voltage. Line regulating transformers continuously variable in 5 volt steps from 85-125 volts.

Special Autoformer

This Autoformer will deliver full output wattage at any secondary voltage specified below or can be used to supply any voltage in 5 volt steps from zero to 130 volts for special experimental applications.

Stancor No.	Primary Volts	Primary Cycles	Secondary Volts	Output Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	Li Pr
P-5066	85-125	50-60	85-125	35	B	3⅛″	2½″	2½″	2.0	
P-5067	85-125	50-60	85-125	75	B	3½″	3″	2¾″	3.4	
P-5068	85-125	50-60	85-125	125	B	3½″	3″	3⅛″	4.0	
P-6145	85-125	50-60	85-125	500	B	4½″	3¾″	4½″	10.0	
P-6148	25-55-75 95-105-110 115-120 125-130	50-60	25-55-75 95-105-110 115-120 125-130	250	B	4½″	3¾″	3¾″	8.0	

Testing Autoformer

Inccorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. Primary equipped with 5 ft. approved cord and plug. Secondary connected to female receptacle. Locking screw mounted on switch.

Stancor No.	Secondary Voltage	Primary Voltage	Output Watts	Type Mg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	Li Pr
P-6299	90, 100, 110, 120, 130, 140, 150, @ 50-60 cy.	115V.	150	KA	3⅞″	3¼″	4¾″	8.0	

Step-Down Autoformer

These transformers are excellent units to be used with standard apparatus on 220-250 volt lines. May also be wired to step up 110-125 volts to 220-250 volts for test purposes or other applications.

Stancor No.	Primary Volts	Primary Cycles	Secondary Volts	Output Watts	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	Li Pr
P-6287	220-250	50-60	110-125	40	*	4¼″	3″	3″	2.5	
P-5062	220-250	50-60	110-125	80	K	3⅝″	2¹⁵⁄₁₆″	3¼″	4.5	
P-5063	220-250	50-60	110-125	100	K	3⅞″	3¼″	3¼″	5.2	
P-5064	220-250	50-60	110-125	150	K	4¼″	3½″	3⅝″	6.6	
P-5065	220-250	50-60	110-125	250-300	K	4⅝″	3⅞″	4⅛″	9.8	
P-6141	220-250	50-60	110-125	500	K	4⅝″	3⅞″	5¼″	14.5	
P-6124	220-250	50-60	110-125	1000	F	7⅜″	6″	6⅛″	30.0	

*Mounted in special can and equipped with cord, plug and receptacle.

Isolation Transformers

These transformers are designed with an electrostatic shield to isolate line noises and interference from the apparatus being used. They are suitable for screen test booths, electrical therapeutic machines, medical instruments, beauty parlor equipment, electric furnaces, amateur transmitters, etc. Each unit complete with a 6 ft. cord and plug and a female receptacle. Primary tapped for 105, 115, and 125 volts, 50-60 cycles. Secondary rated at 115 volts. Tap switch controls primary voltage, except on Nos. P-6123 and P-6125.

Stancor Number	Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	Li Pri
P-6160	100	KA	4⅝″	3⅞″	3⅜″	5.5 lbs.	
P-6161	250	KA	4⅝″	3⅞″	5¼	14.0 lbs.	
P-6298	500	FK	7⅜″	6″	6¼″	37.0 lbs.	
P-6125	1000	FK	7½″	7⅛″	6½″	50.0 lbs.	
P-6123	1500	FK	7½″	7⅛″	7½″	60.0 lbs.	

NOTE: Type FK is Type F with female receptacle mounted in side.

Fence Controller Transformers

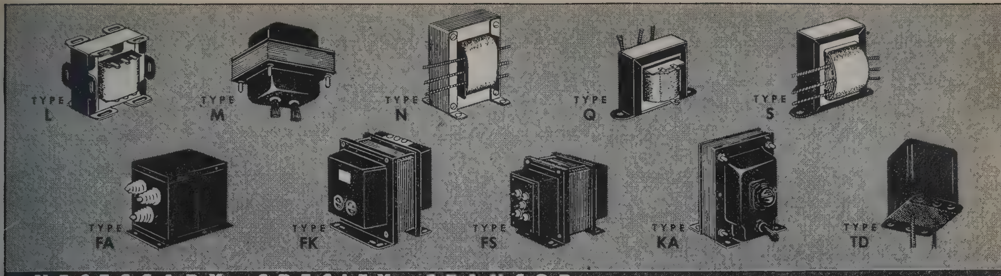
Stancor No.	Primary Voltage	Filament Volts	Filament Amps.	Secondary Open Circuit	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	Lis Pric
P-6122	6V. D.C.	None	...	3000 Inst. Peak	A*	2⅛″	2⅝″	2″	1.5	
P-6126†	200V. A.C.	None	...	3000 Inst.	N*	2¾″	3⅛″	2¼″	4.0	
P-6127	115V. A.C.	5.0 2.0	2.0 8.0	900 V. (25 Ma. Peak)	N*	4½″	3⅜″	2¾″	2.0	

*Has special moisture resisting compound overall.
†P-6126 special output transformer used in conjunction with P-6127 power transformer. Insulated for 5000V. A.C.

Universal Speaker Field Substitute Choke

Designed for the service department, to take the place of the speaker field on the test bench. Packed complete with full instructions.

Stancor No.	D. C. Resistance in Ohms	Resistance and Current Rating	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wtg. in Ctn.	List Pric
C-2302	3000 tapped at 2500, 1000 and 750	250, 750, 1000, 1750 ohms—60 Ma. cont. or 75 Ma. Int. Duty 500, 1500, 2000, 2250, 2500, 3000 ohms—40 Ma. cont. or 55 Ma. Int. Duty	B	3⅜″	2⅞″	3″	2.6	



NECESSARY SPECIFY STANCOR . . .

(Write your Stancor distributor for latest prices)

Filter Chokes
(REPLACEMENT TYPES

These chokes include a
commonly used ratings f
units of their type. Sin
inductance varies with t
amount of D.C. flowi
through the coil these un
have been tested under u
form conditions. Filt
chokes are rated at
Volts 60 Cycles with ma
mum D.C. in windin
Swinging chokes are rat
at 10 Volts 60 Cycles fro
maximum to 10% of ma
mum D.C. in winding
Audio chokes are rated
2 Volts 200 Cycles wi
maximum D.C. in windin
Tolerance of plus 15%
maintained on all rating

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-1515	20	15	900	1650	A	1⅝″	2⅞″	1¾″	0.7	
C-1706	4.5	50	300	1650	A	1⅜″	2⅜″	1⅜″	0.5	
C-1707	6	50	500	1650	A	1⅜″	2⅜″	1⅜″	0.5	
C-1003	16	50	550	1650	A	1⅞″	3 5/16″	1⅝″	1.4	
C-1708	13	65	460	1650	A	1⅞″	3¼	2 13/16″	1.1	
C-1355	8	75	275	1650	L	2¼″	2 3/16″	1¾″	1.2	
C-1002	15	75	400	1650	A	2¼″	3 11/16″	1⅞″	1.7	
C-1420	15	80	350	2000	C	3 3/16″	2⅝″	2½″	2.6	
C-1709	8	85	250	1650	A	1⅞″	3¼″	2 13/16″	1.5	
C-2305	4.8	100	275	2000	TD	2 11/16″	2¾″	2 3/16″	1.7	
C-1001	10.5	110	200	3000	A	2½″	4″	2″	2.4	
C-2303	2.5	130	100	2000	A	2″	3⅜″	1⅝″	1.4	
C-1421	7.5	140	160	3000	C	3 3/16″	2⅝″	2½″	2.7	
C-2304	2.3	150	65	2000	A	2″	3⅜″	1⅝″	1.4	
C-2309	3.3	150	90	2000	A	2¼″	3 11/16″	1⅞″	1.5	
C-1710	7	150	200	1650	A	2½″	4″	2 1/16″	2.3	

Filter Chokes
(HEAVY DUTY TYPES

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-1410	20	175	100	3000	C	3 3/16″	2⅝″	2½″	2.7	
C-1646	20	200	70	5000	C	4″	3¼″	3⅜″	4.7	
C-1411	15	200	80	3000	C	3⅝″	2 13/16″	3¼″	4.0	
C-1721	15	200	120	3000	N	4″	3⅛″	3¼″	4.5	
C-1703	15	250	60	3000	B	3½″	2 13/16″	3½″	3.9	
C-1412	15	250	60	3000	C	3⅝″	2 13/16″	3¼″	4.8	
C-1722	13	300	80	3000	N	4½″	3¾″	3½″	8.5	
C-2308	13	300	80	3000	C	4⅝″	3⅞″	3⅞″	9.0	
C-1413	12	300	80	5000	D	4⅝″	3⅞″	3″⅞	8.5	
C-1414	10	400	60	5000	D	4⅝″	3⅞″	4⅞″	13.5	
C-1415	5	500	70	5000	FS	8 5/16″	6″	5¾″	17.0	

Swinging Choke

Stancor No.	Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-1718	8-30	150	130	2000	C	3 3/16″	2⅝″	2½″	2.5	
C-1400	8-40	175	100	3000	C	3 3/16″	2⅝″	2½″	2.7	
C-1401	8-30	200	80	3000	C	3⅝″	2 13/16″	3⅛″	3.5	
C-1645	8-35	200	85	5000	C	3⅞″	3¼″	3⅜″	4.7	
C-1719	5-25	200	120	3000	N	3¾″	3⅛″	3¼″	5.0	
C-1702	8-30	250	60	3000	B	3½″	2 13/16″	3″	3.9	
C-1402	8-30	250	60	3000	C	3⅝″	2 13/16″	3⅛″	4.6	
C-1720	5-25	300	80	3000	N	4½″	3¾″	3½″	8.5	
C-2307	5-25	300	80	3000	C	4⅝″	3⅞″	3⅞″	9.0	
C-1403	8-25	300	80	5000	D	4⅝″	3⅞″	3⅞″	8.4	
C-1404	5-25	400	60	5000	D	4⅝″	3⅞″	4⅞″	12.3	
C-1405	3-20	500	70	5000	FS	8 5/16″	6″	5¾″	17.0	

A.C.-D.C. Choke

Stancor No.	Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-1711	4.5	50	325	1600	Q	1⅜″	2⅜″	1⅜″	0.5	
C-1723	4.4	50	330	1600	A	1⅜″	2⅜″	1⅜″	0.5	
C-1080	15	50	200	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1325	15	50	250	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1277	15	50	300	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1227	15	50	350	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1279	15	50	400	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1333	15	50	450	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1215	15	50	500	1600	A	1⅝″	2⅞″	1¾″	0.6	
C-1362	15	50	550	1600	A	1⅝″	2⅞″	1¾″	0.6	

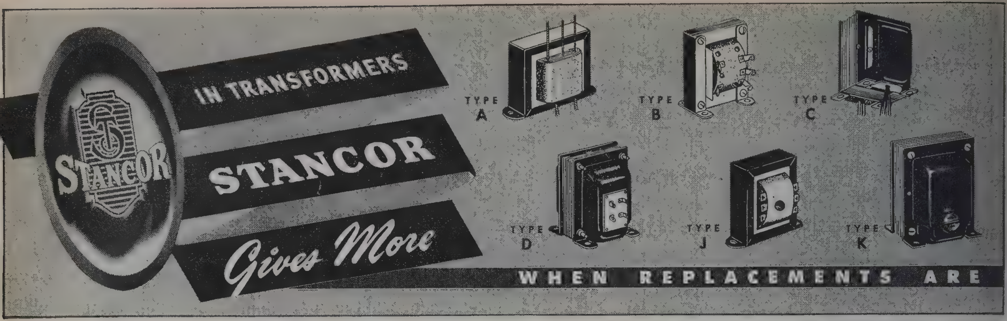
Output Chokes

Stancor No.	Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-1003	30	50	550	1600	A	2″	3¼″	1¾″	1.4	
C-1034*	30	30	1150	1600	A	2″	3¼″	1¾″	1.3	

Audio Reactor

Stancor No.	Rated Inductance in Henries	Inductance Measured at Ma.	Maximum Current Ma.	D.C. Res. Ohms	Volts Insulation	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
C-2300	1000	0.5	10	5500	1600	TD	2 11/16″	2¾″	2 3/16″	1.5	
C-2301	300	5	10	6000	1600	TD	2 11/16″	2¾″	2 3/16″	1.8	
C-1701*	300	10	10	11400	1600	D	3 3/16″	2⅝″	3½″	2.5	

*Center tapped.



(Write your Stancor distributor for latest prices)

Plate Transformers

This group of transformers is designed primarily to deliver the rated D.C. voltage and current outputs when used with full-wave mercury vapor rectifier tubes in conjunction with a two section filter employing choke input and two 2 mfd. condensers working into a resistive load. Generous coil and core design result in a transformer with above average regulation and efficiency. Phenolic terminal boards and heavy duty ceramic insulators assure protection from voltage breakdown.

Stancor No.	Primary Voltage	D.C. Voltage After Filter	Taps	Current in Ma.	Type Mtg.	Mounting Dimensions H	W	D	Wgt. in Ctn.	List Price
P-8040	115	400	40	300	C	4¾″	4″	4½″	12.3	
P-8041	115	500	400-40	250	C	4¾″	4″	5⅛″	9.0	
P-8042	115	600	400-40	300	C	4¾″	4″	6½″	16.5	
P-8043	115	750	600-40	300	FS	7½″	6⅛″	8″	27.2	
P-8044*	115	1000	400	150-150	FS	7½″	6⅛″	8¼″	28.0	
P-8045	115	1000	750	250	FS	7½″	6⅛″	8″	27.2	
P-8025	115	1000	750	400	FS	7½″	6⅛″	8¾″	35.5	
P-8026	115	1250	1000	300	FS	7⅝″	7⅜″	8¼″	36.0	
P-8027	115	1250	1000	500	FS	7⅝″	7⅜″	9½″	40.0	
P-8028	115	1500	1250	300	FS	7⅝″	7⅜″	9″	38.0	
P-8029	115-230	1500	1250	500	FS	7⅝″	7⅜″	9¼″	52.0	
P-8030	115	1750	1500	300	FS	7⅝″	7⅜″	9½″	40.0	
P-8031	115-230	1750	1500	500	FS	11″	7⅜″	9¼″	52.0	
P-8032	115	2000	1750	300	FS	7⅝″	7⅜″	9¾″	45.0	
P-8033	115-230	2000	1750	500	FS	11″	7⅜″	10″	57.0	
P-8034	115-230	2500	2000	300	FS	7⅝″	7⅜″	9¼″	52.0	
P-8035	115-230	2500	2000	500	FS	11″	7⅜″	10¼″	60.0	

* Secondary with taps suitable for dual rectifier supply. Each output available at rated current.
Note: Transformers with more than one high voltage output have secondary with taps suitable for dual rectifier supply. Total current should not exceed rating.

Bias Transformers

Stancor No.	D.C. Output Volts	Ma.	Filament Volts	Amps.	Primary Volts	Type Mtg.	Dimensions H	W	D	Wgt. in Ctn.	List Price
P-6317	90-130-170-200	200	5	3	115	CD	3⅞″	3¼″	3¾″	4.9	
P-6318	250-350-400-450	200	5	3	115	CD	4¼″	3 9/16″	4¼″	7.0	

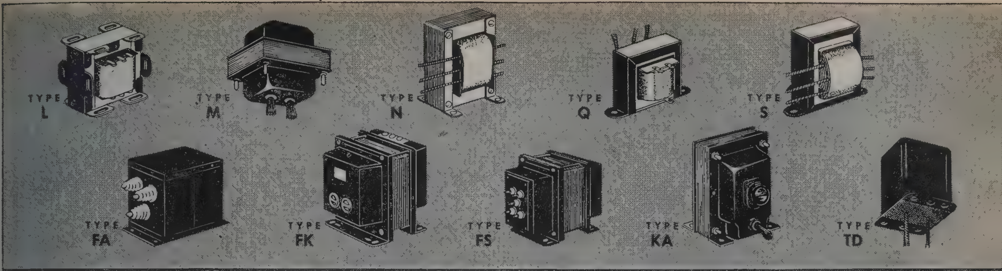
Above plate and bias transformers are for listed voltage 60 cycle operation.
Other voltage and frequency combinations available on special order. Write for quotations.

Volt Adjusters

STANCOR'S volt-adjuster is the answer to the fluctuating voltage problem. It is a compact unit containing a ruggedly constructed step-up; step down autoformer.

The primary winding accommodates various voltages in 10 volt steps. A 10 position tap switch with an off position permits changing of the primary winding when a voltage shift occurs, and through this switch the output may be changed and kept at 115 or 230 volts. A meter with 0-150 or 0-250 volt range indicates the output at all times. The nominal output is indicated on the meter face by a red line. Unit is housed in beautiful black wrinkle finish case.

Stancor No.	Voltages Primary	Secondary	Freq. in Cycles	Output Watts	Type Mtg.	Dimensions H	W	D	Wgt. in Ctn.	List Price
P-6171	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	150	KB	7″	4″	5″	7.0	
P-6245	170, 180, 190, 200, 210, 220, 230, 240, 250	230	50-60	150	KB	7″	4″	5″	7.0	
P-6247	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	300	KB	7″	4″	5″	9.0	
P-6246	170, 180, 190, 200, 210, 220, 230, 240, 250	230	50-60	300	KB	7″	4″	5″	9.0	
P-6248	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	500	KB	7″	4″	5″	12.5	
P-6231	170, 180, 190. 200, 210, 220, 230, 240, 250	230	50-60	500	KB	7″	4″	5″	12.5	
P-6230	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	1000	KB	10″	7″	7″	27.	
P-6230C	170, 180, 190, 200, 210, 220, 230, 240, 250	220	50-60	1000	KB	10″	7″	7″	27.	



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Filament Transformers

Single Secondary

This group of filament transformers represents a complete listing of all commonly used electrical and physical specifications for units of this type. All transformers except those especially indicated have center taps. They are designed to provide accurate voltage output at rated loads with good regulation. Generous insulation provides a safety factor over and above the test voltage as indicated. Each group of transformers by voltage ratings is available in several convenient mounting styles which lend themselves to most applications.

(Write your Stancor distributor for latest prices)

Stancor No.	Primary Voltage	Secondary		Type Mtg.	Mounting Dimensions			Sec. Volts Insulation	Wgt. in Ctn.	List Price
		Volts	Amperes		H	W	D			
P-4026	115	2.5 C.T.	1.5	A	1 9/16″	1 5/16″	2 3/16″	2,500	0.5	
P-4082	105-115	2.5 C.T.	2.5	TD	2 11/16″	2¾″	2 3/16″	2,500	1.4	
P-6133	115	2.5 C.T.	5	S	2 11/16″	2½″	2¾″	7,500	2.7	
P-4083	105-115	2.5 C.T.	6	C	3⅛″	2⅝″	2⅜″	2,500	2.2	
P-3024	105-115	2.5 C.T.	10	C	3⅛″	2⅝″	2⅝″	2,500	2.7	
P-3060	115	2.5 C.T.	10	B	3½″	2 13/16″	2½″	10,000	3.0	
P-3025	105-115	2.5 C.T.	10	FA	5″	4¼″	8½″	10,000	5.3	
P-3023	105-115	5.0 C.T.	3	C	3⅛″	2⅝″	2⅝″	2,500	2.5	
P-4088	115	5.0 C.T.	3	B	3⅛″	2½″	2⅛″	2,500	2.0	
P-3062	115	5.0 C.T.	6	B	3⅛″	2½″	2¾″	2,500	2.5	
P-5000	105-115	5.0 C.T.	6	C	3⅛″	2⅝″	2⅞″	2,500	3.2	
P-6135	115	5.0 C.T.	10	N	3⅛″	2⅝″	3¼″	2,500	3.1	
P-4086	105-115	5.0 C.T.	14	FA	5″	4¼″	8½″	10,000	9.4	
P-6302	105-115	5.0 C.T.	22	FA	5″	4¼″	8½″	10,000	12.0	
P-6305	105-115	5.0 C.T.	30.0	FB	5″	4¼″	10″	10,000	17.1	
P-6136	115	5.25 C.T.	4	S	2 11/16″	2½″	2¾″	2,500	2.3	
P-6137	115	5.25 C.T.	13	N	3⅞″	3¼″	3⅝″	2,500	4.2	
P-5011	105-115	5.25 C.T.	13	C	3⅞″	3¼″	3⅝″	2,500	5.8	
P-6134	115	6.3 C.T.	1.2	A	1⅝″	2 13/16″	1½″	2,500	0.6	
P-5014	115	6.3 C.T.	3	B	3⅛″	2½″	2¼″	2,500	2.0	
P-4019	105-115	6.3 C.T.	4	C	3⅛″	2⅝″	2⅝″	2,500	2.8	
P-3064	115	6.3 C.T.	6	B	3⅛″	2½″	2¾″	2,500	2.4	
P-4089	105-115	6.3 C.T.	6	C	3⅝″	2 15/16″	3⅛″	2,500	3.7	
P-3303	105-115	6.3 C.T.	10	N	3½″	2 13/16″	3⅛″	2,500	4.0	
P-3300	115	6.3 C.T.	20	N	4⅝″	3⅞″	3⅞″	2,500	7.5	
P-5015	115	7.5 C.T.	4	B	3⅛″	2½″	2½″	2,500	2.5	
P-4091	105-115	7.5 C.T.	5	C	3⅝″	2 13/16″	2⅞″	2,500	4.0	
P-6138	115	7.5 C.T.	8	N	3¾″	3⅛″	3½″	2,500	4.1	
P-4092	105-115	7.5 C.T.	8	C	3⅞″	3¼″	3⅝″	2,500	5.6	
P-4094	105-115	7.5 C.T.	15	FA	5″	4¼″	8½″	5,000	7.8	
P-4093	105-115	7.5 C.T.	21	FB	5″	4¼″	10″	5,000	15.8	
P-5016	115	10.0 C.T.	4	B	3½″	3″	2⅛″	2,500	3.0	
P-4096	105-115	10.0 C.T.	5	C	3⅞″	3¼″	3⅜″	2,500	4.6	
P-6139	115	10.0 C.T.	8	N	3⅞″	3¼″	3½″	2,500	4.1	
P-4097	105-115	10.0 C.T.	8	C	3⅞″	3¼″	3⅜″	2,500	5.8	
P-5002	105-115	10.0 C.T.	12	FA	5″	4¼″	8½″	7,500	11.6	
P-3020	105-115	11.0 C.T.	10	C	4⅝″	3⅞″	3⅞″	2,500	7.8	
P-6164	115	*6.3, 5, 2.5	2.5	B	2⅝″	2¼″	2⅜″	2,500	1.8	

Multiple Secondary

Stancor No.	Primary Voltage	Secondary		Type Mtg.	Mounting Dimensions			Sec. Volts Insulation	Wgt. in Ctn.	List Price
		Volts	Amperes		H	W	D			
P-5012	105-115	2.5 C.T. 5.0 C.T.	10.0 3.0	FA	5″	4¼″	8½″	10,000	7.5	
P-3061	115	2.5 C.T. 7.5 C.T.	5.0 4.0	B	3½″	2⅞″	3″	2,500	3.5	
P-6324	105-115	5.0 C.T. 2.5 C.T.	3.0 6.0	C	3⅞″	3¼	3⅜″	2,500	5.0	
P-5009	105-115	5.0 C.T. 6.3 C.T.	3.0 6.0	C	3⅞″	3¼″	3⅜″	2,500	4.7	
P-5008	105-115	5.0 C.T. 6.3 C.T.	4.0 3.6	C	3⅝″	2 15/16″	3¼″	2,500	4.0	
P-4022	105-115	5.0 C.T. 6.3 C.T.	6.0 6.0	C	3⅞″	3¼″	3⅜″	2,500	5.0	
P-4090	115	6.3 C.T. 7.5 C.T.	3.0 4.0	B	3½″	2⅞″	3″	2,500	3.7	
P-6144	115	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	C	3⅝″	2 15/16″	3⅛″	2,500	4.0	
P-4084	105-115	5.0 C.T. 6.3 C.T. 7.5 C.T.	3.0 3.6 3.25	C	3⅞″	3¼″	3⅝″	2,500	5.6	
P-6310	105-115	2.5 C.T. *2.5 *2.5 2.5 C.T.	4.0	C	3⅝″	2 15/16″	3⅛″	2,500	3.7	
P-6333	115	7.5, 6.3 C.T. *5.0 *5.0 *6.3	3.0 3.0 3.0 4.0	B	2⅞″	3⅜″	2¾″	2,500	4.6	
P-[illegible]8	115	*6.3 *2.5, *5.0 5.0 C.T.	3.0 2.0	N	3½″	2⅞″	2¾″	2,500	4.0	

* Windings not center tapped. Other voltage and frequency combinations available on special order. Write for quotations.

STANCOR
IN TRANSFORMERS
STANCOR
Gives More
TYPE A
TYPE B
TYPE C
TYPE D
TYPE J
TYPE K
WHEN REPLACEMENTS ARE

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Modulation Transformers

Poly-Pedance Modulation Transformers

Stancor No.	Max. Aud. Watts	Pri. Ma. Per Side	Secondary Ma. Series	Secondary Ma. Parallel	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3891	15	45	45	90	D	3 3/16″	2⅝″	3⅛″	2.5	
A-3892	30	80	80	160	D	3⅞″	3¼″	3⅞″	6.0	
A-3893	60	125	125	250	D	3⅞″	3¼″	4⅜″	7.3	
A-3894	125	150	150	300	D	4⅝″	3⅞″	5″	12.0	
A-3898	300	260	260	520	FS	7⅝″	7⅛″	9″	40.0	
A-3899	600	350	350	700	FS	11″	7⅛″	9½″	75.0	

Plate Modulation Transformers

Listings cover two distinct groups of transformers, universal or Poly-pedance and specific types. The latter group covers the most frequently used ratios, core sizes and mounting styles. They should be used in permanent installations whenever possible since their design permits the best efficiency and fidelity for units of this type. Poly-pedance transformers are ideally suited for use in experimental or temporary equipment, such as schools, laboratories, etc., since they are provided with a large number of taps to permit the user to secure the widest practical range of impedance match. All units represent outstanding values.

Stancor No.	Output Tubes	Class	Impedance Pri.	Impedance Sec.	D.C. Pri. Ma.	D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3812	1-1G6, 1J6, 19, 6E6, 6G6, 6Z7, P.P. 1H4, 30, 49, 1-1G5, 6K6, 37, 38, 41	B A	10,000	4,000	32	50	5	A	1⅝″	2⅞″	1½″	0.7	
A-3871	1-6B5*, 6F6*, 6L6, 6N6*, HY69	A1	4,500	8,500	60	50	10	TD	2 11/16″	2¾″	2 3/16″	1.8	
A-3873	P.P. 6L6, RK56, HY60	AB1	8,500	8,000	100	100	25	C	3 3/16″	2⅝″	3⅝″	6.1	
A-3845	1-6A6, 6N7, 53, 79, 6Y7 P.P. 6F6, 6V6, 2A5, 42	B AB2	10,000	3,000, 5,000 6,500, 8,000	100	100	25	C	3 3/16″	2⅝″	2¾″	3.5	
A-3835	P.P. 2A3, 6A3, 45 6A5, 6B4, 50, P.P. 6L6	AB A1	3,000 5,000	5,350, 8,350, 10.000	80	100	25	C	3⅞″	3¼″	3⅛″	5.2	
A-3868	P.P. 6L6	AB1	6,600	10,000, 12,000	100	70	35	C	3 3/16″	2⅝″	3⅝″	6.1	
A-2906	P.P. 10, HK24, 46, 59, 801, 1602 P.P. 6L6, 50, HY69	B AB	6,000	3,300, 4,000 5,000, 6,250	200	125	40	D	4¼″	3½″	4¾″	7.0	
A-3843	P.P. 6L6, RK56, HY60	AB1	6,600	5,000, 7,500 14,500	150	150	40	D	4¼″	3½″	4¾″	7.0	
A-3874	P.P. 6L6	AB1	6,000	500, 2,800	100	200	50	C	4¼″	3½″	3¾″	6.5	
A-3808	P.P. 6L6, 807, HY61, RK41 P.P. PAR. 6L6	AB2 AB1	3,800 3,300	4,000, 5,000 7,500, 10,000	260	170	60	D	4⅝″	3⅞″	4¾″	7.7	
A-2907	P.P. 10, T20, TZ20, HY25, 46, 801, 825, 841	B	8,000	3,300, 5,000 6,800, 9,000 12,500	200	150	90	D	4⅝″	3⅞″	5¼″	10.2	
A-2908	P.P. RK18, T20, TZ20, HY25, RK31, 35T, 50T, 800, 801, 830B, 1623	B	7,200 12,000	3,000, 4,500 5,350, 6,250	260	220	120	D	4⅝″	3⅞″	5⅝″	10.4	
A-3829	P.P. RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	6,900 9,000	3,300, 4,000 5,000, 6,250	250	300	175	D	4⅝″	3⅞″	6⅛″	11.8	

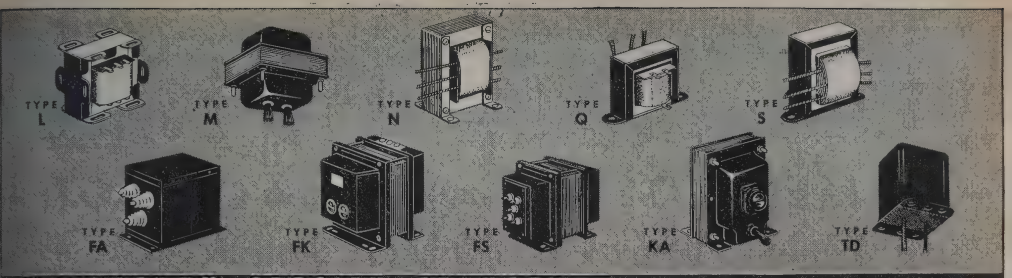
* Secondary winding used as primary.

Cathode Modulation Transformers

Stancor No.	Impedance Pri.	Impedance Sec.	D.C. Pri. Ma.	D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3888	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	50	250	25	D	3 3/16″	2⅝″	3¾″	3.0	
A-3889	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	125	450 250	60	D	3⅞″	3¼″	4¼″	4.8	

Modulation Transformers Line to R.F. Load

Stancor No.	Ohms Impedance Primary	Ohms Impedance Secondary Load	D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3834	500, 200	4,000, 6,000, 9,500,	150	30	C	4 5/16″	3 9/16″	3½″	6.5	
A-3866	500, 200	5,000, 6,000, 7,000, 8,000, 9,000, 10,000	150	30	D	4 5/16″	3 9/16″	4½″	6.5	



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(Write your Stancor distributor for latest prices)

Driver Transformers Poly-Pedance

Stancor No.	Capacity in Watts	Primary Ma. Per Side	Ratio Primary to ½ Secondary	Type Mtg.	Dimensions H	W	D	Wgt. in Ctn.	List Price
A-4761	15	60	1.25:1, 1.4:1, 1.6:1, 1.8:1, 2:1, 2.2:1, 2.4:1	CD	3 3/16″	2⅝″	3¾″	3.0	
A-4762	15	60	2.6:1, 3:1, 3.2:1, 3.4:1, 4:1, 4.5-1, 5:1	CD	3 3/16″	2⅝″	3¼″	2.8	
A-4763	30	120	1.25:1, 1.5:1, 1.75:1, 2:1, 2.25-1, 3.2:1	CD	3⅝″	3″	4″	4.3	
A-4764*	30	120	1.5:1, 2:1, 2.5:1, 3:1, 3.5:1	CD	3⅝″	3″	4″	4.3	

* P.P. 6L6's with 16% inverse feedback.

Poly-Pedance Line Driver Transformers

Stancor No.	Capacity in Watts	Ratio Primary to ½ Secondary	Dimensions H	W	D	Type Mtg.	Wgt. in Ctn.	List Price
A-4765	15	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3 3/16″	2⅝″	3½″	CD	3.0	
A-4766	30	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3⅝″	3″	3¾″	CD	4.0	

Driver Transformers

Two distinct groups of driver transformers are shown. Tapped or Poly-pedance and specific or fixed ratio types. Poly-pedance units are especially designed for experimental and laboratory work where it is desirable to change the turns ratio to optimum value. Two power ratings one of which is applicable to circuits employing inverse feedback and two line drivers are available. Specific types are listed in the most frequently used ratios, core sizes and mounting styles. They should be used wherever possible in permanent installations because their design permits the best efficiency and fidelity for units of this type.

Stancor No.	From	To	Class	Impedance Pri.	½ Sec.	Ratio Pri. to ½ Sec.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	W	D	Wgt. in Ctn.	List Price
A-4752†	P.P. or Sgl. 45, 6F6, 2A5, 42, 6K6, 6N7, 6C5	P.P. 6K6, 2A5, 42, 6F6, 6L6, 6V6, 6Y6, 6Z7	AB	10,000	10,000 4,400 2,500	1:1 1.5:1 2:1	35	S	2¼″	2⅞″	1⅞″	1.5	
A-4405	Sgl. 45, 6F6, 42, 2A5, 6K6, 41	P.P. 42, 89 2A5, 6F6, 6V6, 6Z7	B	10,000	6,400	1.24:1	40	C	3 3/16″	2⅝″	2⅝″	2.7	
A-4406	P.P. 2A3, 6A3, 45	P.P. 50T, 154, 203A, HF100, HF200, 825	B	18,500	6,250	1.71:1	95	C	3 3/16″	2⅝″	2⅝″	2.6	
A-4721	Sgl. 2A3, 6A3, 45, 46, 59, 42, 6F6, 2A5, 89, 53, 6A6, 6N7, 6C5, 37, 30 1H4	P.P. 1J6, 19, 79 6Z7, 53, 6N7 42, 45, 6F6 46, 49, 2A5 59, 89, 6K6 TZ20	B	10,000 22,500	2,500	2:1 3:1	30	TD	2 11/16″	2¾″	2 3/16″	1.5	
A-4404	P.P. 2A3, 6A3, 45, 6L6, 6V6, P.P. Par. 2A3 6F6, 50, 42, 59	P.P. 849 P.P. 800, 830B 10, RK18, HF100, 811 P.P. 154, 812, 203A, 838, 211, 203Z, RK38, HF100, 100TL, HF200, 822, HD203A, 354, 150T	A B	14,000	3,500	2:1	90	C	3⅝″	3″	3⅛″	3.7	
A-4292	Sgl. 6C5, 6J5, 30, 1H4, 49	P.P. 1J6, 19, 79, 6Z7, 30 1H4, 49	B	10,000	1,600	2.5:1	10	A	1⅝″	2 13/16″	1½″	0.7	
A-4208‡	P.P. 6C5, 6J5, 6N7, 6L5, 56, 27, 76, 55, 85, 6R7	P.P. 2A3, 2A5, 6A3, 6F6, 6L6, 6V6, 42, 45, 50, 59, 89	AB	25,000	3,200	2.79:1	15	C	3 3/16″	2⅝″	2⅝″	2.5	
A-4210	Sgl. 2A3, 6A3, 45, 46, 59, 2A5, 6F6, 42, 89, 6C5, 6N7, 76	P.P. 2A3, 6A3 46, 59 P.P. 2A5, 42, 45, 6F6, 6L6, 807	B AB	22,500	2,500	3:1	40	C	3 3/16″	2⅝″	2⅝″	2.6	
A-4701‡	P.P. 46, 89, 6C5, 6J5, 56, 37, 27, 76	P.P. 6L6, 6V6, 6Y6, 42, 6F6, 45, 2A3, 6A3	AB1	20,000	2,200	3.1:1	25	C	3 3/16″	2⅝″	2⅝″	2.7	
A-4212	P.P. 2A3, 6A3, 45, 6L6	P.P. 801, 830B 35T, 808, 838, RK57, HY40Z, 805, 828, 756, 100TL, 100TH, TZ20, T140, P.P. Par. 46, 59, P.P. 807	B	25,600	2,500	3.2:1	50	C	3 3/16″	2⅝″	2⅝″	2.6	
A-4216	Sgl. 53, 6A6, 6N7, 79, 6E6 P.P. 53, 6A6, 6N7	P.P. 53, 6A6, 6N7 6E6, 6N6, 89 P.P. Par. 53, 6A6, 6N7	B	25,000	1,000	5:1	15	TD	2 11/16″	2¾″	2 3/16″	1.5	
A-4416‡	P.P. 2A3, 45, 46, 59, 6F6 P.P. 53, 6A6, 6N7	P.P. 6L6, 6V6, P.P. Par. 46, 59 P.P. Par. 53, 6A6, 6N7	AB2 B	30,000	1,200	5:1	40	C	3 3/16″	2⅝″	2⅝″	2.7	
A-4702‡	Sgl. 2A3, 45, 46, 89, 2A5, 6F6, 42	P.P. 6L6, 6V6, 6F6, 45 P.P. Par. 6L6	AB2 AB1	50,000	2,000	5:1	80	C	3 3/16″	2⅝″	2⅝″	2.7	
A-4703‡	P.P. 2A3, 45, 46, 6L6, 89, 6F6, 2A5, 42	P.P. 807, HY61 P.P. Par. 6L6	AB2	10,000	325	5.6:1	95	C	3⅝″	3″	3⅛″	3.8	

†P.P. primary ratio is 2:1. ‡Split Secondary.

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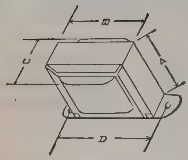
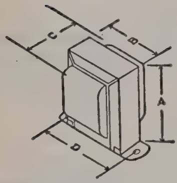
DIMENSIONAL DATA PAGE FOR SNC PRODUCTS...

SNC Products have back of them years of engineering experience and manufacturing skill plus the use of only finest quality raw materials throughout.



MOUNTING STYLES
A AND C



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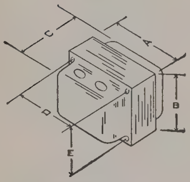

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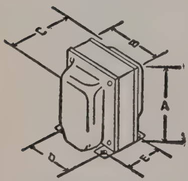

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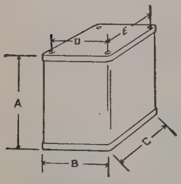
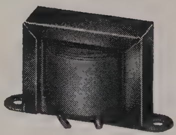


MOUNTING STYLES
H AND J



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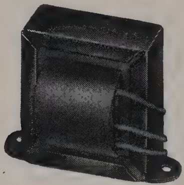

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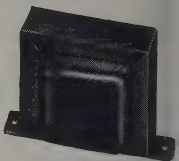

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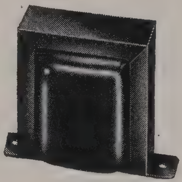

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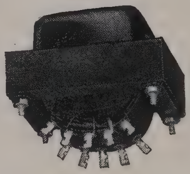

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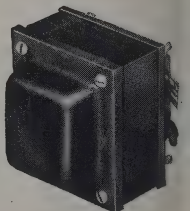

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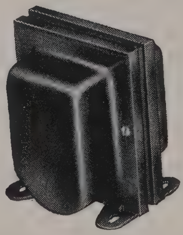

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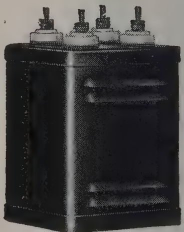

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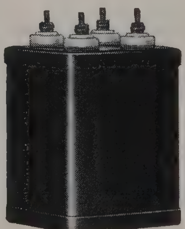

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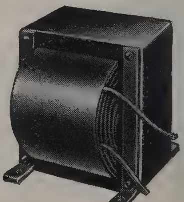

STYLE BX

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AUDIO INPUT

Type Number	APPLICATION	Wt.	Impedance Pri.	Sec.	Pri Ma.	Turns Ratio	Mtg.	Dimensions A	B	C	D	List
1P121	V. C. to Grid	¾	3-6	100,000	0	1:157	B	1⅞	2⅜	1⅜	2	$3.75
1P125	Low Z Mic. to Sgl. or P.P. Grids	¾	50	100,000CT	0	1:50	B	1⅞	2⅜	1⅜	2	3.45
1P128	Sgl. or D.B. Mic. to Sgl. or P.P. Grids	2¼	200-50	100,000CT	50	1:22	D	2 7/32	3¼	1⅞	2 13/16	5.55
1P136	Line to Sgl. or P.P. Grids	2¼	500-125	100,000CT	0	1:12	D	2 7/32	3¼	1⅞	2 13/16	5.55
1P145	Sgl. or P.P. Plates to Line	1½	20,000CT	500-125	8	6.3:1	D	2¼	2⅞	1⅝	2⅜	4.30
1P152	Sgl. or P.P. Plates to Line	1½	20,000CT	200-50	8	10:1	D	2¼	2⅞	1⅝	2⅜	4.30
1P161	Line to Line	1½	500-125	500-125	0	1:1	D	2¼	2⅞	1⅝	2⅜	5.75

AUDIO INTERSTAGE

1P323	Sgl. Plate to Sgl. Grid	¾	10,000	90,000	8	1:3	B	1⅞	2⅜	1⅜	2	2.50
1P331	Sgl. Plate to P.P. Grids	¾	10,000	90,000CT	8	1:3	B	1⅞	2⅜	1⅜	2	2.50
1P330	Sgl. Plate to P.P. Grids	1¼	10,000	90,000CT	8	1:3	B	2¼	2⅞	1⅝	2⅜	3.45
1P342	Sgl. Plate to P.P. Grids	2¼	10,000	90,000CT	8	1:3	D	2 7/32	3¼	1⅞	2 13/16	6.35
1P346	P.P. Plate to P.P. Grids	2¼	20,000CT	45,000CT	10	1:1.5	D	2 7/32	3¼	1⅞	2 13/16	6.35
1P351	Universal	1½	Universal		8	1:3	B	2¼	2⅞	1⅝	2⅜	3.65
3P363	Sgl. 30 to 19 - 1J5 - 1H4 or P.P. 30 Class B	¾	10,000	3,500CT	8	2.4:1	B	1⅞	2⅜	1⅜	2	2.60

AUDIO REACTORS

Type Number	Inductance at Rated D.C.	D.C. Mils	D.C. Res.	Mtg.	Volt Insul.	Wt.	Dimensions A	B	C	D	E	List
2P123	300-500 HY.	5-0.5	5000	A	2000	1½	1⅞	3¼	1⅝	2 13/16		$3.15
2P124	300-500 HY.	5-0.5	5000	C	2000	1¾	1⅞	3¼	1¾	2 13/16		4.20
2P126	25-35 HY.	35-15	1500	A	2000	1½	1⅞	3¼	1⅝	2 13/16		3.15
2P127	25-35 HY.	35-15	1500	C	2000	1¾	1⅞	3¼	1¾	2 13/16		4.20

FILTER INPUT AND SWINGING CHOKES

2P132	8 HY.	40	450	A	2000	½	1 5/16	2⅜	1⅛	2		1.60
2P135	8 HY.	65	350	A	2000	1	1 9/16	2 13/16	1⅜	2⅜		2.05
2P138	8 HY.	85	300	A	2000	1½	1⅞	3¼	1⅝	2 13/16		2.75
2P141	8 HY.	110	200	B	2000	2	2⅝	3 5/16	1⅞	2 13/16		3.15
2P142	8 HY.	110	200	D	2000	2¼	2⅝	3 5/16	2	2 13/16		3.75
2P144	8 HY.	150	165	B	2000	2¼	3	3⅝	2⅛	3⅛		3.45
2P145	8 HY.	150	165	D	2000	2½	3	3⅝	2¼	3⅛		4.30
2P147	8 HY.	200	125	G	2000	3¾	3½	2 27/32	3⅛	2¼	2	6.25
2P148	3-15 HY.	200-20	125	G	2000	3¾	3½	2 27/32	3⅛	2¼	2	6.25
2P151	8 HY.	300	90	G	3500	10	4 17/32	3 25/32	3⅞	3	2 13/16	11.50
2P152	3-15 HY.	300-30	90	G	3500	10	4 17/32	3 25/32	3⅞	3	2 13/16	11.50
2P155	8 HY.	500	65	H	3500	25	7⅛	6	5½	5½	5	28.50
2P156	3-15 HY.	500-50	65	H	3500	25	7⅛	6	5½	5½	5	28.50

DRIVER TRANSFORMERS

Type Number	Primary Impedance	Watts	Ratio Pri. to ½ Sec. or Sec. Z	Pri. Mils	Wt.	Mtg.	Dimensions A	B	C	D	E	List
3P323	6,000 to 10,000	15	6, 5.5, 5:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	$11.00
3P328	3,000 to 5,000	15	6, 5.5, 5:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P334	6,000 to 10,000	15	4.5, 4, 3.5:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P338	3,000 to 5,000	15	4.5, 4, 3.5:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P342	6,000 to 10,000	15	3, 2, 1:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P347	3,000 to 5,000	15	3, 2, 1:1	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P353	6,000 to 10,000	15	500 Ohms	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P358	3,000 to 5,000	15	500 Ohms	60	3	G	3 1/32	2 17/32	2⅝	2	1 11/16	11.00
3P363	10,000	5	2.4:1	10	¾	B	1⅞	2⅜	1⅜	2		2.60

VOLTAGE ADJUSTERS—AUTO TYPE WITH SWITCH

Type Number	Primary Voltage	Sec. Voltage	V. A.	Wt.	Mtg.	Dimensions A	B	C	D	E	List
9P732	80-130 5V. Steps	115	150	8	H	5¼	4¼	4⅛	3⅞	3½	$21.00
9P737	80-130 5V. Steps	115	250	14	H	7⅛	6	5½	5½	5	27.50
9P739	80-130 5V. Steps	115	500	21	H	8 1/16	6¼	6	5¾	5½	41.00

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FILAMENT TRANSFORMERS

Type Number	Each Transformer Suitable for Any One of the Three Applications Listed Below			Volt. Insul	Wt.	Mtg.	Dimensions					List
	Application No. 1	Application No. 2	Application No. 3				A	B	C	D	E	
4P222	Two Sec. of 2.5V. @ 2.5 A.	5 V. @ 2.5 A.	2.5V. @ 5 A.	2,000	1¼	B	2¼	2⅞	1⅝	2⅜		$3.80
4P226	Two Sec. of 2.5V. @ 5 A.	5 V. @ 5 A.	2.5V. @ 10 A.	10,000	2½	B	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		5.75
4P227	Two Sec. of 2.5V. @ 5 A.	5 V. @ 5 A.	2.5V. @ 10 A.	2,000	2½	B	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		5.20
4P234	Two Sec. of 2.5V. @ 7.5 A.	5 V. @ 7.5 A.	2.5V. @ 15 A.	2,000	3¼	B	3	3⅝	2⅛	3⅛		7.25
4P239	Two Sec. of 5 V. @ 3.25A.	10 V. @ 3.25A.	5 V. @ 6.5A.	2,000	3¼	B	3	3⅝	2⅛	3⅛		5.75
4P242	Two Sec. of 5 V. @ 10 A.	10 V. @ 10 A.	5 V. @ 20 A.	10,000	6½	Bx	3¾	3⅛	2⅝	2½	2¼	13.75
4P243	Two Sec. of 5 V. @ 10 A.	10 V. @ 10 A.	5 V. @ 20 A.	2,000	6½	Bx	3¾	3⅛	2⅝	2½	2¼	10.50
4P244			6.3V. @ 0.6A.	2,000	¾	B	1⅞	2⅜	1⅜	2		2.10
4P245			6.3V. @ 1.2A.	2,000	¾	B	1⅞	2⅜	1⅜	2		2.60
4P246	Two Sec. of 6.3V. @ 1 A.	12.6V. @ 1 A.	6.3V. @ 2 A.	2,000	1¼	B	2¼	2⅞	1⅝	2⅜		3.15
4P251	Two Sec. of 6.3V. @ 3 A.	12.6V. @ 3 A.	6.3V. @ 6 A.	2,000	3	B	3	3⅝	2⅛	3⅛		5.55
4P256	Two Sec. of 6.3V. @ 5 A.	12.6V. @ 5 A.	6.3V. @ 10 A.	2,000	4½	Bx	3⅜	2¹³⁄₁₆	2⅜	2¼	2⅛	7.25
4P260	Two Sec. of 7.5V. @ 1.5 A.	15 V. @ 1.5 A.	7.5V. @ 3 A.	2,000	2½	B	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		4.85
4P267	Two Sec. of 7.5V. @ 2.3 A.	15 V. @ 2.3 A.	7.5V. @ 4.5A.	2,000	3¼	B	3	3⅝	2⅛	3⅛		5.75
4P272	Two Sec. of 11 V. @ 5 A.	22 V. @ 5 A.	11 V. @ 10 A.	2,000	6½	Bx	3¾	3⅛	2⅝	2½	2¼	11.50

UNIVERSAL MODULATION TRANSFORMERS

Type Number	Primary Impedance	Power Watts	Primary Current Mils	Secondary Characteristics				Wt.	Mtg.	Dimensions					List
				Series Sec.		Parallel Sec.									
				Z Ohms	Ma.	Z Ohms	Ma.			A	B	C	D	E	
5P341	3K-8K	15	60	3K-8K	50	1K-5K	100	2¼	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		$8.65
5P346								5½	H						13.75
5P347	3K-15K	50	80	2K-18K	75	500-4.5K	150	7½	J	4⅞	3⅞	3⅞	3 ⁷⁄₁₆	3 ⁷⁄₁₆	16.00
5P352								13	H						26.00
5P353	3K-15K	100	120	2K-18K	100	500-4.5K	200	17	J	5¼	4¼	4⅛	3⅞	3½	32.00
5P354								21	H						38.00
5P355	3K-15K	200	200	2K-18K	150	500-4.5K	300	27	J	7⅛	6	5½	5½	5	45.00
5P357								27	H						46.00
5P358	3K-15K	300	250	2K-18K	250	500-4.5K	500	34	J	8¹⁄₁₆	6¼	6	5¾	5½	55.00
5P363								43	H						80.00
5P364	3K-15K	500	300	2K-18K	300	500-4.5K	600	51	J	10¾	7¼	6¼	6¾	5¾	97.50

OUTPUT TRANSFORMERS

SMALL SPECIFIC DUTY

Type Number	Primary Impedance	Secondary Impedance	Pri. Ma.	Power Watts	Wt.	Mtg.	Dimensions					List
							A	B	C	D	E	
6P300	2,000 Ohms	3-6 Ohms	50	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		$1.60
6P306	4,000	3-6	35	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		1.60
6P312	7,500CT	3-6	35	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		2.10
6P316	10,000CT	3-6	35	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		2.10
6P319	15,000CT	3-6	35	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		2.10
6P321	20,000CT	3-6	30	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		2.10
6P325	25,000CT	3-6	20	6	½	A	1⁵⁄₁₆	2⅜	1⅛	2		2.10

UNIVERSAL TYPE

6P166	Sgl. or P.P. Plates	.03-16	50	8	¾	A	1⁹⁄₁₆	2¹³⁄₁₆	1⅜	2⅜		$2.85
6P172	Sgl. or P.P. Plates	03-20	50	15	1	B	1⅞	2⁵⁄₁₆	1½	2		3.10
6P169	Single Plate	0.1-26	45	10	¾	A	1⁹⁄₁₆	2¹³⁄₁₆	1⅜	2⅜		2.85
6P172	P.P. Plates	0.2-16	60	20	2¼	B	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		5.20

TUBE TO LINE AND TO VOICE COIL

6P701	2500-7500 Sgl. Plate	500	45	10	1¼	B	2¼	2⅞	1⅝	2⅜		$3.80
6P710	7500-15,000 P.P. Plates	500	45	10	1¼	B	2¼	2⅞	1⅝	2⅜		4.15
6P714	Universal Sgl. or P.P. Pl.	500	45	10	1¼	B	2¼	2⅞	1⅝	2⅜		6.20
6P717	250-500	4-8-16	0	35	2¼	B	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.20
6P722	500-3000	2-16	0	10	1¼	B	2¼	2⅞	1⅝	2⅜		5.45
6P726	3300CT and 3800CT	4-8-16-250-500	90	60	5¼	G	3½	2⅞	2¾	2¼	1¹³⁄₁₆	9.65
6P731	4500CT and 6600CT	4-8-16-250-500	90	60	5¼	G	3½	2⅞	2¾	2¼	1¹³⁄₁₆	9.65
6P736	500CT	4-8-16-250-500	70	25	2½	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.90
6P740	4300CT	4-8-16-250-500	70	25	2½	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.90
6P743	6600CT	4-8-16-250-500	70	25	2½	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.90
6P746	8000CT	4-8-16-250-500	70	25	2½	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.90
6P749	10,000CT	4-8-16-250-500	60	25	2½	D	2⅝	3⁵⁄₁₆	1⅞	2¹³⁄₁₆		6.90
6P752	2500	4-8-16-250-500	60	10	1¾	D	2¼	2⅞	1⅝	2⅜		4.90

Inbuilt Quality for OUTstanding PERFORMANCE

SNC MANUFACTURING COMPANY

MANUFACTURERS OF SNC TRANSFORMERS
GLENVIEW, ILL.

SNC

PLATE TRANSFORMERS

Type Number	Primary Voltage	Pri. V. A.	Secondary Voltage	D.C. Voltage	D.C. Current	Wt.	Mtg.	Dimensions A	B	C	D	E	List
			920-0-920	750									
7P530	115-230	220	740-0-740	600	200MA	12	G	4 21/32	3 25/32	5⅛	3	4 1/16	$15.00
7P535			940-0-940	750		17½	H						26.00
7P536	115-230	300	760-0-760	600	300	23	J	7⅛	6	5½	5½	5	40.00
7P542			1430-0-1430	1250		28	H						37.50
7P543	115-230	500	1180-0-1180	1000	300	36	J	8 1/16	6¼	6	5¾	5½	57.50
7P551			2100-0-2100	1750		35	H						46.00
7P552	115-230	750	1830-0-1830	1500	300	47	J	8 1/16	6¼	6	5¾	5½	63.00
7P557			2950-0-2950	2500		50	H						57.50
7P558	115-230	1100	2350-0-2350	2000	300	62	J	10¾	7¼	6¼	6¾	5¾	83.50
7P563			2950-0-2950	2500		77	H						110.00
7P564	115-230	1900	2350-0-2350	2000	500	95	J	13	8¾	7¼	8¼	6¾	138.00

POWER TRANSFORMERS

Type Number	Pri. Volts	R. M. S. Rect. Plate Sec.	D.C. Ma.	R.M.S. Rect. Fil. Volts	R. M. S. Heater Volts	Wt.	Mtg.	Dimensions A	B	C	D	E	List
8P180	120	265-0-265	40	5V. @ 2A.	6.3V. CT @ 2 A.	2½	F	3 1/32	2 17/32	3⅛	2½	2	$4.95
8P382	120	300-0-300	50	5V. @ 2A.	6.3V. CT @ 2 A.	3	E	3 3/32	2 27/32	3½	2 13/16	2¼	5.50
*8P183	120	300-0-300	50	5V. @ 2A.	6.3V. CT @ 2 A.	3	F	3 3/32	2 27/32	3¼	2 13/16	2¼	5.50
8P385	120	325-0-325	60	5V. @ 2A.	6.3V. CT @ 3 A.	3½	E	3 3/32	2 27/32	3¾	2 13/16	2¼	6.35
*8P186	120	325-0-325	60	5V. @ 2A.	6.3V. CT @ 3 A.	3½	F	3 3/32	2 17/32	3¼	2 13/16	2¼	6.35
8P287	120	350-0-350	70	5V. @ 3A.	2.5V. CT @ 6 A.	4	F	3 25/32	3 5/32	3⅝	3⅛	2½	7.25
*8P487	120	350-0-350	70	5V. @ 3A.	2.5V. CT @ 8 A.	4½	F	3 25/32	3 5/32	3⅞	3⅛	2½	7.20
					2.5V. CT @ 3.5A.								
8P388	120	350-0-350	70	5V. @ 3A.	6.3V. CT @ 2.5A.	4	E	3 25/32	3 5/32	4	3⅛	2½	6.90
*8P189	120	350-0-350	70	5V. @ 3A.	6.3V. CT @ 3.5A.	4	F	3 25/32	3 5/32	3⅝	3⅛	2½	6.90
8P293	120	350-0-350	90	5V. @ 3A.	2.5V. CT @ 8 A.	4½	F	3 25/32	3 5/32	3⅞	3⅛	2½	7.75
*8P192	120	350-0-350	90	5V. @ 3A.	6.3V. CT @ 4 A.	4½	F	3 25/32	3 5/32	3⅞	3⅛	2½	7.75
*8P194	120	375-0-375	110	5V. @ 3A.	6.3V. CT @ 4 A.	5¼	F	3 25/32	3 5/32	4	3⅛	2½	8.25
*8P494	120	375-0-375	110	5V. @ 3A.	2.5V. CT @ 10 A.	5¼	F	3 25/32	3 5/32	4	3⅛	2½	9.25
					2.5V. CT @ 3.5A.								
8P295	120	350-0-350	150	5V. @ 3A.	2.5V. CT @ 12 A.	6	F	4 5/32	3 15/32	4⅜	3 7/16	2¾	10.50
*8P196	120	350-0-350	150	5V. @ 3A.	6.3V. CT @ 4.8A.	6	F	4 5/32	3 15/32	4⅜	3 7/16	2¾	10.50
*8P199	120	400-0-400	70	5V. @ 3A.	6.3V. CT @ 3.5A.	4½	F	3 25/32	3 5/32	3¾	3⅛	2½	8.75
*8P202	120	450-0-450	200	5V. @ 3A.	6.3V. CT @ 5 A.	7	F	4 17/32	3 25/32	4¾	3¾	3	12.75
8P205	120	450-0-450	325	5V. @ 6A.	6.3V. CT @ 8 A.	15	H	7⅛	6	5½	5½	5	23.00
8P208	120	550-0-550	275	5V. @ 6A.	6.3V. CT @ 6 A.	15	H	7⅛	6	5½	5½	5	23.00

* Available in G mounting on order at same price.

BIAS TRANSFORMERS

8P510	120	40-0-40	25	5V. @ 2A.	2	C	1⅞	3¼	1⅝	2 13/16		$4.05
8P511	120	0-90-150-200-250	50	5V. @ 2A.	3	G	3⅛	2 17/32	2¾	2	1 7/16	5.45

VIBRATOR POWER TRANSFORMERS

8P610	6-8	150-0-150	40	2	A	2 3/16	3 11/16	1⅞	3⅛		$4.90
8P611	6-8	225-0-225	40	2½	G	3 1/32	2 17/32	2⅝	2	1 11/16	5.45
8P612	6-8	260-0-260	60	3½	G	3 13/32	2 27/32	3½	2¼	2	6.60

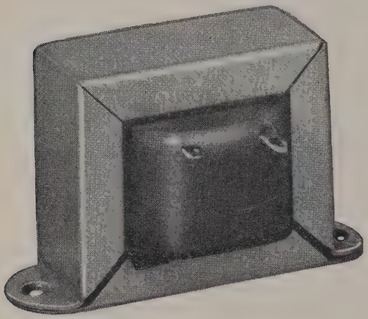
VOLTAGE CHANGER AND ISOLATION

Type Number	Primary Voltage	Secondary Voltage	Capacity in V. A.	Wt.	Mtg.	Dimensions A	B	C	D	E	List
P707	220-250	110-125	75	4	G	3⅞	3 5/32	2½	2½	1 11/16	$8.50
P713	220-250	110-125	150	8	G	4 21/32	3 25/32	4⅜	3	2 13/16	11.50
P718	220-250	110-125	300	13	H	7⅛	6	5½	5½	5	14.50

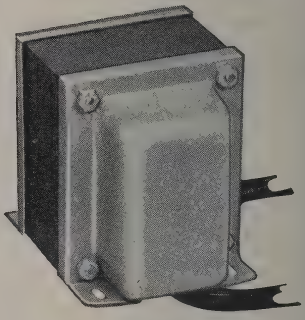
ISOLATION WITH CONNECTOR AND CORD

P721	110-250	110-250	150	8	G	4 21/32	3 25/32	4⅜	3	2 13/16	$20.00
P725	110-250	110-250	250	17	H	7⅛	6	5½	5½	5	34.00
P728	110-250	110-250	500	28	H	8 1/16	6¼	6	5¾	5½	45.00

From out of the west . . . America's finest transformers . . .



L Case Type



A Case Type

Superior materials, workmanship and performance have established these Thermador transformers as America's finest. Designed, engineered and produced by the West's largest manufacturer of transformers, the name Thermador guarantees their rugged, precision construction and their longer life.

Adaptable to a particular job

The transformer models listed have been engineered to cover the replacement field for both the old and new home radio receivers. The new line affords the widest range of application for use in receivers, amplifiers and small transmitters.

Compact in size—low in temperature rise

Both the L Case Type and the A Case Type are attractively finished in durable baked grey enamel. High silicon content core materials, with low current and flux densities, contribu
to the engineering superiority which results
small physical size and low temperature ri
of Thermador power transformers. All pow
transformers have static shields which a
grounded to the case and core.

Thermatite treated to withstand heat and humidity

Thermador transformers are Thermatite tre
ed, which is a well tested and approved for
of vacuum impregnation. This treatme
proved on thousands of transformers und
severe climatic conditions, gives these units t
resistance to withstand extreme conditions
humidity and heat.

Specifications

For further information about Thermad
transformers, write Dept. TT.

SEVEN LEAGUES AHEAD

THERMADOR ELECTRICAL MANUFACTURING CO.

5119 District Boulevard, Los Angeles 22, California **Kimball 6131**

TRANSCEIVER TRANSFORMER

TYPE NO.	CASE TYPE	PRI.	SEC.	RATIO	OUTSIDE DIM. H.	OUTSIDE DIM. W.	OUTSIDE DIM. D.	MOUNTING CENTERS W.	MOUNTING CENTERS D.	WEIGHT	LIST PRICE
2L1726	L	100-10,000	65,000	1.0:25.5	1½	1¼	1⅞	1½		3 Oz.	$3.65

INTERSTAGE TRANSFORMER

TYPE	CASE	PRI.	SEC.	RATIO							
3A2602	A	20,000 P.P.	55,000 P.P.	1:1.73	2⅞	2⅜	2⅜	1¾	2	1# 13 Oz.	$6.10
3L1103	L	10,000 Sngl.	100,000 P.P.	1:3.16	1⅝	2¾	1½	2¼		8 Oz.	$2.95

OUTPUT TRANSFORMER

TYPE	CASE	PRI.	SEC.	WATTS	MA. PRI.						
4L1026	L	5K, 7K, 10K, Sngl.	2-6	3	15	1¼	1¾	1¼	1½	3 Oz.	$2.70
4L1048	L	3.5K, 5K, 8K, 10K, Sngl. & P.P.	2-8	10	40	1½	2⅜	1½	2	5 Oz.	$3.10
4L4066	L	2K, 2.5K, 3K, 4K, Sngl.	2-6	10	55	1½	2⅜	1½	2	5 Oz.	$3.00
4L1051	L	4K, 5K, 8K, 10K, P.P.	2-12	18	50	2⅜	3	1¾	2½	1# 5 Oz.	$3.55

POWER TRANSFORMER 118 Volt Primary

TYPE	CASE	SEC.	SEC. CUR.	RECT. FIL.	FIL.							
5A4056	A	205-0-205	50 Ma.		6.3 @ 2.5A	2¾	2⅜	3⅛	1¾	2 13/16	2# 5 Oz.	$4.80
5A5066	A	270-0-270	60 Ma.	5V 2A	6.3 @ 2A	3¼	2¾	3¼	2	2 7/16	3# 6 Oz.	$5.90
5A6076	A	300-0-300	65 Ma.		6.3 @ 2.7A	3¼	2¾	3¼	2	2 7/16	3#	$5.35
5A6086	A	300-0-300	75 Ma.	5V 2A	6.3 @ 2.85A	3½	3 3/16	3 7/16	2¼	2 9/16	4# 1 Oz.	$6.80
5A6096	A	275-0-275	90 Ma.	5V 2A	6.3 Ct. 3.15A	3½	3 3/16	3 5/16	2¼	1 15/16	3# 11 Oz.	$7.35
5A6146	A	300-0-300	135 Ma.	5V 3A	6.3 Ct. 3.3A	4⅛	3¾	3¾	2¾	2 ¼	5# 13 Oz.	$8.10

FILAMENT TRANSFORMER 118 Volt Primary

TYPE	CASE	FIL.	CURRENT	TEST							
6L6022	L	6.3 Ct.	2.25 A	2000	2	3⅛	1⅞	2¾		1# 8 Oz.	$3.00
6A6042	A	6.3 Ct.	4.0 A	2000	2¾	2⅜	3 3/16	1¾	2¼	2# 5 Oz.	$4.80

CHOKES

TYPE	CASE	IND.	CURRENT	RESIS							
7L1005	L	10 Hy.	50 Ma.	450 Ohms	1⅝	2¾	1 ⅜	2¼		9 Oz.	$2.45
7L1008	L	10 Hy.	75 Ma.	380 Ohms	2	3⅛	1 ½	1¾		8 Oz.	$2.90
7A1414	A	14 Hy.	135 Ma.	260 Ohms	3¼	3¾	3	2	2 3/16	2# 12 Oz.	$5.75
7A1809	A	18 Hy.	90 Ma.	600 Ohms	2⅞	2⅜	2 13/16	1¾	1 15/16	1# 14 Oz.	$4.85

Case "A" is an Enclosed Underwriters' Approved case Upright Mounted, leads through bottom of case.
Case "L" is an Open Bracket Strap Mounted type with Leads and Lugs.

All prices O.P.A. approved.
Prices subject to usual trade discounts.
Form No. TR-46-1

All prices subject to change without notice.
F.O.B. Factory. Freight allowed on shipments in U.S.A. $100.00 net or over.
Printed in U.S.A.

THERMADOR

THERMADOR ELECTRICAL MFG. CO. · 5119 DISTRICT BLVD. · LOS ANGELES 22, CALIFORNIA

THORDARSON TRANSFORMERS

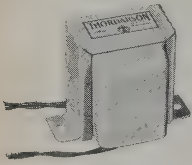
NEW STREAMLINED SERIES

This is the new Thordarson post-war series of Transformers and Chokes. Every unit has been designed for utmost efficiency and adaptability. Many of the engineering and production advancements developed by Thordarson during the war, are used in producing this line.

The new lamination alloys and insulating material, incorporated in this series, results in superior performance and a greater factor of safety without an increase in size or weight. Consequently, some types are smaller and more compact without sacrificing efficiency or performance.

Finished in baked grey enamel and fitted with matched mounting styles, the units present a uniform appearance. This is especially desirable where several Transformers and Chokes are mounted on the same chassis.

Types for Radio Receiver Replacement, Amateur Radio, Sound Systems and allied applications, can be selected from this listing.


FGV

BAH

Z

RTV

RAV

AUDIO INPUT TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt Lbs.
T-20A00	**$2.40**	BAH	Line or mic to single or push-pull grids*........	600 Ct. 200 Ct. 50	60,000 Ct. 20,000 Ct. 20,000 Ct.	1:10	2	2 3/8	1 1/4	1 11/32	1/2
T-20A01	**3.40**	FGV	Line or mic to single grid§†..................	600 Ct. 200 Ct. 50	240,000 80,000 80,000	1:20	2 3/8	2 7/8	1 7/8	2 5/16	1 1/4
T-20A02	**3.50**	FGV	Line or mic to push-pull grids§...............	600 Ct. 200 Ct. 50	240,000 Ct. 80,000 Ct. 80,000 Ct.	1:20	2 3/8	2 7/8	1 7/8	2 5/16	1 1/4
T-20A03	**3.00**	BAH	Single plate and mic or line to grid*...........	5,000 to 10,000 200	100,000 250,000	1:3.25	2 3/8	2 13/16	1 5/8	1 5/8	3/4
T-20A04	**2.10**	BAH	Voice coil or mic to grid*.....................	3 to 6 50	37,000 315,000	1:79	2	2 3/8	1 1/4	1 11/32	1/2
T-20A05	**10.00**	RTV	Line or mic to single or push-pull grids§....... (Hum-bucking coil and core—fully potted)	600 Ct. 200 Ct. 50	60,000 Ct. 20,000 Ct. 20,000 Ct.	1:10	1 5/16 x 1 5/16	1 9/16 diam.		2	1/2
T-20A40	**20.00**	Z	Microphone cable input transformer‡..........	30 to 60	50,000	1:31.6		1 Diam.		2 11/16	3/4
T-20A41	**20.00**	Z	Microphone cable input transformer‡..........	200 to 250	50,000	1:14.2		1 Diam.		2 11/16	3/4

† Can be used in reverse—i.e., High impedance source to line.
* Frequency response—250 to 10,000 c.p.s.
§ Frequency response—60 to 10,000 c.p.s.
‡ Used for converting high impedance input of amplifier to accommodate low impedance microphones—Frequency response within ½ Db 30 to 15,000 c.p.s.—High permeability shield for reduction of hum—Fitted with 2-prong connector for balanced mic cable and single contact connector for fitting to amplifier input.

AUDIO INTERSTAGE TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20A16	**$2.40**	BAH	Single plate to single or push-pull grids........	10,000	40,000 Ct.	1:2	8	2	2 3/8	1 1/4	1 11/32	1/2
T-20A17	**2.60**	RAV	Single plate to single or push-pull grids........	10,000	40,000 Ct.	1:2	8	1 7/16	1 9/16 Diam.		2	1/2
T-20A19	**2.60**	BAH	Single or push-pull plates to single or push-pull grids	Universal		1:3	8	2 3/8	2 13/16	1 5/8	1 5/8	3/4
T-20A22	**3.20**	BAH	Single plate to single or push-pull grids........	10,000	90,000 Ct.	1:3	8	2 7/8	3 1/4	2 1/8	1 15/16	1 1/4
T-20A23	**3.50**	FGV	Single plate to single or push-pull grids........	10,000	90,000 Ct.	1:3	8	2 3/8	2 7/8	2 1/16	2 5/16	1 1/2
T-20A24	**4.10**	FGV	Push-pull plates to push-pull grids............	20,000 Ct.	180,000 Ct.	1:3	8 Bal.	2 3/8	2 7/8	2 1/16	2 5/16	1 1/2
T-20A25	**7.50**	RTV	Single or push-pull plates to single or push-pull grids (Hum-bucking coil and core—fully potted)	Universal		1:1.41	8 Bal.	1 5/16 x 1 5/16	1 9/16 Diam.		2	1/2

TUBE TO LINE TRANSFORMERS (Low Level)

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-22S90	**$4.50**	FGV	Single or push-pull plates to line.............	20,000 Ct.	500 Ct. or 125 to 200	..	8	2 3/8	2 27/32	1 7/8	2 3/8	1 1/4
T-22S92	**10.00**	RTV	Single or push-pull plates to line (Hum-bucking coil and core—fully potted)	20,000 Ct.	500 Ct. or 125 to 200	...	8	1 5/16 x 1 5/16	1 9/16 Diam.		2	1/2

DRIVER TRANSFORMERS

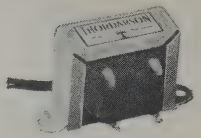
Type No.	List Price	Mtg.	Application	Turns Ratio Pri.–½ Sec.	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20D75	**$2.25**	BAH	Single plate to push-pull Class B grids.................... Primary 10,000 ohms—1H4-G or 30 to 19, etc.	2.4:1	3	2	2 3/8	1 1/4	1 3/8	1/2
T-20D76	**2.50**	BAH	Single plate to push-pull Class B grids.................... Primary single 6N7 to Class B 6N7, etc.	5.2:1	7	2	2 3/8	1 1/4	1 3/8	1/2
T-20D77	**3.75**	FGV	Primary single 6F6 to PP 6L6, etc..........................	2.5:1	30	2 3/8	2 7/8	2 1/16	2 3/16	1 1/4
T-20D78	**5.00**	GGV	Push-pull plates to push-pull grids......................... Primary 6F6 triode to PP 6L6, etc.	4:1	40	2 x 1 11/16	2 9/16	2 11/16	3 1/8	2 1/2
T-20D79	**4.25**	FGV	Parallel or P-P parallel 6N7 to P-P parallel 6N7, etc........	5.2:1	30	2 3/8	2 7/8	2 1/16	2 3/16	1 1/2
T-20D80	**5.90**	GGV	Push-pull 2A3 or 6A3 to 805-838, etc.......................	3.2:1	40	2 x 1 11/16	2 9/16	2 11/16	3 1/8	2 1/2
T-20D81	**7.50**	GGV	Push-pull 845 to push-pull 805-833, etc.....................	5:1	50	2 1/2 x 2 3/16	3 3/16	3 7/16	3 7/8	4 1/2
T-20D82	**7.50**	GGV	Push-pull plates to push-pull grids......................... Push-pull 2A3-6F6, etc. to 805, etc.	5:1 4:1,3.2:1	60	2 x 1 11/16	2 9/16	2 11/16	3 1/8	2 1/2
T-20D83	**24.00**	PUV	15 Watt 500 Ohm line to class B grids.	1:.75,1:.85,1:1.25, 1:1.4,1:1.75,1:2,1:2.25, 1:2.5,1:2.75,1:3.15		1 3/4 x 4 3/8	3 1/8	4 3/4	4	8

THORDARSON TRANSFORMERS

GGV

FILAMENT

	Secondary Volts	Amps.
AV	2.5 Ct.	@ 5
AV	2.5 Ct.	@ 10
AV	2.5 Ct.	@ 10
AV	5 Ct.	@ 3
AV	5 Ct.	@ 7
AV	5 Ct.	@ 2
AV	5 Ct.	@ 13
AV	5 Ct.	@ 21
AV	6.3 Ct.	@ 1


BHH

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OUTPUT TRANSFORMERS

Type No.	List Price	Mtg.	Application	Primary Imp. Ohms	Max. Prim. Per Side	D.C. M.A. Unbal.	Secondary Imp. Ohms	Power Watts	Mtg. Centers	Dimensions W	D	H	Wt. Lbs.
T-22S45	$1.65	BAH	Single plate to voice coil.....	1500 to 3000.......	..	55	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S46	1.70	BAH	Single plate to voice coil.....	3000 to 6000.......	..	35	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S47	2.25	BAH	Single or push-pull plates to voice coil	6000 to 12000 Ct...	35	35	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S48	2.40	BAH	Single or push-pull plates to voice coil	12000 to 25000 Ct..	10	8	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S56	3.00	BAH	Single or push-pull plates to voice coil	8000/10000 Ct.....	50	35	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S58	3.00	BAH	Single or push-pull plates to voice coil	5000/7000 Ct......	50	45	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S60	3.40	BAH	Single or push-pull plates to voice coil	2500/4000 Ct.......	60	60	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S64	6.25	GGV	Single or push-pull plates to voice coil	10000 Ct...........	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S66	6.25	GGV	Single or push-pull plates to voice coil	8000 Ct............	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S68	6.50	GGV	Single or push-pull plates to voice coil	6500 Ct............	70	40	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S70	7.00	GGV	Single or push-pull plates to voice coil	5000 Ct............	80	45	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S72	7.00	GGV	Single or push-pull plates to voice coil	3000 Ct............	90	50	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S78	9.50	GGV	Single or push-pull plates to voice coil	3300 Ct..............	180	150	3.2 to 4/6 to 8/15/250/500	60	2 1/2 x 2 7/16	3 5/32	3 5/8	3 15/16	5 1/4
T-22S74	5.25	BHH	Universal single or push-pull tubes to voice coil	14000/10000/8000/6600/5000/3000/2500 Ct.	80	60	1 to 30	25	3 9/16	4	2 1/2	2 9/16	2 1/2
T-22S76	5.50	BHH	Universal single or push-pull tubes to line	14000/12000/10000/8000/5000/3000 Ct.	80	60	500	25	3 9/16	4	2 1/2	2 9/16	2 1/2
T-22S80	4.00	BHH	Single line to voice coil......	500 to 600	..	..	3.2 to 4/6 to 8/15	8	3 1/8	3 11/16	2	2 1/4	1 1/2
T-22S82	8.00	BHH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	25	3 9/16	4	2 3/4	2 9/16	2 1/4
T-22S83	5.50	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	15	3 1/8	3 11/16	2	2 1/4	1 1/2
T-22S84	3.90	BAH	Multiple lines to voice coil.....	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	5	2 13/16	3 1/4	1 3/4	2	1
T-22S85	3.40	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	3	2 3/8	2 7/8	1 1/2	1 5/8	3/4
T-22S62	3.70	BHH	Universal single plate to voice coil	4000/3000/2500/2000/1500	..	50	.1 to 29	8	2 13/16	3 1/4	2	2	1 1/4
T-22S88	3.25	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	35	3.2 to 4/6 to 8/15	8	2 13/16	3 1/4	1 3/4	2	1
T-22S87	3.00	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	35	3.2 to 4/6 to 8	6	2 3/8	2 7/8	1 1/2	1 5/8	3/4
T-22S86	2.75	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	35	3.2 to 4/6 to 8	3	2	2 3/8	1 1/4	1 3/8	1/2

MODULATION TRANSFORMERS

Type No.	List Price	Mtg.	Capacity Watts	Primary Imp. Ohms	Secondary Imp. Ohms	Secondary Volts	M.A.	Primary Application	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-21M50	$2.80	BAH	3	10,000 Ct.	4500	135	30	19, etc.	2	2 3/8	1 3/8	1 3/8	1/2
T-21M52	4.00	FGV	10	10,000 Ct.	4500/3750/3000	350	80	6N7, etc.	2 3/8	2 7/8	2 1/16	2 3/16	1 1/4
T-21M54	5.75	GGV	25	6,600 Ct.	4000	400	100	PP 6L6, etc.	2 x 1 15/16	2 9/16	2 15/16	3 1/8	2 3/4
T-21M56	9.00	GGV	75	10,000 Ct.	6600/3750	1250 Max.	200	TZ-20-809 etc.	2 1/2 x 2 15/16	3 3/16	4 3/16	3 7/8	6 3/4
T-21M53	22.50	KTV	100	15,000 Ct.	6250	1250 Max.	200	811-812, etc.	3 1/2 x 4 1/16	4 9/16	5 11/16	5 5/8	13

It is essential that the class C R.F. load be properly matched to the class B modulator tubes for a maximum transfer of speech energy with low distortion. Thordarson Multi-Match modulation transformers have sufficient flexibility to enable the engineer or amateur to adjust the impedance ratio of primary to secondary, to meet any practical condition of operation. This feature forestalls the possibility of the modulation transformer becoming obsolete due to changing the modulator or class C tubes. The use of new tubes or a change in class C voltage and current will not necessitate the need of a new modulation transformer, providing the power capacity is adequate. Complete charts and instructions for proper matching are supplied with each unit.

UNIVERSAL MULTI–MATCH MODULATION TRANSFORMERS

Type No.	List Price	Mtg.	Capacity Watts	Primary M.A. each side	Secondary Series	M.A. Parallel	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-21M60	$12.00	KTV	15	50	50	100	2 1/16 x 2 1/2	2 15/16	3 11/16	4	3 3/4
T-21M61	18.00	PUV	60	125	125	250	1 3/4 x 4 5/8	3 1/8	5 1/4	4	8 3/4
T-21M62	27.50	PUV	125	210	160	320	2 3/16 x 6 1/8	4 1/16	6 5/8	5 3/16	16 3/4
T-21M64	47.50	PUV	300	250	250	500	2 11/16 x 6 1/8	4 11/16	7 3/4	6	20
T-21M65	80.00	PUV	500	320	320	640	3 1/16 x 10	5 5/16	11	6 7/8	50
T-21M66	20.00	KTV	50	500 Ohm Line to R.F. Load—5000/6000/7000/8000/9000/10,000 Ohms—Max. Sec. D.C. 200 M.A.			3 1/4 x 3 3/4	4 3/16	5 3/16	5 1/4	11,

TRANSFORMER SPECIALISTS SINCE 1895 THORDARSON

THORDARSON TRANSFORMERS

ED SERIES

hout sacrificing efficiency or
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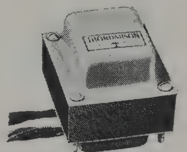
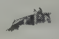
PUV

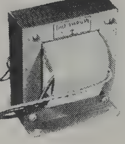


GGV



AGF

KTF



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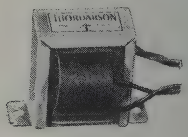


CAV

REPLACEMENT POWER TRANSFORMERS

Type No.	List Price	Mtg.	H.V. Secondary A.C. Volts	M.A. D.C.	Rct. Fil.	Fil. No. 2	Fil. No. 3	Pri. Volts 50/60 Cy.	Pri. VA.	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R00	**$5.25**	AGF	250–250	40	5V.-2A.	6.3V. CT-2A.		117	45	2 x 2½	2½	3	1 11/16	1¾
T-22R01	**5.30**	AGF	275–275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2½	2½	3	1 13/16	2¼
T-22R02	**6.75**	AGF	300–300	70	5V.-2A.	6.3V. CT-3A.		117	65	2 x 2½	2½	3	2 3/16	2¾
T-22R04	**7.50**	AGF	300–300	90	5V.-2A.	6.3V. CT-3.5A.		117	80	2¼ x 2 13/16	2 13/16	3⅜	2 3/16	3
T-22R05	**8.00**	AGF	300–300	120	5V.-3A.	6.3V. CT-5A.		117	95	2½ x 3⅛	3⅛	3¾	2½	4¼
T-22R06	**9.50**	AGF	325–325	150	5V.-3A.	6.3V. CT-5A.		117	125	2½ x 3⅛	3⅛	3¾	3	5¾
T-22R07	**10.80**	AGF	350–350	200	5V.-3A.	6.3V. CT-6A.		117	165	3 x 3¾	3¾	4½	2 13/16	7¾
T-22R08	**5.25**	AGF	250–250	40	5V.-2A.	2.5V. CT-4A.		117	40	2 x 2½	2½	3	1 11/16	1¾
T-22R09	**6.25**	AGF	275–275	50	5V.-2A.	2.5V. CT-7.5A.		117	55	2 x 2½	2½	3	1 13/16	2¼
T-22R10	**8.00**	AGF	325–325	85	5V.-2A.	2.5V. CT-9A.	2.5V. CT-3.5A.	117	90	2½ x 3⅛	3⅛	3¾	2¼	3½
T-22R11	**9.50**	AGF	325–325	120	5V.-3A.	2.5V. CT-12.5A	2.5V. CT-5A	117	125	2½ x 3⅛	3⅛	3¾	3	5½

POWER TRANSFORMERS (AMPLIFIER, ETC.)

Type No.	List Price	Mtg.	H.V. Secondary A.C. Volts	M.A. D.C.	Rct. Fil.	Fil. No. 2	Fil. No. 3	Pri. Volts 50/60 Cy.	Pri. VA.	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R30	**$7.25**	GGV	275–275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2 3/16	2 17/32	3 3/16	3 3/32	3¼
T-22R31	**7.75**	GGV	360–360	80	5V.-2A.	6.3V. CT-2.5A.		117	76	2 x 2 11/16	2 17/32	3 11/16	3 3/32	4
T-22R32	**8.75**	GGV	350–350	110	5V.-2A.	6.3V. CT-3A.	6.3V. CT-3A.	117	107	2½ x 2 11/16	3 5/32	3 15/16	3⅞	5¾
T-22R33	**10.50**	GGV	375–375	160	5V.-3A.	6.3V. CT-5A.		117	145	3 x 3 9/16	3 25/32	2 15/16	4⅝	7¾
T-22R34	**13.50**	GGV	385–385	225	5V.-3A.	6.3V. CT-5A.		117	186	3 x 3 9/16	3 25/32	4 11/16	4⅝	10
T-22R35	**15.00**	GGV	400–400	340	5V.-6A.	6.3V. CT-7A.		117	290	3 x 4 1/16	3 25/32	5 3/16	4⅝	12½

VIBRATOR POWER TRANSFORMERS

Type No.	List Price	Mtg.	Primary	H.V. Secondary	Sec. No. 2	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R20	**$5.50**	CAV	6-8 volts D.C.	250 volts D.C. at 50 M.A.		2 x 1¾	2½	2¼	3 1/16	2½
T-22R22	**6.50**	CAV	6-8 volts D.C.	325 volts D.C. at 75 M.A.		2 x 2½	2½	3	3 1/16	3½
T-22R24	**12.00**	GGV	117V. 60 cycle or 6-8 volts D.C.	325 volts D.C. at 135 M.A.	6.3 volts Ct. at 4.75 A.	3 x 3 1/16	3 13/16	4 3/16	4 9/16	8¾

PLATE TRANSFORMERS

The new Thordarson plate transformers are designed to deliver the rated D.C. voltage from a two-section filter which includes the voltage drop in the rectifier tubes and chokes. Two current ratings are indicated, "Continuous Commercial Service" (CCS) and "Intermittent Commercial or Amateur Service" (ICAS). These dual ratings make it possible to select the plate transformer exactly suited for each application.

Type No.	List Price	Mtg.	Pri. Volts 50–60 Cy.	Prim. ICAS	V.A. CCS	Secondary Volts A.C. R.M.S.	D.C. Volts	D.C.M.A. ICAS	CCS	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-21P75	**$135.00**	PUV	115/230	1900	1500	3000-2400-1500-0-1500-2400-3000	2500-2000-1250	650	500	4 9/32 x 12 5/16	7 9/16	13½	9 9/16	135
T-21P77	**95.00**	PUV	115/230	1250	900	3000-2450-0-2450-3000	2500-2000	425	300	3¼ x 10	6⅜	11	9	77
T-21P79	**67.50**	PUV	115/230	1000	750	1875-1560-0-1560-1875	1500-1250	550	400	3 1/16 x 10⅛	5 5/16	11	6⅞	60
T-21P81	**57.50**	PUV	115*	630	480	1560-1265-0-1265-1560	1250-1000	425	300	3 1/16 x 10⅛	5 5/16	11	6⅞	57
T-21P82	**60.00**	PUV	115*	820	600	2335-1700-0-1700-2335	2000-1500	300	220	3 1/16 x 9⅛	5 5/16	10	6⅞	43
T-21P83	**37.00**	PUV	115*	440	300	1560-1250-0-1250-1560	1250-1000	300	200	2 11/16 x 7⅝	4 11/16	8½	6	33
T-21P85	**25.50**	PUV	115*	370	260	850-730-0-730-850	600-500	425	300	2 3/16 x 6⅜	4 1/16	6⅞	5 3/16	19
T-21P87	**15.00**	GGV	115*	250	185	835-656-0-656-835	650-500	300	220	3 x 3 5/16	3 25/32	4 7/16	4⅝	10
T-21P89	**9.00**	GGV	115	135	95	550-0-550	450	250	175	2½ x 2 15/16	3 3/16	4 3/16	3⅞	6½
T-21P91	**27.00**	PUV	115	375	280	1200-0-1200 900-0-900†	1000 and 750†	200 150	150 110	2 3/16 x 6⅞	4 1/16	7⅜	5 3/16	22
T-21P93	**15.00**	GGV	115	210	160	1075-0-1075 500-0-500†	1000 and 400†	110 150	95 125	3 x 3 9/16	3 25/32	4 11/16	4⅝	10

* Secondary voltages changed by means of primary taps.

† Designed for double rectifiers and will deliver both secondary ratings simultaneously. If only the lower voltage taps are used the current rating is equal to the current rating of both windings.

TRANSFORMER SPECIALISTS SINCE 1895 **THORDARSON**

THORDARSON TRANSFORMERS

FILAMENT TRANSFORMERS

Type No.	List Price	Mtg.	Secondary Volts	Secondary Amps.	Ins. R.M.S.	Pri. Volts 50/60 Cy.	Mtg. Centers	Dimensions W	Dimensions D	Dimensions H	Wt. Lbs
T-21F00	$3.25	BAV	2.5 Ct.	@ 5	1600	117	2⅜	2⅞	1¾	2 5/16	1
T-21F01	4.20	BAV	2.5 Ct.	@ 10	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F02	5.00	CAV	2.5 Ct.	@ 10	7500	117	2 x 1¾	2½	2¼	3 1/16	2¼
T-21F03	3.30	BAV	5 Ct.	@ 3	1600	117	2⅜	2⅞	1¾	2 5/16	1
T-21F04	5.60	BAV	5 Ct.	@ 7	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F05	5.00	CAV	5 Ct.	@ 2	10,000	117	2 x 1¾	2½	2¼	3 1/16	2
T-21F06	5.50	CAV	5 Ct.	@ 13	1600	117	2 x 2	2½	2½	3 1/16	2¾
T-21F07	7.50	CAV	5 Ct.	@ 21	1600	117	2½ x 2¼	3⅛	3¼	3 13/16	5¼
T-21F08	2.70	BAV	6.3 Ct.	@ 1	1600	117	2	2⅜	1½	2	¾
T-21F10	3.25	BAH	6.3 Ct.	@ 3	1600	117	2¾	3¼	1¾	2	1
T-21F11	5.60	BAV	6.3 Ct.	@ 6	1600	117	2 11/16	3 5/16	2	2¾	1½
T-21F12	5.50	CAV	6.3 Ct.	@ 10	1600	117	2 x 2	2½	2¾	3 1/16	2¾
T-21F14	3.60	BAH	6.3-5-2.5	@ 2.5	1600	117	2¾	3¼	1¾	2	1
T-21F15	4.00	BAV	7.5 Ct.	@ 4	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F16	5.50	CAV	7.5 Ct.	@ 8	1600	117	2 x 2	2½	2¾	3 1/16	2¾
T-21F17	6.25	CAV	7.5 Ct.	@ 12	1600	117	2¼ x 2¼	2 13/16	3¼	3½	4
T-21F18	5.00	CAV	10 Ct.	@ 5	1600	117	2 x 1¾	2½	2¼	3 1/16	2¼
T-21F19	7.50	CAV	10 Ct. 11 Ct.	@ 12 or @ 11	1600	117	2½ x 2¼	3⅛	3¼	3 13/16	5¼

CHOKES—REACTORS

Universal Types—Swinging and Smoothing

Thordarson Universal Chokes are designed for use both in the input and smoothing positions. Where the current taken from the power supply is essentially constant (not varying more than a few percent) the chokes should be selected so as not to exceed the rated D.C.-M.A. If the current fluctuates considerably, as is the case where the power supply furnishes a class B modulator stage, the chokes should be selected so as not to exceed the rated D.C.-M.A. rating under the steady state of operation, and not to exceed the Max. D.C.-M.A. rating when the modulator stage is fully excited.

These are truly universal chokes suitable for use in power supplies requiring either input, swinging or smoothing types.

The tapped Splatter Chokes are used between the modulator and Class C stage for eliminating objectionable side band splatter. Full instructions and circuit diagrams are supplied with each unit.

Type No.	List Price	Mtg. Fig.	Inductance in Henries* O D.C.	Inductance in Henries* Rated D.C.	Inductance in Henries* Max. D.C.	Current in M.A. Rated D.C.	Current in M.A. Max. D.C.	D.C. Res. Ohms	Test Volts R.M.S.	Mtg. Centers W.	Mtg. Centers D.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20C50	$ 3.00	BAH	475	350	75	5	25	5500	2000	2⅞		3¼	2	2	1½
T-20C51	1.80	BAH	70	35	15	15	25	1850	1200	2		2⅜	1¼	1⅜	½
T-20C52	1.80	BAH	13	8	4	40	65	450	1200	2		2⅜	1¼	1⅜	½
T-20C53	2.50	BAH	24	12	8	80	100	375	2000	2⅞		3¼	2	2	1¼
T-20C54	4.25	GGV	16	8	4	150	200	145	2700	2	1 11/16	2 17/32	2¾	3⅛	2½
T-20C55	4.75	GGV	11	6	2	200	300	75	2700	2¼	2	2⅞	3¼	3½	3½
T-20C56	7.75	GGV	10	7	4	300	375	60	3500	2½	3	3 3/16	4 3/16	3⅞	6½
T-20C57	30.00	PUV	16	10	6	500	600	65	7500	2 11/16	7	4 11/16	7¾	6	26
T-20C58	2.00	BAH		.75		.5		30	1100	2⅜		2 13/16	1½	1⅝	½

*Measured at 50 volts, 60 cycles at D.C. current shown.

Dual Tone Control Reactor

T-20C74	$3.25	RAV	22	0		HUM-BUCKING CONSTRUCTION		220	500	1 7/16		1 9/16	Diameter	2	½
R-1068	4.15	USED IN CONJUNCTION WITH DUAL TONE CONTROL CHOKE T-20C74													¼

Splatter Chokes

Type No.	List Price	Mtg.	Application	D.C. Resistance	Mtg. Dim.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20C60	$14.00	KTV	Inductance—.2 to 1.5 H. @ 300 M.A. D.C.	30 ohms	2⅝ x 3⅛	3 17/32	4 13/32	4½	7
T-20C61	17.00	KTV	Inductance—.2 to 1.5 H. @ 500 M.A. D.C.	27 ohms	2⅞ x 3 7/16	3 27/32	4 25/32	4⅞	9

Automatic Voltage Regulators

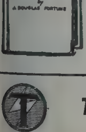
Type No.	List Price	Mtg.	Primary Voltage	Secondary Voltage Plus or Minus 1%	V.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt
T-23V06	$ 50.00	KTF	95–130—60 Cyc.	6.3	20	2 x 3½	4	4¼	4⅛	7
T-23V00	57.50	KTF	95–130—60 Cyc.	110/115/120	40	2 x 4	4½	4⅞	4⅝	9
T-23V01	65.00	KTF	95–130—60 Cyc.	110/115/120	100	11⅝ x 2⅝	12⅞	5¼	6¾	17
T-23V02	90.00	KTF	95–130—60 Cyc.	110/115/120	250	11⅝ x 3⅛	12⅞	6⅛	8½	26
T-23V05	135.00	KTF	95–130—60 Cyc.	110/115/120	500	16 x 4	17	6⅛	7⅝	50
T-23V10	230.00	KTF	95–130—60 Cyc.	110/115/120	1000	19 x 4	20	7⅛	10¼	95

Voltage Changer—Auto Transformers

T-23V21	$10.00	GGV*	220–250	110–125†	80	2½ x 1 11/16	3 5/32	2 15/16	3⅞	5
T-23V22	12.00	GGV*	220–250	110–125†	150	2½ x 1 15/16	3 5/32	3 3/16	3⅞	6¼
T-23V23	15.00	GGV*	220–250	110–125†	250	3 x 2 5/16	3 13/16	3⅝	4 11/16	10¼
T-23V24	20.00	GGV*	220–250	110–125†	500	3 x 3 5/16	3 13/16	4⅝	4 11/16	13

*Furnished with primary cord and secondary receptacle.
†Output is proportional to voltage applied to input.

THORDARSON LITERATURE

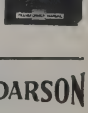


TRANSFORMER MANUAL: A complete book containing literature on Radio receiver replacement transformers, Sound amplifiers, amateur transmitters and current Thordarson catalogs. Bound in heavy blue and orange loose leaf cover permitting addition of future Thordarson releases. Manual No. 340—35 cents.

TRANSFORMER CATALOG: A complete listing of Thordarson transformers, chokes, voltage changers, and regulators for receiver replacement, amateur radio and sound amplifiers. Tables and curves give complete data on application and characteristics of output, modulation and other transformers and chokes. Catalog 400—Free.

TRU-FIDELITY TRANSFORMER CATALOG: Complete technical data on Thordarson broadcast units. Includes audio transformers, filters, line equalizers, filament transformers, filter reactors, plate transformers, and modulation reactors and transformers. Highest quality units that satisfy the requirements of discriminating engineers, broadcast stations and laboratories. Catalog 500—Free.

AMATEUR RADIO: Carefully prepared and edited to make learning of Radio, by all beginners, easy and interesting. Presents fundamental theory and instructions for making code practice oscillators, receivers and transmitters. Has 160 pages and over 100 illustrations and drawings. Heavy book cover, finished in wear-resistant blue cloth and imprinted with gold lettering. Amateur net price—75 cents.



TRANSFORMER SPECIALISTS SINCE 1895 THORDARSON

LINEAR STANDARD TRANSFORMERS

UTC LINEAR STANDARD Components represent the closest approach to the ideal transformer from the standpoint of uniform response, low wave form distortion, high efficiency, thorough shielding and dependability.

The multiple tap windings used make possible a wide combination of impedance connections without impairing the audio range or efficiency.

UTC engineers have spent considerable time studying the many annoying hum pickup difficulties which are prevalent in high gain A.C. operated amplifying equipment. As a result, a special cast alloy has been developed to house all UTC Linear Standard units. In addition, low level input transformers use the new UTC dual and quadruple alloy shields thus making possible a transformer with the lowest hum pickup of any available commercially.

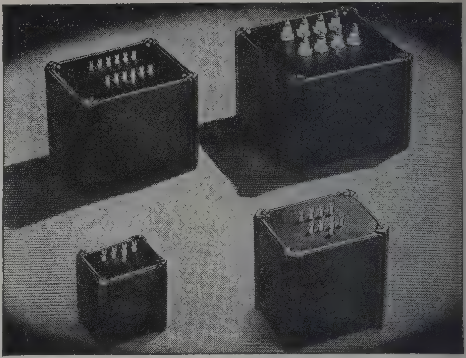
LINEAR STANDARD UNITS FEATURE:

- **True Hum Balancing Coil Structure . . .** maximum neutralization of stray fields.
- **Balanced Variable Impedance Line . . .** permits highest fidelity on every tap of a universal unit . . . no line reflections or transverse coupling.
- **Reversible Mounting . . .** permits above chassis or subchassis wiring.
- **Full Electrostatic Shielding . . .** brought out to separate terminal.
- **Alloy Shields . . .** maximum shielding from inductive pickup.
- **Multiple Coil, Semi-Toroidal Coil Structure . . .** minimum distributed capacity and leakage reactance.
- **Precision Winding . . .** accuracy of winding .1%, perfect balance of inductance and capacity; exact impedance reflection.
- **Hiperm-Alloy . . .** a **Stable** high permeability nickel-iron core material.
- **High Fidelity . . .** UTC Linear Standard transformers are the **only** audio units with a **guaranteed** uniform response, from 30 to 20,000 cycles ± 1 db.

OVERALL DIMENSIONS						
Case	L	W	H	Mtg.	Dim.	Weight Lbs.
LS-1	2 9/16	3 3/16	3 11/16	1 15/16	2 7/16	4
LS-2	3 1/2	4 3/8	4 5/8	2 11/16	3 11/16	8
LS-3	5	5 3/4	5 3/16	4 3/16	5 1/32	15
LS-4	6 7/16	6 7/16	5 3/8	5 3/4	5 3/4	23
CC-1	7 3/8	10 1/2	5 1/2	6 1/4	4 1/2	33
CC-2	11	11	9 1/4	9 3/8	4 3/4	83
LS-6	16	14	16	8	14 1/2	200
LS-7	21	18	21	11 3/4	19 3/4	500

LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No.
LS-10	Low impedance mike, pick-up, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	Dual Alloy shield -74DB	LS-1
LS-10X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1
LS-12	Low impedance mike, pick-up, or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall in two sections	Dual alloy shield -74DB	LS-1
LS-12X	As above	As above	80,000 ohms overall in two sections	Quadruple alloy shield -92DB	LS-1
LS-14	Low impedance mike, pick-up, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	Dual alloy shield -74DB	LS-1
LS-14X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	Dual Alloy shield -74DB	LS-1
LS-15X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1
LS-18	High level multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	50,000 ohms overall, in two sections	Alloy casting -50DB	LS-2



PLATE, CRYSTAL, PHOTOCELL AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No.
LS-27	Single plate to multiple line	8,000 to 15,000 ohms 8 MA, D. C.	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-50	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-51	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-37	Crystal microphone or pick-up to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-38	Crystal microphone or pick-up to multiple line, with internal equalizer	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-39	Photocell, high-mu triode diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-150	Bridging transformer from 50 to 500 ohm line to multiple line	4,000 ohms, bridging	50 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-151	Bridging transformer from 50 to 500 ohm line to multiple line	16,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield —74DB	LS-1

MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No.
LS-30	Mixing, low impedance mike, pickup or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-30X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1
LS-31X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1
LS-32	Mixing, low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1

INTERSTAGE AUDIO TRANSFORMERS

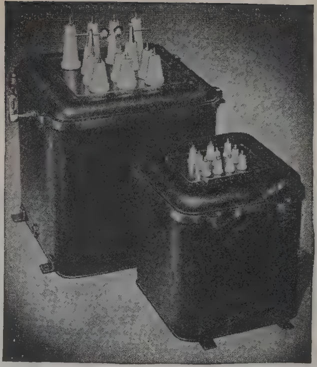
Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No.
LS-19	Single plate to PP grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms; split primary	95,000 ohms; turn ratio 1.25; 1 each side; split secondary	Alloy casting -50 DB	LS-1
LS-20	Single plate to single grid	8,000 to 15,000 ohms.	60,000 ohms: 2:1 turn ratio	Dual alloy shield -74DB	LS-1
LS-21	Single plate to push pull grids	8,000 to 15,000 ohms.	135,000 ohms; turn ratio 1.5:1 each side. Primary and secondary each in two sections	Dual alloy shield -74DB	LS-1
LS-40	Single plate to push-pull grids	As above, will carry 8 MA DC	135,000 ohms 1.5:1 turn ratio each side	Dual alloy shield –74 DB	LS-1
LS-22	Push pull plates to push pull grids	8,000 to 15,000 ohms	38,000 ohms each secondary, turn ratio 1.6:1 each side of center. Primary and secondary each in two sections	Alloy casting -50DB	LS-2
LS-25	P.P. plates to P. P. grids. Medium level	8,000 to 15,000 ohms; split primary	100,000 ohms overall; 25.000 ohms each side. Turn ratio 1.3:1, Split secondary	Alloy casting -50DB	LS-1
LS-26	Bridging line to 1 or 2 grids	5000	60,000 ohms in two sections	Dual alloy shield –74 DB	LS-1

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Reflected Secondary Impedance	Case No.
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200 250, 333, 500 ohms	2,000 ohms; 1:2 overall turns ratio	LS-2
LS-6	Driver, push pull 45's, 59's, 2A3's, 6A5's, etc. to push pull 845 or 211D grids	800 to 2,000 ohms	.6 primary impedance turns ratio 1.3:1 overall	LS-2
LS-7	Push pull 56, 6C5 or similar plates to A prime 45's, 42's, 6F6's, 2A3's	8,000 to 15,000 ohms	.45 primary impedance turn ratio 1:5:1 overall	LS-2
LS-47X	Driver from push pull 2A3's, 6A5G's, or 300A's to Class B 838's, 203A's 805's, or ZB120's	800 to 1,000 ohms	.1 pri. impedance turns ratio. Pri./½ Sec. 3.2:1	LS-2
LS-48	Driver transformer push pull 845's, to 204 or 849 grids in class B	1,000 to 2,000 ohms	.038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1	LS-4
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838, 203A, 805, or ZB120 tubes	800 to 2,000 ohms	.028 pri. impedance turns ratio, Pri./½ Sec. 6.0:1	LS-4

HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary	Case No.
LS-33	High level line matching. 15 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-2
LS-34	High level line matching. 30 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-3



OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following tubes	Primary Impedance	Secondary Impedance	Case No.
LS-52	Push pull 245, 250, 6V6, 42 or 2A5 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4
LS-61	Push pull 6B5, 6A6, 53, 6F6, 71A, 59, 79, 89, Class B46, 59's	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-6L1	Push pull 6L6's self bias	6,600 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3
LS-6L3	Same as above	6,600 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3
LS-6L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 3,300 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4
LS-845	845 tubes class AB	8,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	CC-1

OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

Type No.	Primary will match the following tubes	Primary Impedance	Secondary Impedance	Case No.
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's. +36DB	5,000 ohms plate to plate and 3,000 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2
LS-66	Class B 203A, 838, ZB120, 805 +46DB	9,000 ohms plate to plate	5,000, 3,500, 2,500, 2,100, 1,250, 600	CC-1
LS-67	Class B 203A, 838, ZB 120, 805 +46DB	9,000 ohms plate to plate	10,000, 2,500	CC-1
LS-691	Class B 849, 833, 250th	10, 400 ohms plate to plate	4,500, 4,000, 3,500, 2,750, 2,000	LS-6*
LS-692	Class B push-pull parallel 833's	3,650 ohms plate to plate	2,500, 2,000 1,750, 1,500, 1,250	LS-7*

*Special oil filled construction

LINEAR STANDARD POWER COMPONENTS

PLATE TRANSFORMERS

Type No.	Primary Volrage 50/60 Cycles	High Voltage	DC Current
LS-181	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	200 MA
LS-182	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	350 MA
LS-183	100, 110, 120, 220, 230, 240	1750-1500-0-1500-1750	400 MA
LS-184	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	500 MA
LS-185	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	1.2 amp.

FILAMENT TRANSFORMERS

Type No.	Application	Primary Voltage 50/60 Cycles	Secondary Voltage	Insulation Voltage	Case No.
LS-80	866A rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	12,000	LS-3
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	12,000	LS-3
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	10,000	LS-3
LS-85	Combined filament transformer for 866 rectifiers and 845 or 203A audio tubes	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 10 V.C.T.-8A	10,000	LS-3
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	LS-1
LS-118	849, 204A, HF300	100, 110, 120, 220, 230, 240	11 V.C.T.-10A	2,500	LS-3
LS-120	866 bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5. V.C.T.-5A	12,000	LS-3
LS-121	872 bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	CC-0
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	CC-0
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	CC-1

COMBINED PLATE AND FILAMENT TRANSFORMERS

Type No.	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No
LS-180	115	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-.5A	LS-1
LS-180H	Same as above but in hum-balanced construction (dual coils)			LS-1
LS-190	100, 105, 110, 115, 120, 125	350-300-0-300-350 125 MA	5 V.C.T.-3A 2.5 V.C.T. -6A 6.3 V.C.T.-3A	LS-3
LS-190H	Same as above but in hum-balanced construction (dual coils)			LS-3
LS-191	100, 105, 110, 115, 120, 125	325-250-0-250-325 35 MA	5 V.C.T.-3A 2.5 V.C.T.-2A 6.3 V.C.T.-2A	LS-2
LS-70	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-2A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3. V.C.T.-3A	LS-4
LS-72	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 2.5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-6A	LS-4
LS-73	100, 105, 110, 115, 120, 125	500-400-0-400-500 500 MA 70-0-70 50 MA	5 V.C.T.-6A 2.5 V.C.T.-10A 2.5 V.C.T.-3A 6.3 V.C.T.-4A 6.3 V.C.T.-6A tapped at 5 V.C.T.-6A	CC-1

FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Application	Inductance	DC Current	DC Resistance	Case No.
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	510 ohms 128 ohms	LS-2
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	LS-2 10.00
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	96 ohms 24 ohms	LS-3
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.25 hy	200 MA 400 MA	112 ohms 28 ohms	LS-4
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	LS-1
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 75 MA	1000 ohms 250 ohms	LS-2
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp.	90 ohms 22.5 ohms	CC-1
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	90 ohms 22.5 ohms	LS-4
LS-98	Swinging choke	8-40 hy	400 MA	90 ohms	LS-4
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp. 2 amp.	50 ohms 12.5 ohms	CC-2
LS-105	Swinging choke	8-40 hy	1 amp.	50 ohms	CC-2
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	CC-1
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	CC-2
LS-104A	Modulation reactor	50 hy	1.3 amp	75 ohms	Spec.

UTC HIPERM ALLOY TRANSFORMERS

The UTC Hiperm Alloy audio and power transformers are specifically designed for portable and compact high fidelity service. The frequency characteristic of the Hiperm Alloy audio units is uniform from 30 to 20,000 cycles. The outer case is of high conductivity alloy finished in high polish black anodic. Through the use of tapped metallic inserts, these transformers can be mounted with the terminals either up or down, and with no waste space. A hum balanced coil structure is used on all audio units to insure minimum pickup. The electrostatic shields are brought out to separate terminals on the terminal strip.

The H-1 case units weigh 1¾ lbs. and are 2″ x 2⅜″ x 3″ high with 1⅜″ mtg. centers. The H-2 case units weigh 2¼ lbs. and are 2⅞″ x 3⅝″ x 3¾″ high with 2″ x 2¾″ mtg. centers.

PLATE, CRYSTAL AND PHOTOCELL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No.
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-112	Photocell, high-mu triode, diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-113	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-114	Push pull low level plates to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-133	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-134	Push-pull 89's or 2A3's to line	5,000 to 10,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-2
HA-135	Push-pull 2A3's to voice coil	3,000 to 5,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	H-2
HA-136	Portable transmitter output, push-pull 53's or single 6F6	7,000 to 10,000 ohms	5,000, 10,000 ohms	H-1

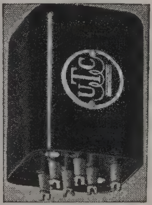
POWER TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	Filament Windings	Case No.
HP-122	115	220-0-220 15 MA	6.3 V.C.T.-.5A 6.3 V C.T.-1.2A	H-1
HP-123	115	275-0-275 35 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-2A	H-2

FILTER AND AUDIO CHOKES

Type	Inductance	DC Current	DC Resistance	Case No.
HC-115	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	7,000 ohms 1,750 ohms	H-1
HC-116	Series-600 hy Parallel-150 hy	8 MA 16 MA	4,000 ohms 1,000 ohms	H-2
HC-117	60 hy	15 MA	3,000 ohms	H-1
HC-127	60 hy	40 MA	1,000 ohms	H-2
HC-128	Series 50 Hy. Parallel 12.5 Hy.	50 MA 100 MA	500 125	H-2

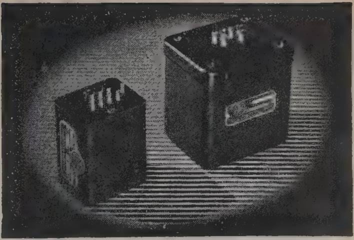
UTC ULTRA COMPACT AUDIO UNITS



The UTC Ultra Compact audio units are small, light-weight units ideal for remote pickup and similar equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles, except A-11, A-21, A-25 (50-10,000 cycles). All units employ true hum balancing coil structures, which combined with a high conductivity outer case, afford a maximum of inductive shielding.

Ultra Compact audio units weigh 5½ ounces and have overall dimensions 1$\frac{7}{16}$″ x 1$\frac{7}{16}$″ x 1$\frac{15}{16}$″. Mounting dimensions are 1⅛″ between centers, top and bottom.

Type No.	Application	Primary Impedance	Secondary Impedance	List Price
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	50,000 ohms	$11.00
A-11 •	Line to grid, trialloy shielding for low pickup	50, 200, 500	50,000 ohms for 1 or 2 grids	12.00
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 2500, 250, 333, 500 ohms	80,000 ohms overall, in two sections	11.00
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	10.00
A-16	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms, 2:1 turn ratio	9.00



LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No.
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	H-1
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1
HA-101	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall, in two sections	H-1
HA-101X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	H-1
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	H-1
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	H-1

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No.
HA-104	Single plate to P.P. grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms	95,000 ohms; turn ratio 1.25:1	H-1
HA-105	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms 2:1 turn ratio	H-1
HA-106	Single plate to push pull grids	8,000 to 15,000 ohms	135,000 ohms 1.5:1 ratio, each side	H-1
HA-107	Push pull plates to push pull grids	8,000 to 15,000 ohms	35,000 ohms each secondary 1.5:1 turn ratio overall	H-2
HA-137	Same as above, but medium level (+ 15DB)			H-1

Type No.	Application	Primary Impedance	Secondary Impedance
A-17	Single plate to single grid	As above, will carry 8 MA DC	60,000 ohms 2:1 turn ratio
A-18	Single plate to two grids	8,000 to 15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall
A-19	Single plate to two grids	As above, will carry 8 MA DC	80,000 ohms 2.3:1 turn ratio
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms
A-21	Mixing, trialloy shielding for low pickup	50, 200, 500	50, 200, 500
A-24	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms
A-25	Single plate to multiple line	As above, will carry 8 MA DC	50, 125, 200, 250, 333, 500 ohms
A-26	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms
A-30	Audio choke, 300 henrys @ 2 MA 6000 ohms D.C., 75 henrys @ 4 MA 1500 ohms D.C., inductance with no D.C. 450 henrys		

VARIMATCH TRANSFORMERS

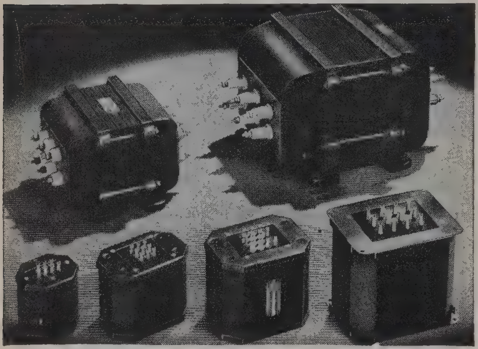
UTC VARIMATCH transformers are available in various types for every PA and transmitter requirement. Thru unique construction high efficiency and good response are obtainable on all terminations.

Pri. Ohms P to P	SECONDARY RF LOAD IMPEDANCES AVAILABLE											‡AUDIO LOAD IMPEDANCE	
2000	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400	200	350
3000	1620	2950	3240	5500	5900	6500	9400	10000	11800	13000	17000	300	520
4000	1380	1850	2160	2850	3450	4300	5500	7300	8650	12500	17400	250	400
5000	1730	2300	2700	3500	4300	5400	7000	9150	10800	15700	21600	300	500
6000	1070	2140	2180	2750	3620	4250	4300	5150	6350	8300	8600	200	370
7000	1250	2400	2500	3200	4280	5000	5050	6000	7300	9700	10000	230	430
8000	1440	2760	2900	3700	4900	5650	5800	6900	8400	10000	12000	270	500
9000	1620	2050	3100	3240	3900	4150	6200	6500	7750	9400	12500	300	550
10000	1800	2300	3500	4300	4600	6100	6900	7100	8600	10500	14000	330	600
12000	2070	2150	2750	4250	4320	5150	7250	8300	8700	12500	17400	370	400
14000	2440	3200	4900	6000	9700							430	
16000	2780	3700	5600	6900	11000							500	
18000	3140	4150	6300	7750	12500							550	
500*	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400		

* In some cases it is desired to match an RF load to the 500 Ohm output of a PA amplifier. The terminal arrangement noted will take care of this application.

‡ These impedances are suitable for PA applications. If a monitor speaker is desired, proper distribution of power is obtained by operating this low impedance into the high impedance primary of the speaker transformer.

Intermediate P.P. primary impedance values available in addition to those shown.



VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.
PA-51AX	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	**PA-1**
PA-53AX	P. P. tube like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	**PA-2**
PA-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	**PA-2**
PA-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	**PA-3**
PA-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	**PA-3**

VARIMATCH MODULATION TRANSFORMERS

Will match any modulator tube to any RF load

Here's the answer to your modulation problem. A line of transformers providing a universal range of load impedances for any modulator combination. The VARIMATCH transformer can never become obsolete. All units carry class C current and are supplied with charts giving impedance combinations.

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case
VM-0	12	25	30, 49, 79, 6A6, 53, 2A3, 6B5	**PA-1**
VM-1	30	60	6V6, 6B5, 2A3, 42, 46, 6L6, 210	**PA-2**
VM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	**PA-3**
VM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	**PA-4**
VM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	**CA-1**
VM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	**CA-2**

PA VARIMATCH OUTPUTS

Universal units designed to match **any tubes** within the rated output power, to line or voice coil. Output impedance **500, 200, 50, 15, 8, 5, 3, 1.5** ohms.

Type No.	Audio Watts	Typical Tubes	Case No.
PVM-1	12	42, 43, 45, 47, 2A3, 6A6, 6F6, 25L6	**PA-1**
PVM-2	30	42, 45, 2A3, 6L6, 6V6, 6B5	**PA-2**
PVM-3	60	46's, 50's, 300A's, 6L6's, 801, 807	**PA-3**
PVM-4	125	800's, 801's, 807's, 4-6L6's, 845's	**PA-4**
PVM-5	300	211, 242A's, 203A's, 838's, 4-845's, ZB-120's	**CA-1**

VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained from the LVM-1, LVM-2, LVM-3, and the actual impedances are as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

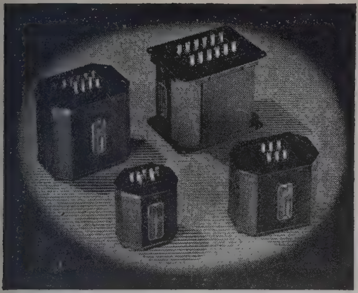
Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.
LVM-1	15	500 ohms	.2 to 75 ohms	**PA-1**
LVM-2	40	500 ohms	.2 to 75 ohms	**PA-2**
LVM-3	75	500 ohms	.2 to 75 ohms	**PA-3**

VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformers will match one to ten 500 ohm lines or LVM-500 ohm windings to the 500 ohm output of an audio amplifier. The LVM-10 to LVM-14 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50.

Type No.	Audio Watts	Case No.
LVM-10	15	**PA-1**
LVM-11	30	**PA-2**
LVM-12	60	**PA-3**

UTC PUBLIC ADDRESS AUDIO COMPONENTS



A quality line of popular-priced transformers incorporating conservative design and construction to assure dependability under the most adverse operative and climatic conditions. Uniform drawn cases finished in telephone black enamel with threaded inserts for top or bottom mounting. These units are professional in appearance and suited for continuous commercial service in amplifiers and transmitters. All items are poured with special moisture-proof sealing compound in addition to vacuum impregnation of coil structures. Items in same case size have approximately the same weights, as noted below.

PA-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear, ±1½ DB from 60 to 8,500 cycles. 200 ohm windings on input transformers are balanced and may be used for 250 ohm circuits.

OVERALL DIM., IN.				Mtg. Dim.		Weight Lbs.
Case	L	W	H	L	W	
PA-1	2 1/2	3	3	1 13/16	...	2
PA-2	3 1/16	4 1/2	4 1/2	1 5/8	3 1/16	5
PA-3	3 5/8	4 7/8	4 1/4	1 13/16	3 7/8	10
PA-4	6	4 9/16	6	3 3/4	5 1/4	18
CA-1	7 3/8	9	5 1/2	...	...	28
CA-2	11	11	9	...	...	83

INPUT TO GRID TRANSFORMERS

PA-1 CASE

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms
PA-131	1 plate to 1 grid	8,000/15,000	90,000 3:1 ratio
PA-132	1 plate to 2 grids	8,000/15,000	160,000 centertapped 2:1 ratio each side
PA-133	2 plates to 2 grids	8,000/15,000	30,000 each side 1.75:1 ratio each side
PA-134	Line to 1 grid hum-bucking	50, 200, 500	100,000
PA-135	Line to 2 grids hum-bucking	50, 200, 500	150,000 overall
PA-235	Line to 1 or 2 grids hum-bucking; multiple alloy shielded for low hum pick-up	50, 200, 500 ohms	80,000 overall
PA-136	Single plate and low impedance mike or line to 1 or 2 grids. Hum-bucking	8,000/15,000 50, 200, 500	120,000 overall
PA-233	PP 6C5, 56, similar triodes to AB 45's, 2A3's, 6L6's, etc.	8,000/15,000	8,000 .9:1 ratio
PA-333	PP 6C5, 56, similar triodes to fixed bias 6L6's	8,000/15,000	2,500 .5:1 ratio
PA-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000	1,250 .5:1 ratio PA-2 case

MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

PA-1 CASE

Type No.	Application	Pri. Imp. Ohms	Sec. Imp. Ohms
PA-137	Mixing	50, 200, 500	50, 200, 500
PA-140	Triode plate to line	8,000/15,000	50, 200, 500
PA-141	PP triode plates to line	8,000/15,000	50, 200, 500

VARITONE UNITS

The UTC VARITONE is a revolutionary audio device incorporating a transformer and frequency response corrective network. Using the VARITONE, tone correction can be effected for defects in acoustic conditions or overall audio response from microphones, pickups, loud speakers, etc. It is also possible to produce new tonal effects from phonograph recordings or radio reception, bringing back notes which would be practically lost otherwise. Due to the high equalization obtainable, an additional stage of amplification is sometimes necessary if the equalizer is to be used at maximum setting. The VT-1 and VT-2 require an external 50,000 ohm potentiometer as the control device.

Type No.	Matching	Equalization
VT-1	Triode plate, low impedance mike or line—to 1 or 2 grids	High end, low end, or both
VT-2	Connects across triode plate or low impedance mike or line	High end, low end, or both
VT-10	Band pass filter for amateur service removes unnecessary low and high frequencies, reducing QRM, increasing efficiency and intelligibility. Connects in plate circuit of triode.	

OUTPUT TRANSFORMERS

Secondary Impedances 500, 200, 50, 16, 8, 5, 3, 1.5 ohms

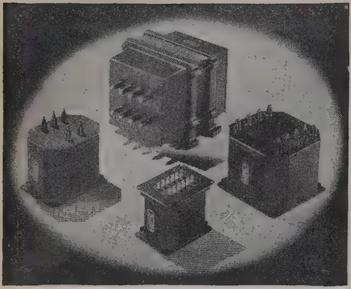
Type No.	Imped. P.P. Ohms	Typical Tubes	Case
PA-15	8,000	45's, 50's, 6F6 triodes	**PA-2**
PA-16	3,000/5,000	2A3's, 6A5G's	**PA-2**
PA-19	6,000/10,000	6B5, 6A6, 6F6, 89, 46	**PA-2**
PA-710	14,000/20,000	10's, 47's, 2A5 pentodes	**PA-2**
PA-2L6	6,600	6L6's self bias	**PA-3**
PA-4L6	3,300/3,800	2-6L6's, AB2 or 4-6L6's AB	**PA-4**

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 volts 50/60 cycles. *Tapped for either voltage.
¶ Replaces former transformer types PA-22, PA-425 and PA-426.

Type No.	High Voltage	DC. MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No.
¶PA-422	435-365-0 365-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	**PA-3**
PA-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	*6.3 VCT-3A 2.5 VCT-3A	**PA-4**
PA-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	*7.5 VCT-3A 6.3 VCT-3A		**PA-4**
PA-431	500-400-0-400-500 80-0-80	500 100	5V-3A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	**CA-1**

NEW COMMERCIAL TYPE POWER SUPPLY COMPONENTS



The new UTC PA power transformers and chokes have been designed to commercial standards. Temperature rise and insulation requirements are in accordance with the conservative specifications of the A.I.E.E. and Fire Underwriters. Ratings are conservative, for continuous duty, and suitable for all commercial and amateur applications. All items are vacuum impregnated in addition to sealing with special insulating compound. Rugged ceramic bushings are used for high voltage terminals.

These transformers and reactors are designed for temperature rise less than 55 degrees C., and are tested for breakdown on all windings at twice working voltage plus 1,000 volts. In addition, plate transformers are given a surge test at 2½ times normal applied voltage using a 500 cycle supply. In view of the conservative ratings and manufacturing procedure, these units are suitable for use on most types of government and standard commercial communication equipment. However, these same quality features make these units ideal for amateur transmitter equipment and also for quality PA units.

HIGH POWER PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts.

Type No.	High Voltage	D.C. Voltage	D.C. MA	Case No.
PA-300	625-515-0-515-625	500/400	200	**PA-3**
PA-301	580-530-300-0-300-530-580	475/425/250	500	**PA-4**
PA-302	950-750-0-750-950	760/610	325	**PA-4**

Type No.	High Voltage	D.C. Voltage	D.C. MA.	L	W	H	Wt. lbs.
PA-303	1500-1235-400-0-400-1235-1500	1250/1000 300	300 175	8	7½	5½	32
PA-304	1500-1235-0-1235-1500	1250/1000	800	14	11	9¼	118
PA-305	2400-1750-0-1750-2400	2000/1500	300	10	7½	5½	50
PA-306	2400-1750-0-1750-2400	2000/1500	500	14	11	9¼	120
PA-307	3500-3000-2400-0 2400-3000-3500	3000/2500/2000	300	13	11	9¼	110
PA-308	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	500	15	11	9¼	140
PA-309	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	1000	17	14	11¼	210
PA-310	4600-4050-3500-0-3500-4050-4600	4000/3500/3000	600	15	14	11¼	168
PA-311	1500-1235-0 1235-1500	1250/1000	500	10	7½	5½	50

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V. 50/60 cycles. No filament windings.

Type No.	D.C. Voltage	D.C. Ma.	Case No.
PA-315	Tapped for any voltage from 15 to 100 V. within 6%	250	**PA-2**
PA-316	Tapped for any voltage from 75 to 400 V. within 6%	250	**PA-4**

VARIPOWER AUTO-FORMERS

Designed for line voltage control, filament voltage control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the **tube socket** to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

Type No.	Watts Output	Dimensions	Weight Lbs.
VA-1	150	4¾ x 3¼ x 3½	6
VA-2	250	4¾ x 4½ x 3½	9
VA-3	500	5½ x 4½ x 4	11
VA-4	1000	5½ x 6 x 4	19
VA-5	2000	7 x 6 x 5¾	25

LOW POWER FILTER CHOKES

Type No.	Inductance Henrys	D.C. MA	D.C. res. Ohms	Case No.
PA-40	10	200	110	**PA-2**
PA-41	5–25	200	100	**PA-2**
PA-44	30	100 max.	375	**PA-2**
PA-45	250	15 max.	4500	**PA-1**
PA-48C	100	50 ma.	2500	**PA-1**

SMOOTHING CHOKES

Tapped for humbucking circuit. Commercial safety factors. Inductance rating at max. DC.

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.
PA-100	12	150	115	**PA-2**
PA-102	12	200	105	**PA-3**
PA-104	12	300	90	**PA-4**
PA-108	10	500	60	**CA-1**
PA-1S	10	1000	50	**CA-1**

SWINGING INPUT CHOKES

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.
PA-101	5–25	150	115	**PA-2**
PA-103	5–25	200	105	**PA-3**
PA-105	5–25	300	90	**PA-4**
PA-109	5–25	500	60	**CA-1**
PA-1C	5–25	1000	50	**CA-1**

FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

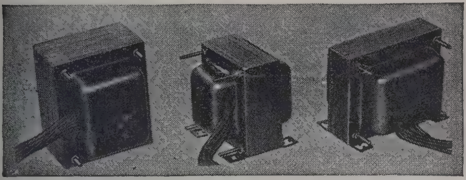
*Two Windings.

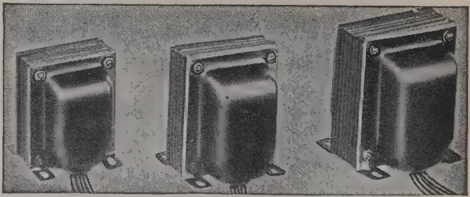
Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.
PA-34	2½	10	2500	6000	**PA-2**
PA-120	2½	10	5000	11000	**PA-3**
PA-121	5	22	5000	11000	**PA-3**
PA-122	7.5/6.3	8	1500	4000	**PA-3**
PA-124	10	10	1500	4000	**PA-3**
PA-125	14/12/11	10	1500	4000	**PA-3**
PA-126	*14/11/10 14/11/10	10 10	1500	4000	**PA-4**

RADIO SET REPLACEMENT TRANSFORMERS

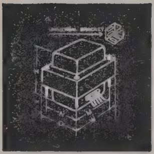
The new UTC replacement type transformers represent the culmination of years of development in this field. All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.

The new UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore. Using Varitap coil construction a minimum number of transformers have been developed to cover any requirement in the replacement field.

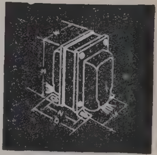




Through unique construction the five UTC Varitap Duplicate replacement transformers will service as many types of radio receivers as the 15 or 20 units more customarily employed for such service. The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.



UTC vertical power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel. The Varitap coil structure assures flexibility of application and permits the three units described to take the place of 5 to 8 units customarily employed for equivalent service.



VARITAP DUPLICATE REPLACEMENT POWER TRANSFORMERS

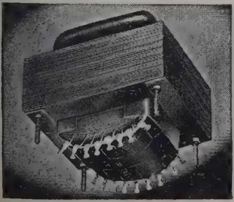
Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.
R-1	325-0-325 40MA	5V-2A	6.3 VCT-2A or 2.5-VCT-4A		3	2½	2¾	2½	2	2½
R-2	350-0-350 70MA	5V-3A	6.3 VCT-2.5A or 2.5-VCT-8A		3⅜	2⅞	3	2¹³⁄₁₆	2¼	3¼
R-3	350-0-350 95MA	5V-3A	6.3 VCT-4.5A or 2.5-VCT-4.5A	2.5 VCT-9A	3¾	3⅛	3⅝	3⅛	2½	6½
R-4	375-0-375 120-MA	5V-4A	6.3 VCT-5A or 2.5-VCT-5A	2.5 VCT-15A	4½	3¾	3¾	3¾	3	6½
R-5	385-0-385 180-MA	5V-4A	6.3 VCT-4A or 2.5-VCT-6A	6.3 VCT-5A	4½	3¾	4½	3¾	3	8½

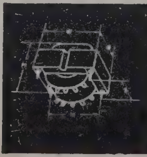
VERTICAL SHIELDED POWER TRANSFORMERS FOR RECEIVERS AND AMPLIFERS

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.
R-54	300-0-300 50MA	5V-2A	6.3 VCT-2A or 2.5 VCT-5A		2½	2½	3¼	2	1¾	2½
R-11	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT-8A	3	3¼	3½	2¼	2¼	4
R-12	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT-2A or 2.5 VCT-8A	3¼	3⅝	4	2½	2½	6½
R-13	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT-3A or 2.5 VCT-12A	3⅞	4½	4⅝	3	3⅝	8½

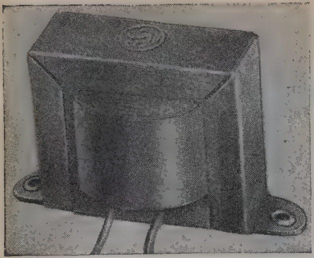
VARITAP FLUSH TYPE POWER TRANSFORMERS

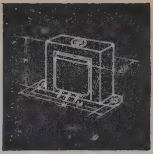
The UTC flush type transformers are husky units designed for low temperature rise and good regulation. By employing a Varitap universal coil structure, (brought out to sturdy lugs) the five units described take the place of 12 to 15 units normally found in a flush type series.





Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil 2	Dimensions, In. W	D	H	M	N	Wt Lb.
R-6	300-0-300 50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		3	2½	3	2½	2	2½
R-7	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT-8A	3⅜	2⅞	3¼	2¹³⁄₁₆	2¼	3
R-8	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5 VCT-4A	2.5 VCT-10A	3¾	3⅛	3¾	3⅛	2½	5½
R-9	400-0-400 125-MA	5V-3A	6.3 VCT 4A or 2.5-VCT-4A	6.3 VCT-2A or 2.5 VCT-10A	4½	3¾	4	3¾	3	6½
R-10	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT-3A or 2.5 VCT-12A	4½	3¾	4¾	3¾	3	8½

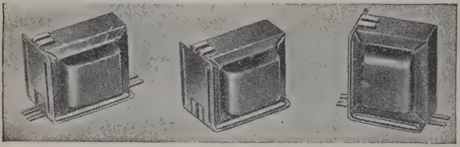




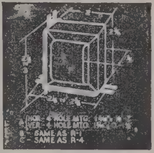
UTC filter chokes are conservatively designed and rated. Standard black enamel mounting channels are employed. Coils are completely sealed against adverse humidity conditions.

FILTER AND AUDIO CHOKES

Type No.	Induct. Hys.	Current	Resistance Ohms	Dimensions, Ins. W	D	H	M	Wgt. Lbs.
R-55	10	35MA	300	2½	1⅜	1⅜	2⅛	½
R-14	12	40MA	250	2⅞	1⅜	1 11/16	2⅜	¾
R-15	15	30MA	450	2⅞	1⅜	1 11/16	2⅜	¾
R-16	20	30MA	600	2⅞	1⅜	1 11/16	2⅜	¾
R-17	25	30MA	850	3 5/16	1⅝	2	2⅞	1
R-18	10	75MA	250	3 5/16	1⅝	2	2⅞	1
R-19	15	100MA	450	3¾	1¾	2 5/16	3¼	1½
R-20	8	160MA	100	4⅛	2	2⅝	3⅝	2½
R-21	5/25	160MA	100	4⅛	2	2⅝	3⅝	2½
R-22	500	5MA	4000	3 5/16	1⅝	2	2⅞	1



The Varitap Duplicate audio units represent the acme in replacement transformer development. The units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the new UTC universal bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and completely sealed with a special compound to assure complete protection against adverse climatic conditions.



VARITAP DUPLICATE AUDIO TRANSFORMERS AND FILTER CHOKES

(Completely Shielded Units, Universal Mtg.)

Type No	Application	Description	Fig.	Wgt. Lbs.
R-23	1 plate* to 1 grid	3½:1 ratio	A	1
R-24	1 plate* to 2 grids	2:1 ratio	A	1
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1¼
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46 to AB 6L6's, 42's, 2A5's, 6F6's, 46's	A	1¼
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1¼
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2½
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1¼
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7
R-31	Filter choke	10 Hys—80 MA—250 ohms	A	2½
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2¼

*Will match tubes like 27, 37, 56, 6C6 triode, 6C5. Can be used with high mu triodes with loss in low frequencies.

UTC channel frame TROPICAL WETPROOF audios are excellently designed. In addition to good frequency range, coils are vacuum-pressure treated followed by the UTC MOULD SEAL process of WET PROOFING to prevent moisture absorption.

CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	Dimen., Ins. W	D	H	M	Wt. Lbs.
R-33	1 plate* to 1 grid	4:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-34	1 plate* to 2 grids	2:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-35	Mike to 1 grid	17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-53	Plate and mike to grid	3:1 and 17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾
R-56	1 plate to 2 grids	2:1 ratio	3 5/16	1⅝	2	2⅞	1
R-57	1 plate to 2 grids	2½:1 ratio	4⅛	2	2⅝	3⅝	2½
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2⅞	1⅜	1 11/16	2⅜	¾
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2⅞	1⅜	1 11/16	2⅜	¾
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil .1 to 30 ohms	2½	1⅜	1⅜	2⅛	¾
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil .1 to 30 ohms	2⅞	1⅜	1 11/16	2⅜	1
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil .1 to 30 ohms	3 5/16	1⅝	2	2⅞	1½
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2⅞	1⅜	1 11/16	2⅜	¾
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4⅛	2¼	2⅝	3⅝	2¼

*Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

CHANNEL FRAME FILAMENT TRANSFORMERS

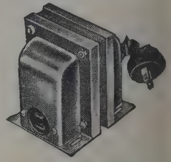
Pri. 115 V.—50/60 Cycles

Type No.	Secondary	Dimensions, Inches W	D	H	M
FT-1	2.5 V. C. T.-3A	2⅞	1⅜	1 11/16	2⅜
FT-2	6.3 V. C. T.-1.2A	2⅞	1⅜	1 11/16	2⅜
FT-3	2.5 V. C. T.-6A	3 5/16	1⅝	2	2⅞
FT-4	6.3 V. C. T.-2.5A	3 5/16	1⅝	2	2⅞
FT-5	2.5 V. C. T.-10A	3¾	1¾	2 5/16	3¼
FT-6	5 V. C. T.-3A	3¾	1¾	2 5/16	3¼
FT-7	7.5 V. C. T.-3A	3¾	1¾	2 5/16	3¼

STEP DOWN AUTO-TRANSFORMERS

220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.	List Price
R-41	85 watt capacity	4	$6.50
R-42	125 watt capacity	5	7.00
R-43	175 watt capacity	5½	8.50
R-44	250 watt capacity	6½	10.00
R-45	500 watt capacity	13	20.00
R-46	1000 watts, no cord	26	35.00



EXPORT VOLTAGE ADAPTERS

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Weight, Lbs.
R-48	150 watts	5½

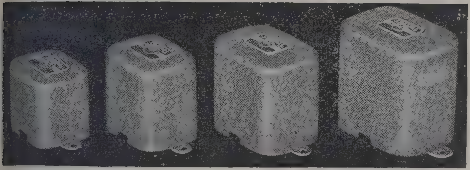
LINE VOLTAGE CORRECTORS

Auto-transformers complete with cord, plug and tap switch. Switch will effect 115 volts plus or minus 2½ volts output for any input voltage from 90 to 135 volts, 50/60 cycles.

Type No.	Rating	Weight, Lbs.
R-50	100 watts	4
R-51	250 watts	5½
R-52	1000 watts	18

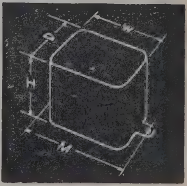
SPECIAL SERIES AUDIO TRANSFORMERS

UTC Special Series transformers represent unprecedented value. These items are specifically designed for amateur and popular-priced PA service. For commercial equipment the PA or LS series of units are recommended. The Special Series units are finished in a rich, commercial type gray crinkle enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chasis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current in the class C stage and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting and louvres for good ventilation.



CASE SIZES

Type No.	H	W	D	M	Weight Lbs.
G-1	1⅞	2	1¾	2 7/16	1
G-2	2 5/16	2⅜	1 15/16	2⅞	1½
G-3	2½	2¾	2⅛	3¼	2
G-4	2 15/16	3⅛	2 5/16	3⅝	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case No.
S-1	1 plate* to 1 grid	3½:1	G-2
S-2	1 plate* to 2 grids	2:1	G-2
S-3	1 plate* to 1 or 2 grids compact type	4:1 2:1 P.P.	G-1
S-4	1 plate*to 2 grids wide range response	1:1	G-3
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2

*Will match tubes like 56, 6C5, 6C6 triode, 77 triode, 37, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.
S-8	**All single tubes** like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	G-3
S-9	P. P. tubes like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	G-4
S-10	P. P. 56, 6C5, etc.	AB 45, 42, 2A3, 6L6	G-3
S-73	500 or 200 ohm line to all Class B grids up to 400 watts		G-4

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case No.
S-11	Single 56, 6C6 triode, 6C5 or Similar tube to line.	10,000	200/500	G-2
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Tubes and Pri. Ohms	Sec. Ohms	Power	Case No.
S-14	Single tubes: 2500 ohms for 2A3, 6A3, 6A5 G, 6B4 G, 6L6, 6Y6, 25L6 4,000 ohms for 2A5, 6F6 triode, 12A5, 25A6, 43, 45, 50, 71A 7,000 ohms for 2A5, 6F6, 6K6, 20, 31, 33, 47 10,000 ohms for 6G6, 38, 41	2, 8, 15, 500	10 W	G-2
S-15	P. P. tubes: 4,000 ohms for 25L6, 6Y6G 5,000 ohms for 2A3, 6A3, 6A5G, 6B4G, 45 10,000 ohms for 19, 7J6G, 30, 49, 89, 6Z7G, 6AC5G, 53. 6A6, 6N6, 6N7, 6B5	2, 8, 15, 500	12 W	G-2
S-16	3,000 ohms for 2A3, 6A3, 6A5G, 6B4G, AB 6,000-6,600 ohms for 2A5-6F6-42 triodes AB, 46, 59, 6L6 10,000 ohms for 6B5, 6V6, 2A5-6F6-42 pentodes AB	2, 8, 15, 500	30 W	G-4
S-17	3,300 ohms for 4 6L6's, 4-46's 3,800 ohms for 2 6L6's, AB2 5,000 ohms for 1608, 809	2, 8, 15, 500	55 W	G-5

COMBINED PLATE AND FILAMENT TRANSFORMERS

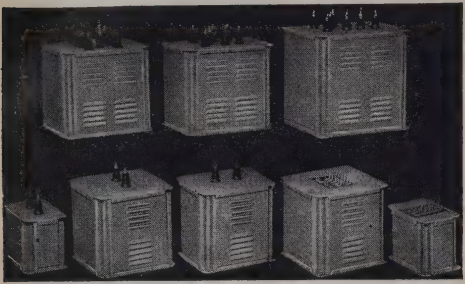
Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages *	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.
S-39	490-400-0-400-490 175 Ma.	400/310	5V.-3A.	2.5 V. C. T. 6A	6.3 V. C. T. 4A	G-7
S-40	525-425-0-425-525 250 Ma.	400/310	5V.-3A.	6.3 V.C.T.-3A	6.3 V.C.T.-3A	G-7
S-41	600-0-600 200 Ma.	475	5V.-3A.	7.5V. tapped 6.3V-3A	6.3 V.C.T.-2A	G-7
S-42	600-525-0-525-600 300 Ma.	480/400	5V.3A-	7.5V. tapped 6.3V.-3A	6.3 V.C.T.-3A	G-8
S-43	525-0-525 450 Ma. 40-0-40 200 Ma.	400	5V.-3A 5V.-6A	6.3 V.C.T.-2A	6.3 V.C.T.-5A	G-9

*Based on two section filter, choke input.

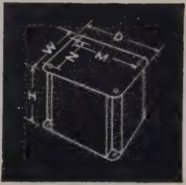
SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for intermittent service. For commercial applications, PA or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes.



CASE SIZES

Type	H	W	D	M	N	Wt. Lbs.
G-5	3 7/8	3 1/8	4 9/16	3 7/8	2 7/16	4 1/2
G-7	5 3/8	4 9/16	5 9/16	4 27/32	3 25/32	9
G-8	5 3/8	5 1/2	5 1/2	4 25/32	4 3/4	13
G-9	6 1/8	5 5/16	6 13/16	6 3/32	4 19/32	18
G-10	6 1/8	6 3/16	6 11/16	5 15/16	5 13/32	24
G-11	7 1/8	6 9/16	7 3/8	6 21/32	5 29/32	31



FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Case No.
S-23	Audio	500 Hy.	5 Ma.	4,500 ohms	G-2
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	4,000 ohms	G-2
S-25	Filter	30 Hy.	30 Ma.	800 ohms	G-2
S-26	Filter	15 Hy.	60 Ma.	230 ohms	G-2
S-27	Filter	30 Hy.	75 Ma.	350 ohms	G-4
S-28	Filter	20 Hy.	100 Ma.	350 ohms	G-4
S-29	Filter	6 Hy.	175 Ma.	95 ohms	G-4
S-30	Swinging	5/25 Hy.	175 Ma.	95 ohms	G-4
S-31	Filter	15 Hy.	225 Ma.	120 ohms	G-5
S-32	Swinging	5/25 Hy.	225 Ma.	120 ohms	G-5
S-33	Filter	15 Hy.	300 Ma.	90 ohms	G-7
S-34	Swinging	5/25 Hy.	300 Ma.	90 ohms	G-7
S-35	Filter	15 Hy.	400 Ma.	85 ohms	G-8
S-36	Swinging	5/25 Hy.	400 Ma.	85 ohms	G-8
S-37	Filter	15 Hy.	550 Ma.	60 ohms	G-8
S-38	Swinging	5/25 Hy.	550 Ma.	60 ohms	G-8

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles No Filament Windings

Type No.	Application	D.C. Current	Case No.
S-51	Will supply any bias voltage from 15 to 100 volts D.C. within approximately 6% of desired value.	200 Ma.	G-5
S-52	Will supply any bias voltage from 75 to 400 volts D.C. within approximately 6% of desired value.	200 Ma.	G-7

UNIVERSAL OUTPUT TRANSFORMERS

Any modulator tubes to any RF load.

Type No.	Audio Power	Case No.
S-18	12 watts	G-3
S-19	30 watts	G-4
S-20	55 watts	G-5
S-21	110 watts	G-7
S-22	250 watts	G-9

PLATE TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages*	D.C. Current	Case No.
S-44	575-525-0-525-575	470/430	500 Ma.	G-9
S-45	900-750-0-750-900	750/620	200 Ma.	G-8
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9
S-74	1175-500-0-500-1175 Duplex rectifier	1000 400	†150 MA ‡150 MA	G-10
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-11

*Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.

Note: Using a bridge rectifier circuit **D.C. Voltages** shown are **doubled** but available **D.C. current** reduced to **half.** S-49 and S-50 are not suitable for bridge rectifiers.

†200 MA if used alone. ‡ 250 MA if used alone.

SINGLE SECONDARY FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycles

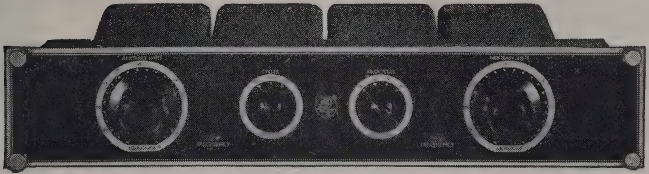
Type No.	Secondary Volts	Secondary Current	Insulation	Case No.
S-53	2.5 VCT	10 A.	1500 V.	G-3
S-54	5 VCT	4 A.	2500 V.	G-3
S-55	6.3 VCT	3 A.	1,500 V.	G-3
S-56	7.5 VCT	3 A.	1,500 V.	G-3
S-57	2.5 VCT	10 A.	10,000 V.	G-5
S-58	2.5 VCT	20 A.	10,000 V.	G-5
S-59	5 to 5.25 VCT	13 A.	5,000 V.	G-5
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7
S-61	7.5 VCT tapped 6.3 VCT	8 A.	3,000 V.	G-5
S-62	10 VCT	10 A.	3,000 V.	G-5
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5,000 V.	G-7

MULTIPLE SECONDARY FILAMENT WINDINGS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Fil. 1	Fl. 2	Fil. 3	Insulation V.	Case No.
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3,000	G-5
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3,000	G-5
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3,000	G-5
S-67	5 VCT-6A	6.3 VCT-5A		3,000	G-5
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3,000	G-5
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3,000	G-5
S-70	6.3 VCT-5A	6.3 VCT-5A		3,000	G-5
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10,000	G-7
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5,000	G-5

EQUALIZERS and FILTERS by



3AX The Universal equalizer for broadcast and recording service. Calibrated controls read directly in Db equalization and frequency setting. Constant loss regardless of setting. Rapid change in tone color can be obtained with negligible change in volume.

3A UNIVERSAL EQUALIZER

The universal characteristics of the UTC 3-A equalizer have made it the most popular item for broadcast and recording equalization. The low frequency controls include a switch for adjusting the maximum equalization frequency to 25, 50, or 100 cycles and a calibrated T-pad for exact adjustment of the amount of equalization. The high frequency portion of this unit includes a switch to obtain resonance at 4000, 6,000, 8,000 or 10,000 cycles, and a similar calibrated control reading directly in Db. It is ideal for equalizing lines, pickup and recording equipment, due to its flexible nature. Dimensions of panel 3½" x 19". Depth 7½". The new model 3-A is Now Thoroughly Shielded Against Inductive Pickup with UTC Trialloy Shielding.

3D UNIVERSAL ATTENUATOR

The model 3-D attentuator has a low frequency control switch by which the cutoff frequency can be adjusted to 100, 150 or 250 cycles, and a high frequency tap switch for 4,000, 6,000, 8,000 and 10,000 cycles. Attenuation controls are provided for both high and low frequency units so that the degree and rapidity of attentuation can be adjusted to the requirements of the particular application.

4C SOUND EFFECTS FILTER

An ideal sound effects filter for broadcast and recording service. Low pass filter frequencies of 100, 250, 500, 1000, 2000, 3000, 4000, and 5,000 cycles are provided. Identical high pass filter frequencies are provided. This unit employs noiseless switching, and a sufficiently wide range of frequencies to take care of any type of tone color required.

UTC VARITRAN CONTROLS

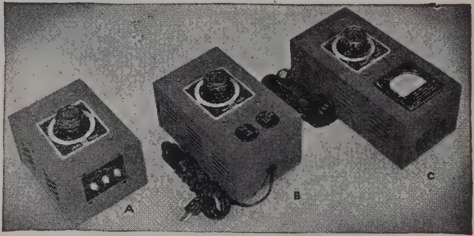
FOR CONTROLLING; Line Voltage, Rectifier Output, Motors, Lights, Heaters, etc.

- Variable voltage transformers for smooth voltage control. Varitran units employ a special non-fusing *roller* contact to contact the exposed turns of an auto-transformer winding. Rugged construction is employed, with *glass* insulation to assure dependability. Output of 115 Volt unit variable from 0-130 volts (230 Volt unit; 0-260 V.) smoothly without interrupting circuit. Output voltage independent of load.

- Maximum Amp. rating applies from 0 to 20 and 95 to 130 volts. Between 20 and 95 volts current rating tapers off to 50% of rated current at 65 V. point.

- Top and bottom mounting for laboratory bench or panel mounting. All units supplied mounted, with terminal strips as in Fig. A except V-1 (Fig. B) and V-1M (Fig. C).

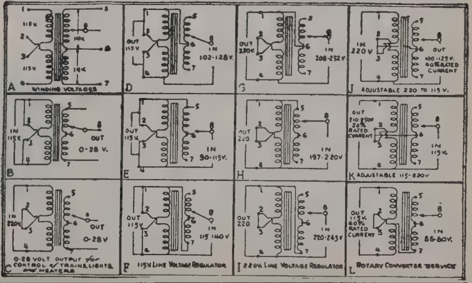
Type	Input Voltage	Output Voltage	Watts	Maximum Amps.	Approx. Wt. Lbs.
V-0	115 volts	0-130	230	2	8
V-0-B	230 volts	0-260	230	1	10
V-1	115 volts	0-130	570	5	11
V-1-M	115 volts	0-130	570	5	12
V-2	115 volts	0-130	570	5	11
V-2-B	230 volts	0-260	570	2.5	14
V-3	115 volts	0-130	850	7.5	14
V-3-B	230 volts	0-260	850	3.75	18
V-4	115 volts	0-130	1250	11	32
V-4-B	230 volts	0-260	1250	5.5	38



UNIVERSAL VARITRAN

These varitrans have a 115/230 V. primary winding and a smoothly variable secondary from 0-28 volts. Line voltage control can be effected for 102/140 V. or 197/243 volts to 115 V. or 220 volts respectively. The 28 volt secondary can also be used for low voltage lights, cauteries, trains, rectifiers, etc. The primary and secondary winding can be arranged to effect variable 220/115 or 115/220 volt arrangements. Appearance as in Fig. A above.

Type	Max. Amps. Output	Approx. Dimensions	Approx. Weight, Lbs.
VL-0	1.5	3⅜ x 4¼ x 3⅞	5
VL-1	3.5	4⅜ x 6 x 4⅜	7
VL-2	6	4⅜ x 6 x 5⅛	10
VL-3	11	4⅜ x 6 x 6⅞	15


A WINDING VOLTAGES
115V
115V
D
OUT 115V
IN 102-128V.
G
OUT 230V.
IN 208-232V
J ADJUSTABLE 220 TO 115 V.
IN 220V
OUT 100-129V. 60% RATED CURRENT
B
IN 115V.
OUT 0-28 V.
E
OUT 115V.
IN 90-115V.
H
OUT 220
IN 197-220V
K ADJUSTABLE 115-220V
OUT 210-250V 20% RATED CURRENT
IN 115V.
C 0-28 VOLT OUTPUT for CONTROL of TRAINS, LIGHTS, and HEATERS
IN 220V.
OUT 0-28V
F 115V LINE VOLTAGE REGULATOR
OUT 115V
IN 115 140V
I 220V LINE VOLTAGE REGULATOR
OUT 220
IN 220-243V
L ROTARY CONVERTER SERVICE
OUT 115V. 60% RATED CURRENT
IN 86-80V.

OUNCER HIGH FIDELITY AUDIO UNITS

The acme in compact quality transformer practice. Ideal for hearing aids, aircraft, glider, portable, concealed service and similar applications. Overall dimensions are ⅞″ diameter by 1³⁄₁₆″ height, including lugs. Mounting is effected by two screws, opposite the terminal board side, spaced ¹¹⁄₁₆″. Weight approximately one ounce. Units not carrying D.C. have high fidelity characterstics being uniform from 40 to 15,000 cycles. Items with D.C. in pri. and 0-14 and 0-15 are for voice frequencies from 150 to 4,000 cycles.

200 ohm balanced winding may be used for 250 ohms (Max. Level O DB)

Type No.	Application	Pri. Imp.	Sec. Imp.
0-1	Mike, pickup or line to 1 grid	50,200,500	50,000
0-2	Mike, pickup or line to 2 grids	50,200,500	50,000
0-3	Dynamic mike to 1 grid	7.5/30	50,000
0-4	Single plate to 1 grid	8,000 to 15,000	60,000
0-5	Single plate to grid, D.C. in Pri.	8,000 to 15,000	60,000
0-6	Single plate to 2 grids	8,000 to 15,000	95,000
0-7	Single plate to 2 grids, D.C. in Pri.	8,000 to 15,000	95,000
0-8	Single plate to line	8,000 to 15,000	50,200,500
0-9	Single plate to line, D.C. in Pri.	8,000 to 15,000	50,200,500
0-10	Push pull plates to line	8,000 to 15,000 each side	50,200,500
0-11	Crystal mike or pickup to line	50,000	50,200,500
0-12	Mixing and matching	50,200	50,200,500
0-13	Reactor, 200 Hys.—no D.C.; 50 Hys.—2MA. D.C., 6,000 ohms		
0-14	50:1 mike or line to 1 grid	200	½ megohm
0-15	10:1 single plate to 1 grid	8,000 to 15,000	1 megohm

SUB-OUNCER SERIES

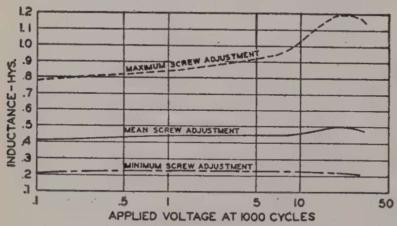
UTC Sub-Ouncer units are ⁹⁄₁₆″ x ⅝″ x ⅞″ and weigh only ⅛ ounce. Through unique construction, however, these miniature units have performance and dependability characteristics far superior to any other comparable items. The coil is uniform layer wound of Formex wire . . . On a molded nylon bobbin . . . insulation is of cellulose acetate . . . leads mechanically anchored (no tape) . . . core material Hipermalloy . . . entire unit triple (waterproof) sealed. The frequency response of these standard items is ±3 Db from 20C to 5,000 cycles.

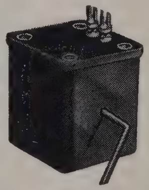
Type	Application	Level	Pri. Imp.	D.C. in Pri.	Sec. Imp.
SO-1	Input	+ 4 V.U.	200 50	0	250,000 62,500
SO-2	Interstage/3:1	+ 4 V.U.	10,000	0	90,000
SO-3	Plate to Line	+23 V.U.	10,000 25,000	3 mil. 1.5 mil.	200 500
SO-4	Output	+20 V.U.	30,000	1.0 mil.	50
SO-5	Reactor 50 HY at 1 mil. D.C. 3000 ohms D.C. Res.	......			

VARIABLE INDUCTOR

The UTC VI-C is the outgrowth of a development started in 1940 to find a simple positive method of varying the inductance of a coil employing a magnetic core. It is an ideal tunable device for oscillators, tuned amplifiers, filters, equalizers, etc. This sealed unit measures 1¼″ x 1⁷⁄₁₆″ x 1⁷⁄₁₆″.

Housed in a die cast case; weighs approximately 5 ounces. The inductance is varied by means of an ⁸⁄₃₂ set screw located on one side. The screw is turned by means of an Allen screw set wrench.





Type	Mean Hys.	Type	Mean Hys.	Type	Mean Hys.
VI-C1	.0085	VI-C7	.13	VI-C13	2.2
VI-C2	.13	VI-C8	.21	VI-C14	3.4
VI-C3	.021	VI-C9	.34	VI-C15	5.4
VI-C4	.034	VI-C10	.54	VI-C16	8.5
VI-C5	.053	VI-C11	.85	VI-C17	13.
VI-C6	.084	VI-C12	1.3	VI-C18	21.
				VI-C19	33.

HIGH Q COILS

Q CHARACTERISTICS of a typical .14 Hy. coil at three voltages are illustrated.

VOLTAGE STABILITY is high. At 1,000 cycles, for applied voltages from .1 to 25 volts, the change in inductance is less than 1%. DC current change in inductance is approximately 1% per 10 Ma. linearly.

HUM PICKUP is low due to a self shielding structure . . . 70 microvolts per gauss at 60 cycles.

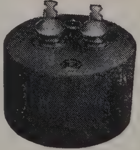
TEMPERATURE effects are negligible. From —60 degrees C. to plus 85 degrees C., inductance variation is less than ⅓%.

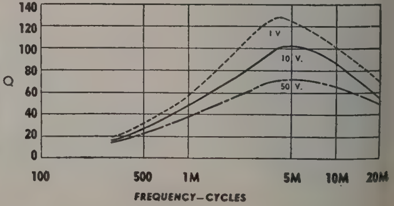
MECHANICALLY, these units are hermetically sealed in a drawn steel case 1¹³⁄₁₆″ diameter by 1³⁄₁₆″ high. Weight . . 5 ounces.

VIBRATION effects are not evident over entire range of normal aircraft tests.

HQA UNITS are available in any inductance value from 5 Mhy. to 2 Hy., and are ordered as: HQA followed by value in Mhy. Typical semi-standard values are:

HQA—12.5
HQA—30
HQA—80
HQA—200
HQA—500
HQA—1250
HQA—2000





UNITED TRANSFORMER CORPORATION

PRICE LIST

LIST PRICE ITEMS

Type No.	List Price
A-10	$15.00
A-11	16.00
A-12	15.00
A-14	14.00
A-16	13.00
A-17	15.00
A-18	14.00
A-19	18.00
A-20	15.00
A-21	16.00
A-24	15.00
A-25	14.00
A-26	15.00
A-27	15.00
A-30	10.00
FT-1	2.70
FT-2	2.70
FT-3	3.00
FT-4	3.25
FT-5	3.25
FT-6	3.25
FT-7	3.25
HA-100	19.00
HA-100X	24.00
HA-101	22.00
HA-101X	27.00
HA-103A	22.00
HA-104	20.00
HA-105	14.00
HA-106	16.00
HA-107	24.00
HA-108	19.00
HA-108X	24.00
HA-111	19.00
HA-112	19.00
HA-113	18.00
HA-114	19.00
HA-130X	27.00
HA-133	18.00
HA-134	20.00
HA-135	19.00
HA-136	20.00
HA-137	22.00
HC-115	13.00
HC-116	20.00
HC-117	12.00
HC-127	20.00
HC-128	20.00
HP-122	13.00
HP-123	20.00
LS6L1	42.00
LS6L3	28.00
LS6L4	50.00
LS-5	42.00
LS-6	31.00
LS-7	31.00
LS-10	25.00
LS-10X	32.00
LS-12	28.00
LS-12X	35.00
LS-14	28.00
LS-14X	35.00
LS-15	28.00
LS-15X	35.00
LS-18	31.00
LS-19	24.00
LS-20	21.00
LS-21	24.00

Type No.	List Price
LS-22	$31.00
LS-25	28.00
LS-26	25.00
LS-27	24.00
LS-30	25.00
LS-30X	32.00
LS-31	28.00
LS-31X	35.00
LS-32	28.00
LS-33	28.00
LS-34	42.00
LS-37	25.00
LS-38	32.00
LS-39	25.00
LS-40	24.00
LS-47X	35.00
LS-48	50.00
LS-49	42.00
LS-50	24.00
LS-51	24.00
LS-52	28.00
LS-54	20.00
LS-55	28.00
LS-56	28.00
LS-57	20.00
LS-58	50.00
LS-61	28.00
LS-63	20.00
LS-66	100.00
LS-67	100.00
LS-70	34.00
LS-72	40.00
LS-73	54.00
LS-80	23.00
LS-82	30.00
LS-83	60.00
LS-84	23.00
LS-85	34.00
LS-88	11.00
LS-89A	87.00
LS-90	14.00
LS-91	14.00
LS-92	23.00
LS-93	40.00
LS-94	14.00
LS-96	67.00
LS-98	40.00
LS-99	100.00
LS-102	70.00
LS-103	98.00
LS-104A	500.00
LS-105	100.00
LS-118	27.00
LS-120	43.00
LS-121	54.00
LS-140	35.00
LS-141	28.00
LS-142	35.00
LS-143	28.00
LS-150	25.00
LS-151	25.00
LS-180	17.00
LS-180H	21.00
LS-181	67.00
LS-182	87.00
LS-183	110.00
LS-184	170.00
LS-185	400.00
LS-188	60.00
LS-190	27.00
LS-190H	34.00
LS-191	21.00
LS-691	350.00
LS-692	700.00

Type No.	List Price
LS-845	$70.00
LS-950	14.00
LS-980	40.00
LVM-1	8.00
LVM-2	11.50
LVM-3	17.50
LVM-10	8.00
LVM-11	11.50
LVM-12	17.50
MC-1	13.00
MC-2	17.00
MC-3	17.00
O-1	13.25
O-2	13.25
O-3	12.00
O-4	10.50
O-5	10.50
O-6	12.00
O-7	12.00
O-8	13.25
O-9	13.25
O-10	13.25
O-11	13.25
O-12	12.00
O-13	9.50
O-14	13.25
O-15	13.25
P-1	14.50
P-2	14.50
P-3	13.25
P-4	12.00
P-5	12.00
P-6	13.25
P-7	13.25
P-8	14.50
P-9	14.50
P-10	14.50
P-11	14.50
P-12	13.25
P-13	10.50
P-14	14.50
P-15	14.50
PA-1C	60.00
PA-1S	60.00
PA-2L6	19.00
PA-4L6	29.00
PA-15	11.00
PA-16	11.00
PA-19	11.00
PA-34	11.50
PA-40	8.50
PA-41	8.50
PA-44	8.50
PA-45	8.50
PA-48C	8.50
PA-51AX	10.50
PA-53AX	12.50
PA-59AX	12.50
PA-100	9.00
PA-101	9.00
PA-102	14.00
PA-103	14.00
PA-104	21.00
PA-105	21.00
PA-108	37.00
PA-109	37.00
PA-120	15.00
PA-121	21.00

Type No.	List Price
PA-122	$18.00
PA-124	18.00
PA-125	21.00
PA-126	33.00
PA-131	9.50
PA-132	10.00
PA-133	12.50
PA-134	12.50
PA-135	13.50
PA-136	13.50
PA-137	10.00
PA-140	12.00
PA-141	13.50
PA-233	11.00
PA-235	17.50
PA-238AX	32.00
PA-300	18.00
PA-301	25.00
PA-302	30.00
PA-303	45.00
PA-304	120.00
PA-305	68.00
PA-306	120.00
PA-307	105.00
PA-308	144.00
PA-309	250.00
PA-310	185.00
PA-311	68.00
PA-315	15.00
PA-316	25.00
PA-333	11.00
PA-422	19.00
PA-428	25.00
PA-429	27.50
PA-431	40.00
PA-433	12.00
PA-512	30.00
PA-710	11.00
PVM-1	9.00
PVM-2	14.00
PVM-3	20.00
PVM-4	29.00
PVM-5	50.00
R-1	6.10
R-2	7.40
R-3	9.00
R-4	10.70
R-5	13.00
R-6	6.10
R-7	7.80
R-8	9.50
R-9	11.00
R-10	14.00
R-11	9.50
R-12	10.80
R-13	15.50
R-14	2.10
R-15	2.10
R-16	2.10
R-17	2.80
R-18	2.80
R-19	3.90
R-20	4.30
R-21	4.30
R-22	3.90
R-23	4.10
R-24	4.30
R-25	4.50
R-26	4.50
R-27	4.10
R-28	5.80
R-29	4.30

Type No.	List Price
R-30	$11.00
R-31	3.50
R-32	5.00
R-33	2.90
R-34	3.00
R-35	3.70
R-36	3.70
R-37	3.90
R-38A	3.00
R-39	3.80
R-40	5.50
R-41	9.00
R-42	9.50
R-43	11.50
R-44	13.50
R-45	27.00
R-46	48.00
R-48	13.50
R-50	11.00
R-51	14.00
R-52	49.00
R-53	3.70
R-54	6.60
R-55	1.75
R-56	3.70
R-57	5.80
R-58	3.00
R-59	3.50
R-60	3.70
SO-1	5.60
SO-2	5.60
SO-3	5.60
SO-4	5.60
SO-5	5.10
VA-1	10.00
VA-2	13.00
VA-3	17.50
VA-4	26.00
VA-5	36.00
VI-C1	11.00
VI-C2	11.00
VI-C3	11.00
VI-C4	11.00
VI-C5	11.00
VI-C6	11.00
VI-C7	14.00
VI-C8	14.00
VI-C9	14.00
VI-C10	14.00
VI-C11	14.00
VI-C12	14.00
VI-C13	14.00
VI-C14	14.00
VI-C15	16.50
VI-C16	16.50
VI-C17	16.50
VI-C18	16.50
VI-C19	16.50
VM-0	8.50
VM-1	14.00
VM-2	20.50
VM-3	30.00
VM-4	50.00
VM-5	115.00
VT-1	15.00
VT-2	12.00

INDUSTRIAL AND AMATEUR NET PRICE ITEMS

Type No.	Net Price
2E	$35.00
2F	55.00
2G	55.00
2H	25.00
2J	55.00
2K	21.00
3A	125.00
3D	110.00
3R	103.00
3AX	205.00
4B	Discontinued
4C	185.00
AR-1	18.00
AR-2	23.00
AR-3	32.00
AR-4	43.00
AR-5	70.00
AR-6	Discontinued
AR-7	Discontinued
AR-8	Discontinued
CM-15	Discontinued
CM-16	Discontinued
D-10	230.00
D-11	17.00
HC-18	20.00
HC-19	18.50
HE-811	35.00
HE-812	28.00
HE-815	28.00

Type No.	Net Price
HE-817	$31.00
HE-818	37.50
HE-819	31.00
HE-820	37.50
HQA-12.5	7.00
HQA-30	8.50
HQA-80	10.00
HQA-200	11.50
HQA-500	13.00
HQA-1250	14.50
HQA-2000	17.00
HQB-30 Mhy	23.00
HQB-120 Mhy	23.00
HQB- .5 Mhy	23.00
HQB-2.0 Hys.	25.00
HQB-7.5 Hys.	27.00
HQB-12.0 Hys.	30.00
S-1	3.30
S-2	3.80
S-3	3.10
S-4	5.20
S-5	4.25
S-6	3.10
S-7	5.00
S-8	4.00
S-9	5.20
S-10	4.70
S-11	4.25
S-12	4.70
S-13	6.20

Type No.	Net Price
S-14	$4.50
S-15	4.70
S-16	6.20
S-17	7.50
S-18	5.00
S-19	7.50
S-20	11.00
S-21	15.50
S-22	24.00
S-23	3.40
S-24	3.70
S-25	3.10
S-26	3.10
S-27	3.80
S-28	3.80
S-29	3.80
S-30	3.80
S-31	5.00
S-32	5.00
S-33	7.00
S-34	7.00
S-35	10.50
S-36	10.50
S-37	14.00
S-38	14.00
S-39	10.50
S-40	10.50
S-41	9.50
S-42	12.50
S-43	17.50
S-44	15.50

Type No.	Net Price
S-45	$12.00
S-46	15.00
S-47	19.00
BAND PASS FILTERS	
BPI	35.00
BPL	35.00
S-48	28.00
S-49	26.50
S-50	37.00
S-51	9.00
S-52	12.00
S-53	3.20
S-54	3.20
S-55	3.20
S-56	3.20
S-57	4.50
S-58	5.50
S-59	4.50
S-60	10.00
S-61	4.50
S-62	5.50
S-63	10.00
S-64	5.50
S-65	5.50
S-66	5.50
S-67	5.50
S-68	6.00
S-69	6.00
S-70	6.00
S-71	10.00

Type No.	Net Price
S-72	$6.30
S-73	5.00
S-74	16.50
SC-1	2.00
SC-2	3.25
SC-3	4.00
SC-4	5.70
SC-5	10.00
VL-O	10.00
VL-1	11.50
VL-2	14.50
VL-3	23.00
V-O	11.50
V-O-B	15.00
V-1	17.50
V-1-M	29.00
V-2	15.00
V-2-B	18.00
V-3	22.00
V-3-B	29.00
V-4	32.00
V-4-B	40.00
V-6	Discontinued
V-6-B	Discontinued
INTERSTAGE FILTERS	
HPI	35.00
HPL	35.00
LPI	35.00
LPL	35.00

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

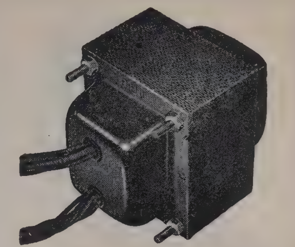
RADIO'S MASTER

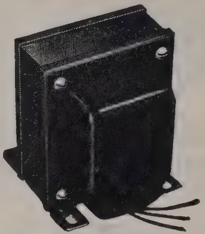
Universal Replacement

POWER TRANSFORMERS

FREED

TRANSFORMER CO., INC.


HS-3


PS-1

This group of units provides replacement for the majority of existing radio receivers. The design of special mounting angles permits mounting in flush, vertical and horizontal positions. Leads are R.M.A. color coded.

Freed No.	H.V. A.C. Volts	C.T. D.C. Ma.	Rect.		Fil. C.T.		Fil. C. T.		Mounting Type	Mounting Center		Dimensions			Ship. Wt.	Prices on Request
			V.	A.	V.	A.	V.	A.		W	D	W	D	H		
F-410 A	480	40	5	2	6.3	2			PS-1	2	1 9/16	2 17/32	2 ⅝	3 9/64	2 ½	
F-411 A	650	40	5	2	2.5	4			PS-1	2	1 11/16	2 17/32	2 ¾	3 9/64	2 ¾	
F-412 A	590	50	5	2	6.3	2			PS-1	2	1 13/16	2 17/32	2 ⅞	3 9/64	3	
F-413 A	650	50	5/6.3	2/.6	6.3	2.5			PS-1	2	1 13/16	2 17/32	2 ⅞	3 9/64	3	
F-414 A	700	50	5	2	2.5	7.5			PS-1	2	1 13/16	2 17/32	2 ⅞	3 9/64	3	
F-415 A	700	70	5	2	2.5	9			PS-1	2 ¼	1 ⅞	2 27/32	3 ⅛	3 33/64	4	
F-416 A	700	70	5/6.3	2/.6	6.3	2.5			PS-1	2 ¼	2	2 27/32	3 ¼	3 33/64	4 ⅜	
F-417 A	700	70	5	2	6.3	2.5			PS-1	2	2 5/16	2 17/32	3 ⅜	3 9/64	4 ⅜	
F-418 A	700	90	5	2	2.5	12.5			PS-1	2 ½	2 7/16	3 5/32	3 ¾	3 57/64	5 ¼	
F-419 A	700	90	5	2	6.3	3.5			PS-1	2 ½	2 ⅛	3 5/32	3 7/16	3 57/64	5	
F-420 A	700	120	5	3	2.5	3.5	2.5	12.5	PS-1	3	2 5/16	3 25/32	3 ½	4 41/64	6 ½	
F-421 A	700	120	5	3	6.3	5			PS-1	2 ½	2 5/16	3 5/32	3 ⅝	3 57/64	5 ¼	
F-422 A	750	150	5	3	6.3	5			PS-1	3	2 9/16	3 25/32	3 ¾	4 41/64	6 ½	
F-423 A	750	150	5	3	6.3	5	2.5	5	PS-1	3	2 9/16	3 25/32	3 ¾	4 41/64	7	
F-424 A	800	200	5	4	6.3	5			PS-1	3	2 11/16	3 25/32	3 ⅞	4 41/64	7 ⅜	
F-410	480	40	5	2	6.3	2			HS-3	2 ½	2	3	2 ½	2 ½	2 ½	
F-411	650	40	5	2	2.5	4			HS-3	2 ½	2	3	2 ½	2 ⅝	2 ¾	
F-412	590	50	5	2	6.3	2			HS-3	2 ½	2	3	2 ½	2 ¾	3	
F-413	650	50	5/6.3	2/.6	6.3	2.5			HS-3	2 ½	2	3	2 ½	2 ¾	3	
F-414	700	50	5	2	2.5	7.5			HS-3	2 ½	2	3	2 ½	2 ¾	3	
F-415	700	70	5	2	2.5	9			HS-3	2 13/16	2 ¼	3 ⅜	2 13/16	3	4	
F-416	700	70	5/6.3	2/.6	6.3	2.5			HS-3	2 13/16	2 ¼	3 ⅜	2 13/16	3 ⅛	4 ⅜	
F-417	700	70	5	2	6.3	2.5			HS-3	2 ½	2	3	2	3 ⅛	4 ⅜	
F-418	700	90	5	2	2.5	12.5			HS-3	3 ⅛	2 ½	3 ¾	3 ⅛	3 ½	5 ¼	
F-419	700	90	5	2	6.3	3.5			HS-3	3 ⅛	2 ½	3 ¾	3 ⅛	3 ¼	5	
F-420	700	120	5	3	2.5	3.5	2.5	12.5	HS-3	3 ¾	3	4 ½	3 ¾	3 ¼	6 ½	
F-421	700	120	5	3	6.3	5			HS-3	3 ⅛	2 ½	3 ¾	3 ⅛	3 ⅜	5 ¼	
F-422	750	150	5	3	6.3	5			HS-3	3 ¾	3	4 ½	3 ¾	3 ¼	6 ½	
F-423	750	150	5	3	6.3	5	2.5	5	HS-3	3 ¾	3	4 ½	3 ¾	3 ½	7	
F-424	800	200	5	4	6.3	5			HS-3	3 ¾	3	4 ½	3 ¾	3 ⅝	7 ⅜	

The above transformers are designed for primary operation of 115 volts 50-60 cycles. They are also available for 220 volts 60 cycles and 115 volts 25 cycles.

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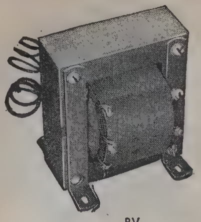
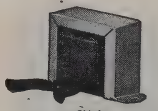


BV



CH-1

Replacement FILTER CHOKES and VIBRATOR TRANSFORMERS

FREED TRANSFORMER CO., INC.

REPLACEMENT FILTER CHOKES

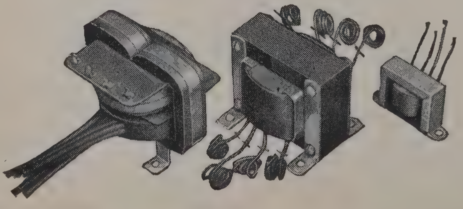
Freed No.	Ind. Henry	D.C. Cur.	D.C. Res.	R.M.S. Test Volt.	Mounting Type	Mtg. Centers W	Mtg. Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-600	3	40	160	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-601	4	40	200	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-602	6	40	300	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-603	9	40	400	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-604	11	40	500	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-605	7	55	200	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-606	9	55	300	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-607	10	55	400	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-608	13	55	500	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-609	20	30	1250	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-610	6	50	400	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-611	4	60	300	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-612	3	75	200	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-613	15	35	625	1600	CH-1	2⅜		2 13/16	1¾	1 7/16	¾	
F-614	5	75	200	1600	CH-1	2⅜		2 13/16	1¾	1 7/16	¾	
F-615	20	50	475	1600	CH-1	2 13/16		3¼	2	2	1½	
F-616	10	75	250	1600	CH-1	2 13/16		3¼	2	2	1½	
F-617	6	100	150	2000	CH-1	2 13/16		3¼	2	2	1½	
F-618	3.5	150	100	2000	CH-1	2 13/16		3¼	2	2	1½	
F-619	2	200	60	2000	CH-1	2 13/16		3¼	2	2	1½	

VIBRATOR TRANSFORMERS

Designed for Automobile Receivers Using A Vibrator from a Six Volt Battery Source.

Freed No.	D.C. Output Deliver by Sec. Volts	D.C. Output Deliver by Sec. Ma.	Style Mtg.	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-450	225	40	BV	2	1¾	2½	2	3 1/16	2	
F-451	250	50	BV	2	1⅞	2½	2⅛	3 1/16	2¼	
F-452	250	60	BV	2¼	1¾	2 13/16	2⅛	3 7/16	2½	
F-453	275	70	BV	2¼	1⅞	2 13/16	2¼	3 7/16	3	
F-454	350	75	BV	2¼	2	2 13/16	2⅜	3 7/16	3½	

TELEVISION COMPONENTS AVAILABLE



Horizontal Deflection Transformers

Vertical Deflection Transformers

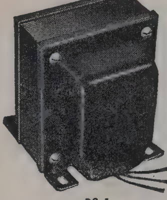
Horizontal Deflection Transformers
with High Voltage Fly-Back Winding

Horizontal Blocking Oscillator Transformers

Vertical Blocking Oscillator Transformers

CHOKES and AUDIO REACTORS

FREED TRANSFORMER CO., INC.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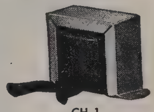

CH-1

AMPLIFIER AND SMALL TRANSMITTER FILTER CHOKES

Rated under full D.C. current.

Freed No.	Ind. Hen.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-620	20	50	475	1600	PS-1	1½	1⅝	1⅞	2½	2 5/16	1¾	
F-621	10	75	250	1600	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	
F-622	6	100	150	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	
F-623	3.5	150	100	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	
F-624	2	200	60	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	
F-625	20	75	375	1600	PS-1	1¾	1½	2 3/16	2⅜	2 11/16	2⅛	
F-626	10	110	210	2000	PS-1	1¾	1⅝	2 3/16	2½	2 11/16	2¼	
F-627	5	150	100	2000	PS-1	1¾	1½	2 3/16	2⅜	2 11/16	2⅛	
F-628	20	100	400	2000	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	
F-629	10	125	240	2000	PS-1	2	1 11/16	2⅝	2¾	3 9/64	3	
F-630	12	160	180	2500	PS-1	2	2 1/16	2⅝	3⅛	3 9/64	3½	
F-631	7	200	100	2500	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	
F-632	5	250	70	3000	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	
F-633	12	180	235	2500	PS-1	2¼	1⅞	2 27/32	3⅛	3 33/64	4	
F-634	10	200	150	2500	PS-1	2¼	2	2 27/32	3¼	3 33/64	4¼	
F-635	5	300	65	3000	PS-1	2¼	2⅛	2 27/32	3⅜	3 33/64	4½	
F-636	20	160	330	2500	PS-1	2½	2⅛	3 5/32	3 7/16	3 57/64	5⅛	
F-637	15	200	200	2500	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	
F-638	10	250	135	3000	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	
F-639	20	250	160	3000	PS-1	3	3 1/16	3 25/32	4¼	4 11/64	10	

AMPLIFIER AND SMALL TRANSMITTER SWINGING CHOKES

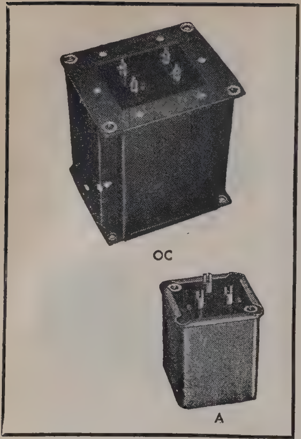
Rated under full D.C. current.

Freed No.	Ind. Hen.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-640	5–25	160	180	2500	PS-1	2	1 11/16	2⅝	2¾	3 9/64	3	
F-641	5–25	180	235	2500	PS-1	2¼	1⅞	2 27/32	3⅛	3 33/64	4	
F-642	5–20	200	150	2500	PS-1	2¼	2	2 27/32	3¼	3 33/64	4¼	
F-643	5–30	200	200	2500	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	
F-644	5–20	250	135	3000	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	

PARALLEL FEED AUDIO REACTORS

Designed to eliminate the direct current component in the primary of audio transformers to be used as plate coupling reactor where the use of a high resistance is objectionable. Low distributed capacity insures excellent high frequency response.

Freed No.	Ind. Hen.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-645	100	10	3500	1600	CH-1	2		2⅜	1⅝	1 7/16	½	
F-646	350	.5	4900	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-647	500	.5	6150	1600	CH-1	2 13/16		3¼	2	2	1½	
F-648	700	.5	6150	1600	CH-1	2 13/16		3¼	2	2	1½	
F-649	30	35	650	1600	CH-1	2 13/16		3¼	2	2	1½	



FILTER CHOKES and HI "Q" REACTORS

FREED TRANSFORMER CO., INC.

HUM BUCKING CONSTRUCTION FILTER CHOKES

Designed for Series - Parallel Operation at Full Rated Load and Low Temperature Rise

Freed No.	Induct.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mtg. Dimensions W	Mtg. Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight Lbs.	Prices on Request
F-700	320/80	3/6	6000/1500	2500	OC	2⅛	1¾	2⅝	2¼	3⅛	3	
F-701	100/25	35/70	1400/350	2500	OC	3 9/16	2 15/16	4⅛	3½	4⅝	7½	
F-702	50/12.5	50/100	600/150	2500	OC	2 9/16	2⅜	3⅛	2 15/16	3 13/16	5½	
F-703	50/12.5	100/200	528/132	3000	OC	4½	3⅝	5 1/16	4 3/16	5 3/16	10	
F-704	16/4	125/250	240/60	3000	OC	3 9/16	2 15/16	4⅛	3½	4⅝	7	
F-705	16/4	175/350	88/22	5000	OC	4½	3⅝	5 1/16	4 3/16	5 3/16	10	
F-706	24/6	200/400	160/40	7500	OC	5½	5½	6⅝	6⅝	7¼	20	

HI "Q" REACTORS

To be used in filters or tuned circuits.

Standard values range from 10 millihenries to 50 henries

Freed No.	Application	Ind. Hen.	Cur. MA	DC Ohms	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions D	Dimensions W	Dimensions H	Weight Lbs.	Prices on Request
F-750	Filters, tuned circuits	10	10	1200	A	1⅝	*	1 11/16	1 11/16	2"	½	
F-751	Filter or tuned circuits	1	20	315	A	1⅝	*	1 11/16	1 11/16	2"	½	
F-752	Filter or tuned circuits	.25	20	30	A	1⅝	*	1 11/16	1 11/16	2"	½	
F-753	Filter or tuned circuits	2	30	190	OC	2⅛	1¾	2⅝	2¼	3⅛	2	
F-754	Filter or tuned circuits	.5	30	75	OC	2⅛	1¾	2⅝	2¼	3⅛	2	

The mounting dimension 1⅝ is given between centers across corners.

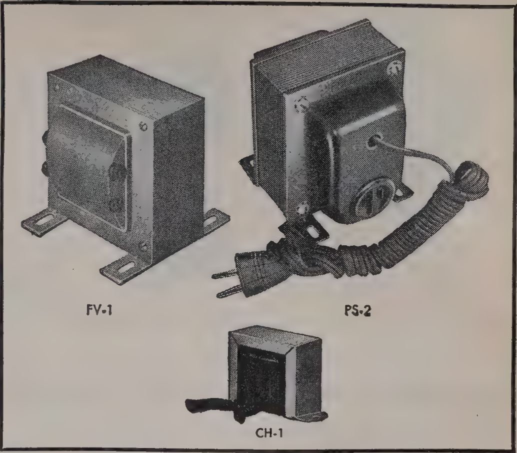
THE FREED MULTICHANNEL FILTER

The unit is a five channel interstage type narrow bandpass filter designed for frequency selective remote control applications. The five inputs are connected in parallel, the five outputs are available separately. The frequency characteristic of each individual filter is ±1.5 DB for ±10% of the nominal frequency. The attenuation per octave ranges from 35 to 40 DB. Each individual filter provides a step up ratio of 6 DB. The units are designed for a 10,000 ohms input impedance. Filters of this type can be supplied for frequencies from 300 to 10,000 cps.

FILAMENT, AUTO
and
ISOLATION TRANSFORMERS

FREED

TRANSFORMER CO., INC.



FILAMENT TRANSFORMERS

Part No.	Fil. V	C.T. A	Test Volts R.M.S.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight Lbs.	Prices on Request
F-210	2.5	3	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-211	2.5	7.5	1600	CH-1	2 13/16		3¼	2	2	1¼	
F-212	2.5	12	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	
F-213	5	1.5	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-214	5	4	1600	CH-1	2 13/16		3¼	2	2	1¼	
F-215	5	6	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	
F-216	5	8	1600	FV-1	2	2⅛	2½	2⅝	3 1/16	2¾	
F-217	5	13	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	
F-218	6.3	1.35	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	
F-219	6.3	3	1600	CH-1	2 13/16		3¼	2	2	1¼	
F-220	6.3	5	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	
F-221	6.3	7	1600	FV-1	2	2⅛	2½	2⅝	3 1/16	2¾	
F-222	6.3	10	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	
F-223	7.5	4	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	
F-224	7.5	8	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	
F-225	10	12	1600	FV-1	2½	2½	3⅛	3½	3 13/16	6	

AUTO TRANSFORMERS

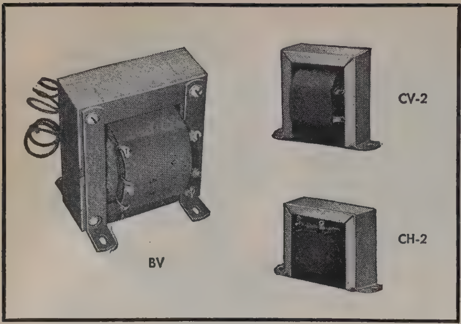
To be used as a step-down transformer. Equipped with standard receptacle and line cord.

Freed No.	V. A. Rating	230/115 50/60 cy.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-900	**100**	" " "	PS-2	2¼	1¾	2 27/32	3	3 33/64	4½	
F-901	**200**	" " "	PS-2	2½	2 1/16	3 5/32	3⅜	3 57/64	6¼	
F-902	**300**	" " "	PS-2	3	2 7/16	3 25/32	3⅝	4 41/64	7¼	
F-903	**400**	" " "	PS-2	3	2 11/16	3 25/32	3⅞	4 41/64	8.0	
F-904	**500**	" " "	PS-2	3	3 11/16	3 25/32	4⅞	4 41/64	13½	
F-905	**750**	" " "	PS-2	3½	3⅞	4 7/16	5¼	5 7/32	20	
F-906	**1000**	" " "	PS-2	3½	5⅜	4 7/16	6¾	5 7/32	29	
F-907	**1500**	" " "	PS-2	3½	6⅜	4 7/16	7¾	5 7/32	36	

ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Freed No.	V. A. Rating	115/115 50/60 cy.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	Prices on Request
F-920	**50**	" " "	PS-2	2¼	1¾	2 27/32	3	3 33/64	4½	
F-921	**100**	" " "	PS-2	2½	2 5/16	3 5/32	3⅝	3 57/64	6¼	
F-922	**300**	" " "	PS-2	3½	3⅜	4 7/16	4¾	5 7/32	18	
F-923	**500**	" " "	PS-2	3½	4⅞	4 7/16	6¼	5 7/32	27	



Replacement and Universal OUTPUT TRANSFORMERS

FREED TRANSFORMER CO., INC.

REPLACEMENT OUTPUT TRANSFORMERS

For coupling receiver audio ouput tube to speaker. These transformers are usually mounted on the loudspeaker frame.

Freed No.	Application or Tube Type	Class	Ohms Impedance		Pri. MA Per Side	Max. Wat.	Mtg. Type	Mtg. Centers	Dimensions			Wt. Lbs.	Prices on Request
			Pri.	Sec.					W	D	H		
F-314	1-25L6, 48	A	1,500 or 2,000	3.2	55	5	CH-2	2″	2⅜	1⅝	1 7/16	½	
F-315	1-43, 45, 71-A, 12A5 1-25A6	A	4,000	3.2	40	5	CH-2	2″	2⅜	1⅝	1 7/16	½	
F-316	1-2A5, 6A4, 6F6, 41 1-42, 47, 89	A	7,000	3.2	40	5	CH-2	2″	2⅜	1⅝	1 7/16	½	
F-317	1-3Q5, 3S4, 1Q5, 1C5 1-1S4, 3A4	A	8,000	3.2	10	5	CH-2	2″	2⅜	1⅝	1 7/16	½	
F-318	1-1D8, 1F5, 1T5, 38	A	14,000 or 16,000	3.2	10	5	CH-2	2″	2⅜	1⅝	1 7/16	½	
F-319	1-3Q4 1-19PP, 1J6GPP, 1G6G 2-30PP, 49PP	A B B	10,000 CT	3.2	15	8	CH-2	2⅜″	2 13/16	1¾	1 11/16	¾	
F-320	2-45PP-71PP, 43PP 2-25 AG PP	A	8,000 CT	3.2	40	10	CH-2	2 13/16″	3¼	2	2	1¼	
F-321	2- 6F6 PP, 42 PP 2- 2A5PP, 6A4, P.P.	A	14,000 CT	3.2	40	8	CH-2	2⅜″	2 13/16	1¾	1 11/16	¾	

UNIVERSAL OUTPUT TRANSFORMERS

Covering most applications. Correct matching for the various conditions can be obtained by the wide range of plate or line and voice call impedances.

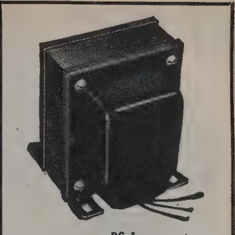
Freed No.	Classification or Application	Ohms Impedance		Pri. MA	Max. Watts	Mtg. Type	Mounting Centers		Dimensions			Wt. Lbs.
		Pri.	Sec.				W	D	W	D	H	
F-300 **F-301** **F-302**	Universal single or P.P. tubes to speaker	From 1500 to 20,000	Adjustable .1-29	36 55 80	6 10 15	CH-2 CH-2 CV-2	2⅜″ 2 13/16″ 2 11/16″		2 13/16″ 3¼″ 3 5/16″	1¾″ 2″ 2¼″	1 11/16″ 2″ 2¾″	¾ 1¼ 2¼
F-303	Universal single tube to speaker			60	10	CH-2	2⅜″		2 13/16″	1⅞″	1 11/16″	1
F-304	Universal P.P. tubes to speaker	From 3,000 to 10,000	Adjustable .1-29	60	20	CV-2	3⅛″		3⅝″	2½″	3⅛″	2½
F-305	Universal single tube to line	2,500-4,000 5,000-7,000	500 600	60	12	CV-2	3⅛″		3⅝″	2½″	3⅛″	2½
F-306	Universal P.P. tubes to line	8,000-10,000 12,000-14,000	500 600	60	12	CV-2	3⅛″		3⅝″	2½″	3⅛″	2½
F-307 **F-308** **F-309** **F-310**	Line to tapped voice coil	500-1,000 1,500-2,000 2,500-3,000	Min. .06 to Max. 48		10 15 20 30	CV-2 CV-2 BV-2 BV-2	2 11/16″ 3⅛″ 2¼″ 2½″	 2⅛″ 2 3/16″	3 5/16″ 3⅝″ 2 13/16″ 3⅛″	2¼″ 2½″ 2¾″ 3 3/16″	2¾″ 3⅛″ 3 7/16″ 3 13/16″	1¼ 2½ 3½ 4¼
F-311 **F-312**	Line to voice coil	500/250 500/250	15-8-4-2 50-25-16-8 4			CV-2 BV-2	2⅜″ 2½″	 2¼″	2⅞″ 3⅛″	2″ 3¼″	2⅜″ 3 13/16″	1¼ 4¼
F-313	Line to multiple speakers (auto-transformer)	500	250/166 125/100/84		70	BV-2	2½″	2¼″	3⅛″	3¼″	3 13/16″	4¼

PRICES ON REQUEST

FREED TRANSFORMER CO., INC.

OUTPUT TRANSFORMERS

H. O. T. Series



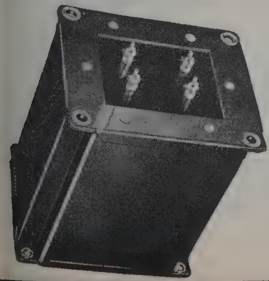
PS-1

Designed for delivering the maximum audio frequency power from an amplifier to a load (voice coil or line). Good frequency response and low harmonic distortion are the quality factors of the H.O.T. output transformers. Fully enclosed shielded type with leads. All H.O.T. series transformers have multiple secondary impedances.

HEAVY OUTPUT TRANSFORMERS

Freed No.	Application or Tube Type	Class	Ohms Impedance		Pri. Ma. Per Side	Max. Wat.	Inv. Feed-back %	Mtg. Type	Mounting Centers		Dimensions			Wt. Lbs	Prices on Request
			Pri.	Sec.					W	D	W	D	H		
F-110	1-6A3, 2A3, 6Y6, 6L6	A	2,500	2-4-8-500	80	8		PS-1	2	1$\frac{11}{16}$	2⅝	2½	3⅛	2½	
F-111	1-6L6	A	4,000	2-4-8-500	70	10		PS-1	2	1$\frac{11}{16}$	2⅝	2½	3⅛	2½	
F-112	1-6V6, 1-7C5	A	5,000	2-4-8-500	50	6		PS-1	1¾	1½	2$\frac{3}{16}$	2⅜	2$\frac{11}{16}$	1¾	
F-113	1-6F6, 42, 2A5, 47 6N6, 6B5	A	7,000	2-4-8-500	40	5		PS-1	1¾	1½	2$\frac{3}{16}$	2⅜	2$\frac{11}{16}$	1¾	
F-114	2-6V6-7C5 PP	AB$_1$	8,000	2-4-8-250-500	50	15	10	PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	
F-115	2-2A3-PP 6A3 PP 6B4G PP 45 PP 2-6L6 PP 6Y6 PP	AB A	5,000	2-4-8-250-500	80	20		PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	
F-116	2-6L6 PP	AB$_1$	6,600	2-4-8-250-500	80	30	10	PS-1	2½	2$\frac{3}{16}$	3¼	3½	3⅞	5	
F-117	2-6L6 PP	AB$_1$	3,800	2-4-8-250-500	80	20	10	PS-1	2½	2$\frac{3}{16}$	3¼	3½	3⅞	5	
F-118	2-6L6 PP	AB$_1$	9,000	2-4-8-250-500	60	30	10	PS-1	2½	2$\frac{3}{16}$	3¼	3½	3⅞	5	
F-119	2-6L6 PP	AB$_2$	6,000	4-8-16-250-500	80	40	10	PS-1	2½	2$\frac{3}{16}$	3¼	3½	3⅞	5	
F-120	2-6L6 PP	AB$_2$	3,800	4-8-16-250-500	110	50	10	PS-1	2½	2$\frac{3}{16}$	3¼	3¾	3⅞	5½	
F-121	4-6L6 PP Par.	AB$_1$	3,300	4-8-16-250-500	160	60	10	PS-1	2½	2$\frac{3}{16}$	3¼	3¾	3⅞	5½	
F-122	4-6L6 PP Par.	AB$_1$	3,300	50-125-200-250 333-500	160	60		PS-1	2½	2$\frac{3}{16}$	3¼	3¾	3⅞	5½	
F-123	4-6L6 PP Par.	AB$_2$	1,900	84-100-125-166 250-500	220	100	10	PS-1	3	3$\frac{13}{16}$	3⅞	5	4⅝	13½	
F-124	2-6F6-42-2A5 PP 1-6N7, 6A6, 53 PP 2-6N6, 6B5, 2B6, 6AC5	AB$_2$ B A	10,000	4-8-15-500	45	20		PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	
F-125	2-2A3, 6A3, 6B4G 2-48, 25L6	AB A	3,000	4-8-15-500	60	20		PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	
F-126	4-2A3, 6A3, 6B4G, 45 PP Par.	AB	1,500	4-8-15-500	80	40		PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	
F-127	2-45, 43, 25 A6 PP 1-6N7, 6A6, 53 PP	A B	8,000	4-8-15-500	36	15		PS-1	2	1$\frac{11}{16}$	2⅝	2½	3⅛	2½	
F-128	1-12A6-6K6-7B5	A	7,500	4-8-15-500	40	5		PS-1	1¾	1$\frac{11}{16}$	2$\frac{3}{16}$	2⅜	2$\frac{11}{16}$	1¾	
F-129	2-12A6-6K6-7B5	A	12,000	4-8-15-500	40	15	10	PS-1	2	1$\frac{11}{16}$	2⅝	2½	3⅛	2½	
F-130	2-807 PP	AB$_2$	4,200	50-125-200-250 333-500	120	75		PS-1	3	3$\frac{13}{16}$	3⅞	5	4⅝	13½	
F-131	2-50 PP 2-6F6, 42, 2A5 PP	A AB$_2$	8,000	4-8-15-500	55	30		PS-1	2¼	2	2$\frac{15}{16}$	3¼	3½	3½	

The 500 ohms secondary is designed in such a way that it can be used with a 600 ohm line.



FREED BAND PASS FILTER

This unit is designed for use in communication equipment to transmit speech frequencies only. The highly selective property of the filter makes possible the increase of power in the frequency band necessary for special communication work and eliminates undesirable frequency components in the high and low end of the audio spectrum.

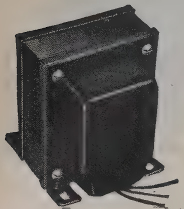
THE FILTER HAS THE FOLLOWING CHARACTERISTICS:

10,000 ohms or 8000 ohms impedance
Low frequency cut-off at 300 cps
High frequency cut-off at 3000 cps
2.5 DB attenuation at the cut-off frequencies

1.5 DB Insertion Loss
40 DB attenuation at 100 cps
Working Level — 0 DB
Maximum Level — ±10 DB.

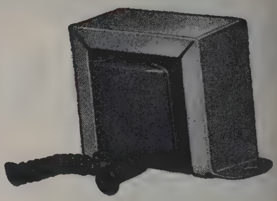
40 DB attenuation at 50% of the high frequency cut-off.

FREED TRANSFORMER CO., INC.


PS- 1

AUDIO TRANSFORMERS

Receiver and Amplifier


CH-1

RECEIVER AUDIO TRANSFORMERS

Designed for use in receiver audio circuits where a reasonably good frequency response is required. To be used for Class A applications, i.e., where no great current is drawn.

Freed No.	Classification	Application	Ohms Impedance Pr.	Ohms Impedance Sec.	Turns Ratio	Pri MA Per Side	Mtg. Type	Mtg. Centers W	Dimensions W	Dimensions D	Dimensions H	Wgt. Lbs.	Price on Request
F-550	Input	DB mike to grid	200/50	100,000	1:22.4		CH-1	2 13/16	3¼	2	2	1¼	
F-551	Input	SB mike to grid	100	100,000	1:31.6	100	CH-1	2 13/16	3¼	2	2	1¼	
F-552	Input	Dyn. mike line or mixer to single or P.P. grid	200/50	100,000 CT	1:22.4		CH-1	2 13/16	3¼	2	2	1¼	
F-553	Input	Line to single or P.P. class A grids	125/500	100,000 CT	1:14.1		CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	
F-554	Input	Plate and single button mike to grid	10,000 100	100,000 100,000	1:3.16 1:31.6		CH-1	2 13/16	3¼	2	2	1¼	
F-555	Input	Voice coil to grid	4/8	100,000	1:112		CH-1	2 13/16	3¼	2¼	2	1½	
F-556	Matching	DB mike to line	200/50	500/125			CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	
F-557	Matching	High impedance mike to line or mixer	100,000	200/50	1:22.4	8	CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	
F-558	Interstage	Single plate to single grid	10,000	90,000	1:3	8	CH-1	2 13/16	3¼	2	2	1¼	
F-559	Interstage	Single plate to P.P. grids	10,000	90,000 CT	1:3	2	CH-1	2 13/16	3¼	2	2	1¼	
F-560	Interstage	Single High Imp. plate to single grid	50,000	50,000	1:1		CH-1	2 13/16	3¼	2	2	1¼	
F-561	Interstage	P.P. plates to P.P. grids	20,000 CT	20,000 CT	1:1	8	CH-1	2 13/16	3¼	2	2	1¼	
F-562	Output	Single plate to line or mixer	10,000	200/50	7.1:1	8	CH-1	2 13/16	3¼	2	2	1¼	
F-563	Output	Single plate to line	10,000	500/125	4.8:1		CH-1	2 13/16	3¼	2	2	1¼	
F-564	Output	P.P. plates to line or mixer	20,000	200/50	10:1		CH-1	2 13/16	3¼	2	2	1¼	
F-565	Output	P.P. plates to line	20,000	500/125	6.32:1		CH-1	2 13/16	3¼	2	2	1¼	

AMPLIFIER AUDIO TRANSFORMERS

Designed for amplifier and transmitter audio circuits. To be used for Class "A" applications.

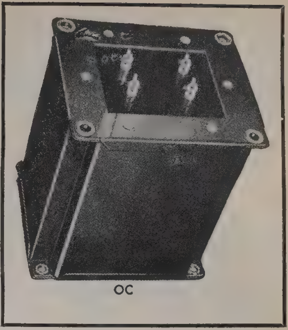
Fully enclosed shielded type construction, conservative design and good frequency response are the quality features of the amplifier audio transformers.

F-500	Input	DB mike to grid	200/50	100,000	1:22.4		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-501	Input	SB mike to grid	100	100,000	1:31.6	100	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-502	Input	Dyn. mike line or mixer to single or P.P. grids	200/50	100,000 CT	1:22.4		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-503	Input	Line to single or P.P. class A grids	150/600	100,000 CT	1:12.9		PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛
F-504	Input	Plate and single button mike to grid	10,000 100	100,000 100,000	1:3.16 1:31.6		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-505	Input	Voice coil to grid	4/8	100,000	1:112		PS-I	1½	1 11/16	1⅞	2½	2 11/32	1¾
F-506	Matching	DB mike to line	200/50	500/125			PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛
F-507	Matching	High Impedance mike to line or mixer	100,000	200/50	1:224		PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛
F-508	Interstage	Single plate to single grid	10,000	90,000	1:3	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-509	Interstage*	Single plate to PP grid	10,000	90,000	1:3	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-510	Interstage	Single High Imp. plate to single grid	50,000	50,000	1:1	2	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-511	Interstage*	PP plate to PP grids	20,000 CT	20,000 CT	1:1		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-512	Output	Single plate to line or mixer	10,000	200/50	7.1:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-513	Output	Single plate to line	10,000	500/125	4.8:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-514	Output	PP plate to line or mixer	20,000 CT	200/50	10:1		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜
F-515	Output	P.P. plates to line	20,000 CT	500/125	6.32:1		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜

AUDIO TRANSFORMERS

C Series

FREED TRANSFORMER CO., INC.

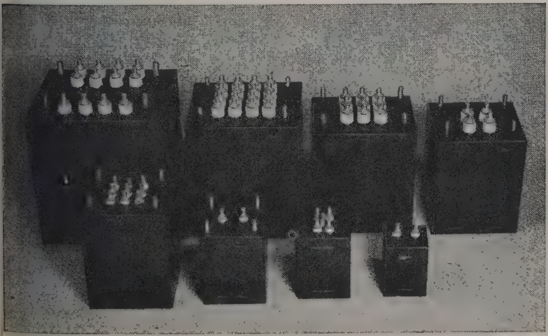

OC

A quality line of transformers used in Public Address amplifiers and transmitters. Uniform case design, universal mounting, conservative ratings, vacuum impregnation of coils and moisture proof sealing of all these transformers is one of the outstanding features of the C Series Audio Transformers.

Low level input and output transformers have a balanced hum bucking coil construction. The frequency response of all these units is flat within ± 2 db from 60 to 10,000 cps.

Freed No.	Classification	Application	Ohms Impedance Pr.	Ohms Impedance Sec.	Turns Ratio	Pri MA Per Side	Mtg. Type	Mtg. Centers W	Mtg. Centers D	Dimensions W	Dimensions D	Dimensions H	Wgt. Lbs.	Prices on Request
F-150	Input	Microphone, line or mixer to grid	500*/333 250/200* 125/50	60,000 or 15,000	1:11		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-151	Input	Microphone, line or mixer to P.P. grids	500*/333 250/200* 125/50	120,000 CT	1:22		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-152	Input	Dynamic mike to grid	60/38 30/22 15/10 5.5/2.5	60,000 or 15,000	1:31.6		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-153	Input	Microphone, line or mixer to grid; magnetic shielding	500*/333 250/200* 125/50	50,000	1:10		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-154	Matching	Microphone, mixer or line to low impedance line	500*/333 250/200* 125/50	500*/333 250/200* 125/50	1:1		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-155	Matching	Dynamic mike or mixer to low impedance line	60/38 30/22 15/10 5.5/2.5	500*/333 250/200* 125/50	1:2.9		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-156	Output	Single plate to line or mixer	10,000 to 15,000	500*/333 250/200* 125/50		8	OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-157	Output	Single plate to line or mixer; magnetic shielding	10,000 or 15,000	500*/333 250/200* 125/50			OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	
F-158	Output	P.P. plates to line or mixer	20,000 CT	500*/333 250/200* 125/50		8	OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	

*Indicates balanced C.T.



HERMETICALLY SEALED UNITS AVAILABLE

Made to customer's specifications where temperature and humidity are factors. For performance under most adverse conditions.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

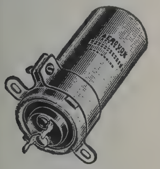
AEROVOX Electrolytic Capacitors

IF IT'S "MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

UPRIGHT OR INVERTED MOUNTING CAPACITORS

TYPE E

These units are widely used in highest-quality radio, communications, electronic and similar types of apparatus. Type E capacitors are hermetically-sealed. Ring-type clamp provides rigid and convenient method of mounting unit inverted or upright, beneath, on, or through mounting surface. Available with single or multiple elements. Single unit has two terminals, dual unit has three terminals, and triple unit has four terminals. Cathode connection is made through one terminal in cover.



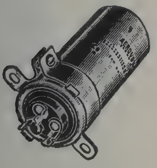
TYPE E
Single Section
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type E475—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.89	$1.13

525v Surge Pk.—450v D.C. Work.
Type E450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.32	$0.79
8	1⅜ x 2¼	1.64	.98
10	1⅜ x 2¼	1.89	1.13
12	1⅜ x 2¼	2.15	1.29
16	1⅜ x 2¼	2.40	1.44
20	1⅜ x 2¼	2.65	1.59
30	1⅜ x 2¼	2.84	1.70
40	1⅜ x 2¾	3.60	2.16
80	1⅜ x 4¼	6.14	3.68



TYPE E
Dual Element
(3 terminals)

Type E450—Dual Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 2¼	$2.46	$1.47
8-16	1⅜ x 2¼	3.03	1.81
10-10	1⅜ x 2¼	2.97	1.78
12-12	1⅜ x 2¼	3.03	1.81
16-16	1⅜ x 2¾	3.54	2.12
20-20	1⅜ x 2¾	4.17	2.50

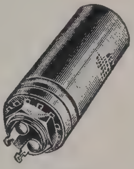
Type E450—Triple Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1⅜ x 2¼	$3.67	$2.20
10-10-10	1⅜ x 2¼	4.05	2.43

INSULATED SCREW-MOUNTING CAPACITORS

TYPE G

These capacitors are highest quality hermetically-sealed aluminum can units, used in all quality electronic, radio and communications equipment. Constructed with threaded cover, provided with lock washer and hexagonal nut to provide simple means of mounting capacitor through hole in mounting surface. The capacitor may also be insulated from chassis by use of an insulating washer. Terminals are molded in cover. Single element units have two terminals; dual-element units have three terminals. Cathode connection is made through one terminal in the cover.



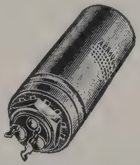
TYPE G
Single Element
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type G475—Single Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.89	$1.13
8	1⅜ x 2¼	2.27	1.36

525v Surge Pk.—450v D.C. Work.
Type G450—Single Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.32	$0.79
8	1⅜ x 2¼	1.64	.98
10	1⅜ x 2¼	1.89	1.13
12	1⅜ x 2¼	2.15	1.29
16	1⅜ x 2¼	2.40	1.44
20	1⅜ x 2¼	2.65	1.59
30	1⅜ x 2¼	3.03	1.81
40	1⅜ x 2¾	3.48	2.08
80	1⅜ x 4¼	6.14	3.68



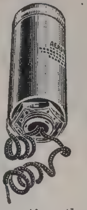
TYPE G
Dual Element
(3 terminals)

Type G450—Dual Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 2¼	$2.46	$1.47
8-16	1⅜ x 2¼	3.03	1.81
10-10	1⅜ x 2¼	2.97	1.78
12-12	1⅜ x 2¼	3.03	1.81
16-16	1⅜ x 2¾	3.54	2.12
20-20	1⅜ x 2¾	4.17	2.50

SCREW-MOUNTING WIRE-LEAD CAPACITORS

TYPE GL



These inverted mounting, aluminum can capacitors are made in single, double and triple section units with two separate color-coded leads 3½" long brought out from each section. The threaded neck and palnut provide a simple means of mounting the unit through a hole in the mounting surface.

800v Surge Pk.—600v D.C. Work.
Type GL600—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.84	$1.70
8	1⅜ x 4½	3.98	2.38
16	1⅜ x 4½	5.31	3.18

600v Surge Pk.—475v D.C. Work.
Type GL475—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8	1⅜ x 3	$2.27	$1.36
12	1⅜ x 3	3.16	1.89
16	1⅜ x 3	3.54	2.12

Type GL475—Double Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$3.67	$2.20

525v Surge Pk.—450v D.C. Work.
Type GL450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 3	$1.32	$0.79
8	1⅜ x 3	1.64	.98
10	1⅜ x 3	1.89	1.13
12	1⅜ x 3	2.15	1.29
16	1⅜ x 3	2.40	1.44
20	1⅜ x 3	2.65	1.59
30	1⅜ x 3	3.03	1.81
40	1⅜ x 3	3.48	2.08
80	1⅜ x 4	6.14	3.68

Type GL450—Double Section

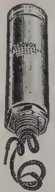
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$2.46	$1.47
8-16	1⅜ x 4	3.03	1.81
10-10	1⅜ x 4	2.97	1.78
12-12	1⅜ x 4	3.03	1.81
16-16	1½ x 4	3.54	2.12
20-20	1½ x 4	4.17	2.50

Type GL450—Triple Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1½ x 4	$3.54	$2.12
10-10-10	1½ x 4	4.05	2.43

MIDGET Screw-Mounting WIRE-LEAD CAPACITORS

TYPE GLS



Colored polarity-indicating flexible leads. Inverted screw-mounting. Two 3½-inch leads for each section. 1-inch diameter can and short length make for more compact assemblies, while retaining generous proportions for hard service. Otherwise, similar to Type GL.

525v Surge Pk.—450v D.C. Work.
Type GLS450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1 x 2 3/16	$1.32	$0.79
8	1 x 2 11/16	1.64	.98
12	1 x 3¼	2.15	1.29
16	1 x 3¼	2.40	1.44

Type GLS450—Double Section

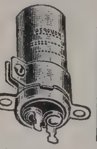
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 3	$2.46	$1.47

300v Surge Pk.—250v D.C. Work.
Type GLS250—Single Section

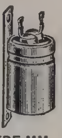
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1 x 2 3/16	$1.13	$0.67
8	1 x 2 11/16	1.45	.87
12	1 x 2 11/16	1.70	1.02
16	1 x 3¼	2.08	1.24

ULTRA-COMPACT BYPASS CAPACITORS

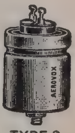
TYPES E, MM, S



TYPE E
Ring-Mounting



TYPE MM
Strap-Mounting



TYPE S
Stud-Mounting

A choice of three aluminum can capacitors especially suitable as bypass or filter units. All are 1" in diameter, hermetically-sealed, easily mounted. Units have two terminals; one positive, and other is cathode connection—both made through cover.

Type E has ring-type clamp providing rigid and convenient method of mounting unit inverted or upright, beneath, on, or through mounting surface. Type MM has an aluminum mounting strap riveted to side of can. Strap has hole in each end permitting unit to be securely mounted parallel to mounting surface. Type S has screw-stud and nut providing simple means of mounting through a small hole in the mounting surface. This mounting is integral with the bottom of the container.

Type E50—Single Section
Type MM50—Single Section
Type S50—Single Section
75v Surge Pk.—50v D.C. Work.

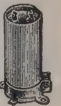
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
10	1 x 1¾	$1.13	$0.67
25	1 x 1¾	1.39	.83

Type E25—Single Section
Type MM25—Single Section
Type S25—Single Section
40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
10	1 x 1¾	$0.94	$0.56
25	1 x 1¾	1.13	.67

HIGH-CAPACITY LOW-VOLTAGE CAPACITORS

TYPE HCLV



These high-capacity low-voltage units are used in electric fence control and other applications requiring very high capacitance values at very low voltages. These capacitors are supplied with an outer insulating tube and mounting ring. Sizes given below are over the outside tube.

Type HCLV12—12v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1 7/16 x 3	$2.77	$1.36
1000	1 7/16 x 3½	3.79	2.27
2000	1 7/16 x 4½	4.93	2.95
4000	2 1/16 x 4½	8.35	5.01

Type HCLV18—18v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1 7/16 x 3	$3.03	$1.81
1000	1 7/16 x 4½	4.55	2.73
2000	1 7/16 x 4½	6.07	3.64
4000	2 9/16 x 4½	13.67	8.20

Type HCLV25—25v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1 7/16 x 3	$3.41	$2.04
1000	1 7/16 x 4½	5.31	3.18
2000	2 1/16 x 3½	9.11	5.46
4000	2 9/16 x 4½	18.99	11.39

Type HCLV50—50v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1000	2 1/16 x 4½	$9.11	$5.46
2000	2 9/16 x 4½	18.99	11.39

AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

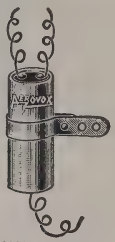
DANDEES

Minature Tubular Aluminum Can

DRY ELECTROLYTICS

TYPE PRS

SINGLE-SECTION
Two Leads



DUAL-ELEMENT
Three Leads

Tightly sealed aluminum-can dry electrolytics for use where money- and space-saving considerations are paramount. Smallest proportions consistent with full-rated capacity and voltage, operating under normal-duty conditions.

Excellent for crowded assemblies. DANDEES are favorites for use in midget sets, AC-DC sets, auto-radios, etc. Also many servicing jobs where low cost is important.

Electrically insulated with special waxed paper jacket. Ends spun over can rim, eliminating possibility of shorts if leads are bent close to unit. Generous length tinned wire leads. DANDEES are thoroughly aged, ready for immediate use. Each unit is thoroughly tested. Individually packed with guarantee slip. Dual-element units have three leads (common negative).

SINGLE-SECTION UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	$\frac{13}{16}$ x 1¾	$0.88	$0.52
8	$\frac{15}{16}$ x 1¾	.94	.56
10	$\frac{15}{16}$ x 1¾	1.07	.64
12	$\frac{15}{16}$ x 1¾	1.13	.67
16	$\frac{15}{16}$ x 2¼	1.39	.83
20	1$\frac{1}{16}$ x 2¼	1.51	.90
30	1$\frac{1}{16}$ x 2¼	1.83	1.09
40	*1$\frac{1}{16}$ x 3¼	2.21	1.32

Type PRS 350
400v Surge Pk.—350v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	$\frac{11}{16}$ x 1¾	$0.75	$0.45
8	$\frac{13}{16}$ x 1¾	.88	.52
12	$\frac{13}{16}$ x 2¼	1.07	.64
16	$\frac{13}{16}$ x 2¼	1.26	.75
24	$\frac{15}{16}$ x 2¼	1.39	.83

Type PRS 250
300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	$\frac{11}{16}$ x 1¾	$0.69	$0.41
8	$\frac{11}{16}$ x 1¾	.75	.45
12	$\frac{13}{16}$ x 1¾	1.01	.60
16	$\frac{13}{16}$ x 2¼	1.13	.67
20	$\frac{13}{16}$ x 2¼	1.26	.75

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	$\frac{11}{16}$ x 1¾	$0.63	$0.37
8	$\frac{11}{16}$ x 1¾	.69	.41
12	$\frac{11}{16}$ x 1¾	.75	.45
16	$\frac{11}{16}$ x 1¾	.88	.52
20	$\frac{13}{16}$ x 1¾	.94	.56
24	$\frac{13}{16}$ x 1¾	.94	.56
30	$\frac{13}{16}$ x 1¾	1.01	.60
40	$\frac{13}{16}$ x 2¼	1.07	.64
50	$\frac{15}{16}$ x 2¼	1.39	.83

Type PRS 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	$\frac{11}{16}$ x 1¾	$0.69	$0.41
25	$\frac{11}{16}$ x 1¾	.88	.52
50	$\frac{13}{16}$ x 1¾	1.07	.64
100	$\frac{15}{16}$ x 1¾	1.51	.90

Type PRS 25
40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	$\frac{11}{16}$ x 1½	$0.63	$0.37
25	$\frac{11}{16}$ x 1¾	.75	.45
50	$\frac{13}{16}$ x 1¾	.94	.56
100	$\frac{15}{16}$ x 1¾	1.39	.83

*Two leads at one end. Supplied with mounting bracket.

DUAL-ELEMENT UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1$\frac{1}{16}$ x 2¼	$1.64	$0.98
8-16	1$\frac{1}{16}$ x 2¼	2.02	1.21
10-10	1$\frac{1}{16}$ x 2¼	1.77	1.06

Type PRS 200
250v Surge Pk.—200v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1$\frac{1}{16}$ x 1¾	$1.45	$0.87
8-16	1$\frac{1}{16}$ x 1¾	1.51	.90
16-16	1$\frac{1}{16}$ x 1¾	1.77	1.06

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1$\frac{1}{16}$ x 1¾	$1.26	$0.75
8-16	1$\frac{1}{16}$ x 1¾	1.32	.79
20-20	1$\frac{1}{16}$ x 1¾	1.64	.98
40-40	1$\frac{1}{16}$ x 2¼	1.89	1.13

Type PRS 50
75v Surge Pk.—50v D C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	1$\frac{1}{16}$ x 1¾	$1.26	$0.75

Type PRS 25
40v. Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	1$\frac{1}{16}$ x 1¾	$1.07	.64

TWIST-PRONG BASE CAPACITORS

TYPE AF

These capacitors are tightly sealed round aluminum can units. They are mounted by means of prongs which extend through the mounting surface and are twisted to hold the unit in place. These are high-quality units especially suitable in compact assemblies where space is limited. All connections, except the cathode, are made through terminals in the cover. The cathode is connected to the container. Base prongs slip into fibre or metal elliptic washer that is riveted or eyeletted on chassis, and are bent over. Fibre washer provides insulated can; metal elliptic washer, grounded can. **Metal or fibre washer supplied at 5c each net.** The terminal lugs slip through holes in washers for soldered connections.

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF2J	10x450	1x2	$1.13	$0.67
AF3J	15x450	1x2	1.51	.90
AF4J	20x450	1x2	1.70	1.02
AF6J	30x450	1x2½	2.08	1.24
AF8J	40x450	1x3	2.46	1.47
AF22J	10-10x450	1x2	1.83	1.09
AF44J	20-20x450	1x3	2.53	1.51
AF222J	10-10-10x450	1x3	2.40	1.44
AF444J	20-20-20x450	1⅜x2½	3.03	1.81
AF2222J	10-10-10-10x450	1⅜x2	2.91	1.74
AF4444J	20-20-20-20x450	1⅜x3	4.17	2.50
AF16H	80x400	1⅜x2½	3.73	2.23
AF3G	15x300	1x2	1.26	.75
AF4F	20x250	1x2	1.32	.79
AF22F	10-10x250	1x2	1.64	.98
AF44F	20-20x250	1x2	1.70	1.02
AF5D	25x150	1x2	1.07	.64
AF6D	30x150	1x2	1.32	.79
AF8D	40x150	1x2	1.39	.83
AF44D	20-20x150	1x2	1.51	.90
AF66D	30-30x150	1x2	1.70	1.02
AF88D	40-40x150	1x2½	1.89	1.13
AF1010D	50-50x150	1x2½	2.02	1.21
AF444D	20-20-20x150	1x2	1.83	1.09
AF844D	40-20-20x150	1x2½	2.08	1.24
AF888D	40-40-40x150	1⅜x2	2.40	1.44
AF5A	25x25	1x2	1.13	.67
AF22J4A	10-10x450+20x25	1x2½	2.02	1.21
AF44J4A	20-20x450+20x25	1⅜x2	2.78	1.66
AF444J4A	20-20-20x450+20x25	1⅜x2½	3.48	2.08
AF32K4A	15-10x350+20x25	1x2½	1.70	1.02
AF33F4A	15-15x250+20x25	1x2	1.70	1.02
AF44D4A	20-20x150+20x25	1x2	1.70	1.02
AF44D40A	20-20x150+200x25	1x3	2.72	1.63
AF64D4A	30-20x150+20x25	1x2	1.77	1.05
AF84D4A	40-20x150+20x25	1x3	1.83	1.09
AF84D20A	40-20x150+100x25	1x3	2.34	1.40
AF86D4A	40-30x150+20x25	1x2½	2.15	1.29
AF88D4A	40-40x150+20x25	1x2½	2.08	1.24
AF444D4A	20-20-20x150+20x25	1⅜x2	2.15	1.29
AF886D4A	40-40-30x150+20x25	1⅜x2	2.53	1.51

PLUG-IN ELECTROLYTIC CAPACITORS

TYPE AEP

Quick change dry electrolytics. Facilitate testing and replacement in equipment where continuity of service is important. Install merely by plugging into standard octal socket. Unit can be inserted **only the right way.** Key of octal base fits octal socket. Ultra-compact due to use of etched foil for higher capacities in the small can sizes. Aluminum internal construction. Non-corrosive due to use of similar metals throughout. Fully vented for safety.

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AEP2J	10x450	1$\frac{5}{32}$x2½	$1.89	$1.13
AEP3J	15x450	1$\frac{5}{32}$x2½	2.34	1.40
AEP4J	20x450	1$\frac{5}{32}$x2½	2.65	1.59
AEP6J	30x450	1$\frac{5}{32}$x2½	2.84	1.70
AEP8J	40x450	1$\frac{5}{32}$x2½	3.60	2.16
AEP16J	80x450	1⅜x3½	6.14	3.68
AEP22J	10-10x450	1$\frac{5}{32}$x2½	2.97	1.78
AEP44J	20-20x450	1⅜x2½	4.17	2.50
AEP222J	10-10-10x450	1$\frac{5}{32}$x2½	4.05	2.43
AEP4D	20x150	1$\frac{5}{32}$x2½	1.45	.87
AEP8D	40x150	1$\frac{5}{32}$x2½	2.02	1.21
AEP44D	20-20x150	1$\frac{5}{32}$x2½	2.21	1.32
AEP88D	40-40x150	1$\frac{5}{32}$x2½	3.10	1.86
AEP444D	20-20-20x150	1$\frac{5}{32}$x2½	3.29	1.97
AEP5A	25x25	1$\frac{5}{32}$x2½	1.07	.64
AEP22J4A	10-10x450+20x25	1$\frac{5}{32}$x2½	3.10	1.86
AEP44J4A	20-20-450+20x25	1⅜x2½	3.67	2.20
AEPG444J4A	20-20-20x450+20x25*	1⅜x3	4.55	2.73
AEP88D4A	40-40x150+20x25	1$\frac{5}{32}$x2½	3.73	2.23
AEPG444D4A	20-20-20x150+20x25*	1⅜x2½	3.92	2.35

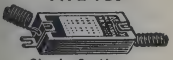
*Ground lug provided for cathode connection.

AEROVOX Electrolytic Capacitors

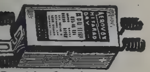
IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

SPACE-SAVER MIDGET CAPACITORS

TYPE PBS



Single Section



Double Section

Units encased in heavy cardboard ntainers, thoroughly impregnated d fully sealed. Two color-coded re leads for each section; four ds, double section; six leads, ple section. Units may be moun- flat or upright; also, two or ree units may be stacked by erlapping the metal flanges.

0v. Surge Pk.–600v. D.C. Work.

Type PBS600—Single Section

ap. ds.	Size-Ins. H.—W.—L.	List Price	Net Price
	1 7/16x1⅛x2 7/16	$2.65	$1.59
	1 7/16x1½x3⅛	3.73	2.23

25v. Surge Pk.–450v. D.C. Work.

Type PBS450—Single Section

	½x ¾x2 7/16	$1.01	$0.60
	9/16x1 x2 7/16	1.13	.67
	11/16x1⅛x2 7/16	1.39	.83
	11/16x1⅛x2 7/16	1.45	.87
	11/16x1⅛x3 3/16	1.77	1.06
	11/16x1⅛x3 3/16	2.02	1.21
	1 11/16x1⅛x2 7/16	2.21	1.32

Type PBS450—Double Section

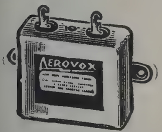
8	1 7/16x1⅛x2 7/16	$2.27	$1.36
16	1¼x1½x3	2.91	1.74

Type PBS450—Triple Section

8-8	1¼x1½x3	$3.35	$2.01

RAWN-CASE "BATHTUB" ELECTROLYTICS

TYPE BT



Ideal for applications in com- ct equipment where space is at emium, and rigid mounting is cessary. Sturdy immersion-proof nstruction.

Type BT 500—500v D.C.W.

p. d.	Size-Ins. L.—W.—H.	List Price	Net Price
2	x2 x1⅛	$4.93	$2.95
2	x2 x1⅛	5.38	3.22

Type BT 450—450v D.C.W.

	1¾x1¼x1⅛	$3.48	$2.08
	1¾x1¼x1⅛	3.67	2.20
	1¾x1¼x1⅛	3.98	2.38

Type BT 350—350v D.C.W.

	1¾x1 x 15/16	$2.97	$1.78
	1¾x1¼x1⅛	3.54	2.12
	1¾x1¼x1⅛	3.79	2.27
	1¾x1¼x1⅛	3.98	2.38

Type BT 150—150v D.C.W.

	1¾x1 x 15/16	$2.65	$1.59
	1¾x1 x 15/16	2.78	1.66
	1¾x1 x 15/16	3.03	1.81
	1¾x1 x 15/16	3.22	1.93
	1¾x1¼x1⅛	3.35	2.01
	1¾x1¼x1⅛	3.48	2.08

Type BT 50—50v D.C.W.

	1¾x1 x 15/16	$2.84	$1.70
	1¾x1 x 15/16	3.03	1.81
	1¾x1 x 15/16	3.41	2.04

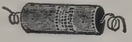
Type BT 25—25v D.C.W.

	1¾x1 x 15/16	$2.65	$1.59
	1¾x1 x 15/16	2.78	1.66
	1¾x1 x 15/16	3.22	1.93

TUBULAR CARDBOARD CONTAINER CAPACITORS

TYPES PRS-V, PRS-A, PRS-B

In wax-sealed cardboard tubes. **PRS-V** is single-section unit with bare wire leads. **PRS-A** is multiple-element, common-cathode concentrically-wound, with insulated positive leads at one end, and common negative at other. **PRS-B**, separate-section dual units with separate positive and negative leads for each section. **PRS-A** and **PRS-B** are supplied with riveted mounting straps.



TYPE PRS-V

Single Section Units

Type PRS-V 450

525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	⅝ x 2 3/16	$0.88	$0.52
8	¾ x 2 3/16	.94	.56
10	⅞ x 2 3/16	1.07	.64
12	⅞ x 2 3/16	1.13	.67
16	⅞ x 2¾	1.39	.83
20	15/16 x 2¾	1.51	.90
30	1 x 2¾	1.83	1.09
40	1⅛ x 2¾	2.21	1.32

Type PRS-V 350

400v Surge Pk.—350v D.C. Work.

4	9/16 x 2¾	$0.75	$0.45
8	¾ x 2 3/16	.88	.52
12	¾ x 2¾	1.07	.64
16	¾ x 2¾	1.26	.75
24	⅞ x 2¾	1.39	.83

Type PRS-V 250

300v Surge Pk.—250v D.C. Work.

4	9/16 x 2	$0.69	$0.41
8	⅝ x 2 3/16	.75	.45
12	¾ x 2 3/16	1.01	.60
16	11/16 x 2¾	1.13	.67
20	¾ x 2¾	1.26	.75

Type PRS-V 150

200v Surge Pk.—150v D.C. Work.

4	9/16 x 2	$0.63	$0.37
8	⅝ x 2 3/16	.69	.41
12	⅝ x 2 3/16	.75	.45
16	11/16 x 2 3/16	.88	.52
20	¾ x 2 3/16	.94	.56
24	¾ x 2 3/16	.94	.56
30	13/16 x 2 3/16	1.01	.60
40	¾ x 2¾	1.07	.64
50	13/16 x 2¾	1.39	.83

Type PRS-V 50

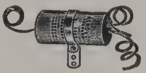
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	9/16 x 2 3/16	$0.69	$0.41
25	⅝ x 2 3/16	.88	.52
50	¾ x 2 3/16	1.07	.64
100	⅞ x 2 3/16	1.51	.90

Type PRS-V 25

40v Surge Pk.—25v D.C. Work.

10	9/16 x 2	$0.63	$0.37
25	⅝ x 2 3/16	.75	.45
50	11/16 x 2 3/16	.94	.56
100	13/16 x 2 3/16	1.39	.83



TYPE PRS-A

Multiple-Element Concentrically-Wound Units with 3 or 4 Leads (One Lead Common)

Type PRS-A 450

525v Surge Pk.—450v D.C. Work.

8-8	1 x 2⅝	$1.64	$0.98
8-16	1 x 2⅞	2.02	1.21
10-10	1 x 2⅞	1.77	1.06

Type PRS-A 200

250v Surge Pk.—200v D.C. Work.

8-8	¾ x 2⅝	$1.45	$0.87
8-16	13/16 x 2⅜	1.51	.90
16-16	⅞ x 2⅜	1.77	1.06

Type PRS-A 150

200v Surge Pk.—150v D.C. Work.

8-8	11/16 x 2⅜	$1.26	$0.75
8-16	¾ x 2⅜	1.32	.79
20-20	13/16 x 2½	1.64	.98
40-40	1 x 2⅞	1.89	1.13
50-30	1⅛ x 2½	1.89	1.13

Type PRS-A 50

75v Surge Pk.—50v D.C. Work.

10-10	⅝ x 2⅜	$1.26	$0.75

Type PRS-A 25

40v Surge Pk.—25v D.C. Work.

10-10	⅝ x 2⅜	$1.07	$0.64

Type	Cap. Mfd. xD.C.W.V.	Size D.xH.
PRS-A 302010	30-20x150 +100x25	1x2¾
List Price $2.53	Net Price $1.51	
PRS-A 503010	50-30x150 +100x25	1x3¼
List Price $2.84	Net Price $1.70	
PRS-A 40302	40-30x150 +20x25	1x2 11/16
List Price $2.53	Net Price $1.51	
PRS-A 50502	50-50x150 +20x25	1x3¼
List Price $2.96	Net Price $1.77	

TYPE PRS-B

Dual-Section Capacitors with 4 Leads (Separate Sections)

TYPE PRS-B 450

525v Surge Pk.—450v D.C. Work.

8-8	1 x 3	$2.08	$1.24
8-16	1⅛ x 3½	2.91	1.74

Type PRS-B 250

300v Surge Pk.—250v D.C. Work.

16-16	1 x 3	$2.53	$1.51

Type PRS-B 150

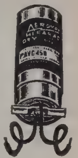
200v Surge Pk.—150v D.C. Work.

20-20	1 x 2½	$2.08	$1.24

METAL-CAN CLEAT-MOUNTING UNIVERSAL TYPES

TYPE PRVC

A Truly Universal or General-Purpose Electrolytic Replacement This is an exclusive Aerovox development. The new Type PRVC metal-can cleat-mounting electrolytic substitutes for upright or inverted capacitors requiring a mounting hole in the chassis. This handy PRVC unit readily doubles for twist - prong, spade-lug and screw-base electrolytics.



Type PRVC electrolytics have insulated positive and negative leads, color-coded for polarity. Dual and triple units have separate sections, with separate positive and negative leads for each section. Available heretofore in cardboard tube cases, this popular cleat-mounting electrolytic now has greater desirability due to the metal-can construction.

Type PRVC 600—Single Section 600v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.83	$1.98
8	1½ x 4	3.98	2.78
16	1⅜ x 4¾	5.30	3.71

Type PRVC 475—Single & Double 475v D.C. Working

8	1⅜ x 3	$2.27	$1.58
12	1⅜ x 3	3.16	2.21
16	1⅜ x 3	3.53	2.47
8-8	1⅜ x 4	3.66	2.56

Type PRVC 450—Single Section 450c D.C. Working

4	1⅜ x 3	$1.32	$0.92
8	1⅜ x 3	1.64	1.14
10	1⅜ x 3	1.89	1.32
12	1⅜ x 3	2.14	1.49
16	1⅜ x 3	2.40	1.68
20	1⅜ x 3	2.65	1.85
30	1⅜ x 3	3.03	2.12
40	1⅜ x 3	3.48	2.43
80	1⅜ x 4	6.13	4.29

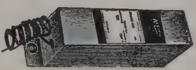
Type PRVC 450—Double Section

8-8	1⅜ x 4	$2.45	$1.71
8-16	1⅜ x 4	3.03	2.12
10-10	1⅜ x 4	2.96	2.07
12-12	1⅜ x 4	3.03	2.12
16-16	1½ x 4	3.53	2.47
20-20	1½ x 4	4.17	2.91

Type PRVC 450—Triple Section

8-8-8	1½ x 4	$3.53	$2.47
10-10-10	1½ x 4	4.04	2.82

PAPER-WOUND REPLACEMENTS FOR ELECTROLYTIC CAPACITORS



TYPE PWP

TYPE PWC

High-grade paper sections in standard inverted screw mounting aluminum can (PWC) or cardboard case (PWP) similar in appearance to electrolytics. Used as replacements for standard electrolytics indicated; applications subjected to high AC component or ripple particularly in first stage of filter circuit; or where excessive surges are encountered. No polarity to be observed. Actual capacity indicated in each case. Capacity is less than electrolytic being replaced but will be found adequate in most filter circuits since filtering capacity in electrolytics is more than generous. PWP has cardboard mounting flanges; PWC similar to the inverted dry electrolytic types.

800v. Surge Pk.–600v. D.C. Work.

Type PWC600—Single Section

Repl'g. Mfds.	Act. Mfds.	Size-Ins D. L.	List Price	Net Price
4	2	1⅜x4¼	$2.08	$1.24
8	2.75	1⅜x4¼	2.65	1.59

Type PWC600—Double Section

8-8	1.75-1.75	1½x4½	$4.30	$2.58

Type PWP600—Single Section

4	2	4⅛x1⅝x 15/16	$1.83	$1.09
8	3	4⅛x1⅝x1⅛	2.46	1.47

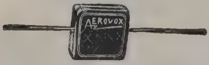
AEROVOX Mica Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"POSTAGE-STAMP" MOLDED-IN-BAKELITE MICA CAPACITORS

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.

Type 1467



Compact, size $\frac{25}{32}$ in. square, provided with wire leads. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.003	$0.50	$0.30
.00075	.25	.15	.004*	.55	.33
.001	.30	.18	.005*	.60	.36
.0015	.30	.18	.006*	.75	.45
.002	.40	.24	.008*	.80	.48
.0025	.45	.27	.01*	.90	.54

*600v D.C. Test—300v D.C. Working.

Type 1468

Midget size $\frac{45}{64}$" x $\frac{29}{64}$" x $\frac{3}{16}$" provided with wire leads. 1000 volts D.C. Test—500 volts D.C. Working.

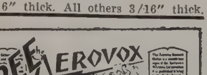
Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.000001	$0.20	$0.12	.00015	$0.20	$0.12
.000005	.20	.12	.0002	.20	.12
.00001	.20	.12	.00025	.25	.15
.000025	.20	.12	.0003	.25	.15
.00004	.20	.12	.00035	.25	.15
.00005	.20	.12	.0004	.25	.15
.000075	.20	.12	.0005	.25	.15
.0001	.20	.12	.00075	.25	.15
			.001	.30	.18

Type 1478

With wire leads. Size 1$\frac{1}{16}$" x $\frac{7}{16}$" x $\frac{3}{16}$". 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.0015	$0.30	$0.18
.00075	.25	.15	.002	.35	.21
.001	.30	.18			

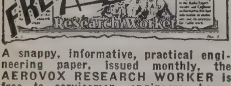
Type 1441W



With wire leads. Size 1" x ⅝". 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.003	$0.50	$0.30
.00075	.25	.15	.004	.55	.33
.001	.30	.18	.005	.60	.36
.0015	.30	.18	.006	.75	.45
.002	.40	.24	.008*	.80	.48
.0025	.45	.27	.01*	.90	.54

*5/16" thick. All others 3/16" thick.



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MOLDED-IN-BAKELITE MICA CAPACITORS

Type 1460

AEROVOX
MADE IN U.S.A.

Popular type molded-in-bakelite mica capacitor. Size 1⅝" x ⅝". Two soldering lug terminals. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	$0.20	$0.12	.00075	$0.25	$0.15
.00015	.20	.12	.001	.30	.18
.0002	.20	.12	.0015	.30	.18
.00025	.25	.15	.002	.40	.24
.0003	.25	.15	.0025	.45	.27
.00035	.25	.15	.003	.50	.30
.0004	.25	.15	.004*	.55	.33
.0005	.25	.15	.005*	.60	.36

*600v D.C. Test—300v D.C. Working; 9/32" thick, all others 17/64".

PORCELAIN-CASED MICA CAPACITORS

Types 1991-96

Ideal for those higher-frequency applications. Encased and hermetically-sealed in glazed porcelain case. Heavy-duty terminals. Power loss due to dielectric absorption reduced to a minimum. Units operate at full load without heating up. Dimensions: 3½" between mounting holes, 4" overall by 3" high.

Type 1991—2000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap Mfd.	List Price	Net Price
.02	$9.90	$5.94	.1	$13.20	$7.92

Type 1992—3500v. Max. D.C.

.001	$5.40	$3.24	.005	$9.00	$5.40
.0015	5.40	3.24	.01	12.00	7.20
.002	6.60	3.96	.02	12.00	7.20
.003	7.20	4.32	.05	13.80	8.28

Type 1993—5000v. Max. D.C.

.002	$7.20	$4.30	.005	$9.00	$5.40
.003	7.80	4.68	.01	12.60	7.56

Type 1994—7000v. Max. D.C.

.0005	$5.40	$3.24	.003	$8.40	$5.04
.001	6.00	3.60	.005	11.40	6.84
.0015	6.60	3.96	.01	12.60	7.56
.002	7.80	4.68			

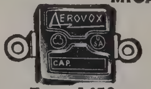
Type 1995—10000v. Max. D.C.

.002	$8.40	$5.04	.005	$12.00	$7.20
.003	10.80	6.48			

Type 1996—12500v. Max. D.C.

.00005	$6.60	$3.96	.001	$6.60	$3.96
.0001	6.60	3.96	.0015	7.80	4.68
.00025	6.60	3.96	.002	9.00	5.40
.0005	6.60	3.96	.003	12.60	7.56

HIGH-VOLTAGE MOLDED-IN-BAKELITE MICA CAPACTORS



Type 1450

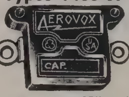
1000v D.C. Test–600v D.C. Work.

Intended for the more critical service of low-powered transmitting circuits, buffer stages, power amplifiers, and laboratory equipment, etc. Non-magnetic parts are used to reduce r.f. losses to minimum, and heavy terminals provide minimum r.f. and contact resistance. Intended for point-to-point wiring, being supported entirely by its soldered connections. 1¼" x 1¼". $\frac{5}{16}$" or ¾" thick (see below).

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00025	$0.45	$0.27	.005	$0.70	$0.42
.0003	.45	.27	.006	.80	.48
.00035	.45	.27	.008	.90	.54
.0004	.45	.27	.01	1.00	.60
.0005	.45	.27	.015*	1.35	.81
.001	.50	.30	.02*	1.45	.87
.0015	.55	.33	.025*	1.75	1.05
.002	.55	.33	.03*†	2.05	1.23
.0025	.60	.36	.04*†	2.65	1.59
.003	.70	.42	.05*†	3.30	1.98
.004	.70	.42			

*600v D.C. Test—300v D.C. Working.
†3/4" thick. All others 5/16".

Types 1455-57



Size 1¼" x 1$\frac{25}{32}$" x $\frac{11}{32}$"

Types 1455-57, have insulated mounting holes, independent of soldering lugs, for connections. 1½" spacing between mounting hole centers. If 1$\frac{1}{16}$" spacing is preferred specify Types 1445-47. Large meter-mounting brackets permitting use of this type of unit for shunting meter windings may be obtained at 45c added to list price. Specify by adding suffix (A) to type number. Small brackets are also available at 25c additional. Specify by suffix (E). Both brackets have universal slots for either mounting hole spacing.

Type 1455

1000v D.C. Test–600v D.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.60	$0.36	.0025	$0.80	$0.48
.0001	.60	.36	.003	.85	.51
.00015	.60	.36	.004	.85	.51
.0002	.60	.36	.005	.85	.51
.00025	.60	.36	.006	1.05	.63
.0003	.60	.36	.008	1.20	.72
.00035	.60	.36	.01	1.40	.84
.0004	.60	.36	.015	1.60	.96
.0005	.60	.36	.02	1.90	1.14
.001	.60	.36	.025	2.30	1.38
.0015	.60	.36	.03	2.55	1.53
.002	.70	.42			

Type 1456

2500v D.C. Test–1250v D.C. Work.

.00005	$0.85	$0.51	.0015	$1.40	$0.84
.0001	.85	.51	.002	1.65	.99
.00015	.85	.51	.0025	1.75	1.05
.0002	.85	.51	.003	1.85	1.11
.00025	.85	.51	.004	1.85	1.11
.0003	.85	.51	.005	2.10	1.26
.00035	.85	.51	.006	2.10	1.26
.0004	.85	.51	.008	2.70	1.62
.0005	.85	.51	.01	3.40	2.04
.001	1.10	.66			

Type 1457

5000v D.C. Test–2500v D.C. Work.

.00005	$1.10	$0.66	.0004	$1.45	$0.87
.000075	1.10	.66	.0005	1.50	.90
.0001	1.10	.66	.001	1.80	1.08
.00015	1.15	.69	.0015	2.35	1.41
.0002	1.25	.75	.002	2.70	1.62
.00025	1.30	.78	.0025	3.00	1.80
.0003	1.35	.81	.003	3.30	1.98
.00035	1.40	.84			

AEROVOX
PAT.
MADE IN U.S.A.

Types 1650-54

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Provided with threaded holes taking the roundhead screw terminals. Also available with plain holes through which screws or rods may be slipped. Same price as 1650 series, but specify 1650A, etc. when latter is desired. $\frac{7}{16}$" or ¾" thick (see * below). Types 1650, 1651 and 1652 are supplied in brown bakelite. Types 1653L and 1654L are supplied only in low-loss (yellow) XM Bakelite.

Type 1650

1000v D.C. Test–600v D.C. Work.
700v A.C. Test–350v A.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.75	$0.45	.004	$1.05	$0.6
.0001	.75	.45	.005	1.05	.6
.00025	.75	.45	.006	1.20	.7
.0003	.75	.45	.008	1.45	.8
.00035	.75	.45	.01	1.70	1.0
.0004	.75	.45	.015	1.95	1.1
.0005	.75	.45	.02	2.25	1.3
.001	.75	.45	.025	2.75	1.6
.0015	.80	.48	.03	3.00	1.8
.002	.80	.48	.04*	3.90	2.3
.0025	.90	.54	.05*	4.65	2.7
.003	1.05	.63	.06*	5.40	3.2

Type 1651

2500v D.C. Test–1250v D.C. Work
1750v A.C. Test–875v A.C. Work

.00005	$0.85	$0.51	.003	$1.90	$1.1
.0001	.85	.51	.004	1.90	1.1
.00025	.85	.51	.005	2.10	1.2
.0003	.85	.51	.006	2.10	1.2
.00035	.85	.51	.008	2.70	1.6
.0004	.85	.51	.01	3.40	2.0
.0005	.85	.51	.015	4.05	2.4
.001	1.10	.66	.02*	4.75	2.8
.0015	1.40	.84	.025*	5.30	3.1
.002	1.65	.99	.03*	5.55	3.3
.0025	1.75	1.05			

Type 1652

5000v D.C. Test–2500v D.C. Work
3500v A.C. Test–1750v A.C. Work

.00005	$1.10	$0.66	.001	$1.80	$1.0
.000075	1.10	.66	.0015	2.30	1.3
.0001	1.10	.66	.002	2.70	1.6
.00015	1.15	.69	.0025	3.00	1.8
.0002	1.20	.72	.003	3.30	1.9
.00025	1.30	.78	.004	3.80	2.2
.0003	1.35	.81	.005	4.10	2.4
.00035	1.40	.84	.006	4.20	2.5
.0004	1.45	.87	.008*	4.60	2.7
.0005	1.50	.90	.01*	4.95	2.9

Type 1653L

7500v D.C. Test–3750v D.C. Work
5250v A.C. Test–2625v A.C. Work

.00005	$2.30	$1.38	.0004	$4.10	$2.4
.000075	2.50	1.50	.0005	4.50	2.7
.0001	2.65	1.59	.001	5.35	3.2
.00015	2.85	1.71	.0015	7.05	4.2
.0002	3.00	1.80	.002	8.00	4.8
.00025	3.30	1.98	.0025	8.95	5.3
.0003	3.40	2.04	.003*	9.90	5.9
.00035	4.00	2.40			

Type 1654L

10000v D.C. Test–5000v D.C. Work
7000v A.C. Test–3500v A.C. Work

.00005	$2.60	$1.56	.0003	$4.95	$2.9
.000075	2.85	1.71	.00035	5.20	3.1
.0001	3.20	1.92	.0004	5.35	3.2
.00015	3.50	2.10	.0005	6.90	4.1
.0002	4.35	2.61	.001*	8.70	5.2
.00025	4.75	2.85			

*3/4" thick. All others 7/16".

Mica Capacitors

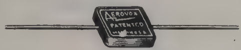
IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

SILVERED MICA CAPACITORS

For most critical applications ere precise capacity values must attained and maintained, AERO-X silvered mica units are genery available. Encased in red mold-XM bakelite. Similar in external pearance to standard bakelite lded mica units.

Unique construction. Only plus 22 per degree F.—a remarkably temperature coefficient. Excelt retrace characteristics. Pracally no capacity drift with time. ceptionally high "Q". Mechanlly protected against physical nage and changes in electrical racteristics due to varying atspheric conditions. Wax impregted externally. Ideal for use in cuits where inductance and caity product must remain connt under all operating condins. Specifically designed for use push-button tuning, oscillator lding circuits, fixed tuned cirts, and as capacitance stands, etc., where accuracy and bility are of prime importance.

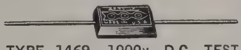
Standard tolerance ±5%. For 0% deduct 10% from price. r ±10% deduct 5%. For ±3% 1 10%. For ±2% add 15%. For % add 25%.



TYPE 1464—1000v. D.C. TEST

Size $\frac{25}{32}$ in. square. Provided with wire leads. *600v. D.C. test.

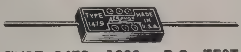
Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00075	$1.20	$0.72	.002	$1.80	$1.08
.0008	1.20	.72	.0025	2.40	1.44
.0009	1.35	.81	.003*	2.70	1.62
.001	1.50	.90	.004*	2.85	1.71
.0015	1.80	1.08	.005*	3.00	1.80



TYPE 1469—1000v. D.C. TEST

Size $\frac{45}{64}$" x $\frac{29}{64}$". Provided with wire leads.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.000005	$0.60	$0.36	.00015	$0.60	$0.36
.00001	.50	.30	.0002	.60	.36
.000025	.50	.30	.00025	.60	.36
.00004	.50	.30	.0003	.90	.54
.00005	.50	.30	.00035	.90	.54
.00007	.50	.30	.0004	.90	.54
.000075	.50	.30	.0005	.90	.54
.0001	.50	.30			



TYPE 1479—1000v. D.C. TEST

Size $1\frac{1}{16}$" x $\frac{7}{16}$". Provided with wire leads.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	$0.50	$0.30	.0005	$0.90	$0.54
.00015	.60	.36	.0007	1.20	.72
.0002	.60	.36	.00075	1.20	.72
.00025	.60	.36	.0008	1.20	.72
.0003	.90	.54	.0009	1.35	.81
.00035	.90	.54	.001	1.50	.90
.0004	.90	.54			

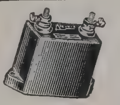
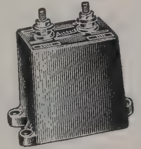
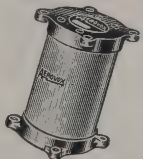
Commercial Grade
MICA TRANSMITTING CAPACITORS

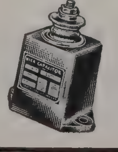
The self-same extra-heavy-duty cacitors Aerovox is supplying on high iority to the Army and Navy, to comercial communication companies and oadcasters, and to builders of quality dio and electronic equipment, will jain be available to amateurs and perimenters as soon as war restrictions e removed.

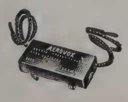
With these capacitors Aerovox is conbuting its share towards narrowing still ore the small remaining gap between ofessional and amateur radio practices.

Due to the normally limited demand r these extra-heavy-duty mica capacirs, as well as the considerable number capacitance and voltage ratings in hich they are made, this line is made special order. However, your Authored Aerovox Jobber will be in a position order these commercial-grade capacirs for you whenever they again become ailable.

In the meantime, these capacitors are esently available for high-priority orers. Consult your Aerovox Jobber for ecifications and quotations.

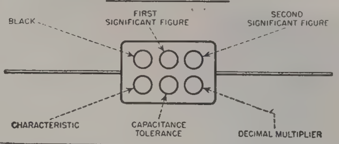








MICA CAPACITOR COLOR CODES

JAN-C-5 COLOR CODE



Color	Figure or Multiplier	Characteristic Letter	Tolerance	Color	Figure or Multiplier	Characteristic Letter	Tolerance
Black	0	A	20% (M)	Blue	6	G	....
Brown	1	B	....	Violet	7	..	....
Red	2	C	2% (G)	Gray	8	..	....
Orange	3	D	....	White	9	..	....
Yellow	4	E	....	Gold	.1	..	5% (J)
Green	5	F	....	Silver	.01	..	10% (K)

CHARACTERISTIC LETTERS

Characteristic	Q	Temperature Coefficient Parts/Million/deg. C	Maximum Capacitance Drift (F-6)	Verification of Characteristics by Production Test
A	Not specified	Not specified	Not specified	Not required
B	[As specified	Not specified	Not specified	Not required
C	in D-5c (1)]	—200 to +200	0.5 per cent	Not required
D	"	—100 to +100	0.2 per cent	Not required
E	"	0 to +100	0.05 per cent	Not required
F	"	0 to +50	0.025 per cent	Required
G	"	0 to —50	0.025 per cent	Required

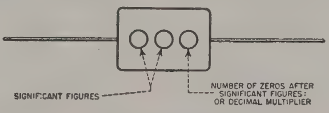
Type No.	AEROVOX No. & Remarks
CM20	1468, 1469
CM25	1478, 1479
CM30	1464, 1467
CM35	1464, 1467 (500 v. DCW up to .0062 mfd. incl.)
CM40	1441W or 1441 WR (500 v. DCW up to .0082 mfd. incl.)
CM45	1447 thin (up to .0018 mfd., incl.)
CM45	1446 thin (.002 to .0036 mfd., incl.)
CM45	1445 thin (.0039 to .01 mfd., incl.)
CM50	1447 thick (.002 to .0051 mfd., incl.)
CM50	1446 thick (.0056 to .011 mfd., incl.)
CM50	1445 thick (.012 to .027 mfd., incl.)
CM55	1652 thin (up to .0043 mfd., incl.)
CM55	1651 thin (.0047 to .013 mfd., incl.)
CM55	1650 thin (.015 to .033 mfd., incl.)

Type No.	AEROVOX No. & Remarks
CM56	1652A thin (up to .0043 mfd., incl.)
CM56	1651A thin (.0047 to .013 mfd., incl.)
CM56	1650A thin (.015 to .003 mfd., incl.)
CM60	1652 thick (up to .012 mfd., incl.)
CM60	1651 thick (.018 to .033 mfd., incl.)
CM60	1650 thick (.036 to .047 mfd., incl.)
CM61	1652A thick (up to .012 mfd., incl.)
CM61	1651A thick (.018 to .033 mfd., incl.)
CM61	1650A thick (.036 to .047 mfd., incl.)
CM65	1570
CM70	1550
CM75	1950
CM80	1960
CM85	1970
CM90	1980
CM95	1940

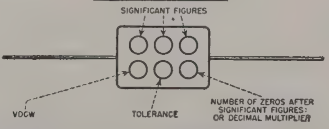
RMA COLOR CODE

THREE DOT RMA COLOR CODE

USED FOR 500 VDCW CAPACITORS WHOSE TOLERANCE IS GREATER THAN 10%


SIGNIFICANT FIGURES
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

SIX DOT RMA COLOR CODE

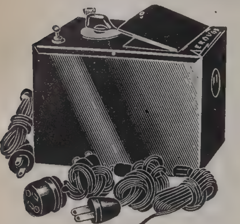

SIGNIFICANT FIGURES
VDCW
TOLERANCE
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

Color	Significant Figure, or No. of Zeros, or Decimal Multiplier	VDCW	Tolerance	Color	Significant Figure, or No. of Zeros, or Decimal Multiplier	VDCW	Tolerance
Black	0	....	....	Violet	7	700	7%
Brown	1	100	1%	Gray	8	800	8%
Red	2	200	2%	White	9	900	9%
Orange	3	300	3%	Gold	.1	1000	5%
Yellow	4	400	4%	Silver	.01	2000	10%
Green	5	500	5%	None	..	500	20%
Blue	6	600	6%				

AEROVOX Interference Filters and Auto-Radio CONDENSERS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX INTERFERENCE ANALYZER



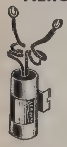
TYPE ANL-37

Plugs between interfering device and outlet. Selector switch adjusted until noise is eliminated or minimized. Dial indicates which type filter to use. Handsome, sturdy metal cabinet. Compartment contains necessary test leads and attachment plugs and clips. Size 5½ x 5½ x 8 inches.

TYPE ANL-37

Dealers Net Price $11.40

AEROVOX Type IN-23

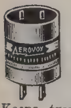


Especially for elimination of interference caused by fractional horsepower motors. Mounting bracket for attaching to frame of motor. Flexible leads for connecting across motors such as in hairdriers, fans, mixers, etc. .5-.5 mfd. 1 x 2⅛ in.

TYPE IN-23

List Price $1.04 **Net Price $0.62**

AEROVOX Type IN-27

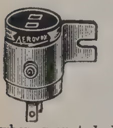


Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appliance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Size 1⅜ x 1½ inches.

TYPE IN-27

List Price $0.93 **Net Price $0.56**

AEROVOX Type IN-28

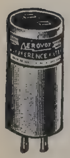


Intended for cases where ground is considerable distance from point of application. Most efficient when mounted directly on interfering device by bracket. Size 1⅜ x 2 inches.

TYPE IN-28

List Price $1.33 **Net Price $0.80**

AEROVOX Type IN-29

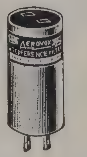


Provides additional filtering action over IN-27 and IN-28. Especially effective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibrating devices. Plugs between device and line. Size 1⅜ x 3 inches.

TYPE IN-29

List Price $1.04 **Net Price $0.62**

AEROVOX Type IN-30

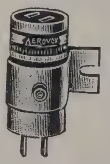


Similar to IN-29 but with additional inductance. Handles more severe interference. Plugs between set and outlet, or preferably between noisy appliance and outlet. Size 1⅜ x 3 inches.

TYPE IN-30

List Price $1.74 **Net Price $1.04**

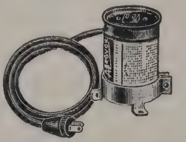
AEROVOX Type IN-31



Plugs in between attachment cord and electric outlet, either of set or preferably at appliance. Additional inductance for better filtering. Works best mounted by bracket directly on interfering appliance. Size 1⅜ x 3 inches.

TYPE IN-31

List Price $2.09 **Net Price $1.25**



AEROVOX Type IN-42

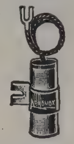
Designed for use in the more serious cases of radio interference from power lines and appliances. Provided with inductance as well as capacitance for thorough filtering action. Plugs into electric outlet. Radio set or interfering device plugs into receptacle of the filter. Recommended for use between interfering device and power line. Size 2½" x 3¾". Provided with mounting ring. Rated at 6 amps. for 110-220v. A.C..

TYPE IN-42

List Price $6.63 **Net Price $3.98**

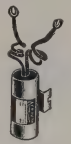
AUTO-RADIO CONDENSERS

SUPPRESSOR CONDENSERS



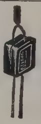
Type	Cap. Mfd.	List Price	Net Price
1120	1.0	$1.07	$0.64
1140	0.5	.75	.45

Dual-Section SUPPRESSOR CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1141	.5-.5	$1.13	$0.67

MOTOROLA Replacement Condenser



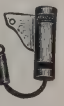
For Models 65 and 70 (Part No. 3321)

(2) Type 1466

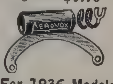
2500v. D.C. Test

Cap. Mfd.	List Price	Net Price
.0008	$0.60	$0.36

SUPPRESSOR CONDENSERS FOR FORD AUTO RADIOS



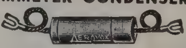
Type	Cap. Mfd.	List Price	Net Price
1144	.5	$0.75	$0.45



For 1936 Models

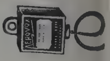
Type	Cap. Mfd.	List Price	Net Price
1150	.5	$0.75	$0.45

AMMETER CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1160	.5	$0.69	$0.41

Oil-Impregnated Metal-Case VIBRATOR CONDENSERS

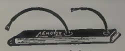


Type 1130 — One Lead Cap.	Cap.	Type 1131- Two Leads Cap.
.007 Mfd.		.007 Mfd.
.01 Mfd.	.05 Mfd.	.01 Mfd.
.02 Mfd.	.06 Mfd.	.02 Mfd.
.03 Mfd.	.07 Mfd.	

Any Capacity, Each

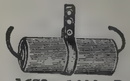
List Price $0.69 **Net Price $0.41**

Oil-Impregnated Vibrator Condensers



Type	Cap.	List Price	Net Price
1135	.01	$0.94	$0.56
1135	.5	1.01	.60

Oil-Impregnated, Oil-Filled TUBULAR VIBRATOR CONDENSERS



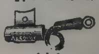
Type 1689—1600v D.C.W.

Hermetically-sealed oil filled capacitors in metal tubes, with an outer cardboard tube as an insulating cover.

Cap. Mfd.	List Price	Net Price
.005	$1.07	$0.64
.006	$1.07	$0.64
.007	$1.07	$0.64
.008	$1.07	$0.64
.01	$1.07	$0.64
.02	$1.07	$0.64
.05	1.20	.72

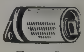
GAS GAUGE FILTER CONDENSER

Type 1143-G



Cap. Mfd.	List Price	Net Price
.5	$0.75	$0.45

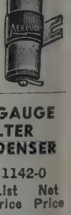
"HASH" CONDENSER



Type 1122

Cap. Mfd.	List Price	Net Price
.05	$0.63	$0.37

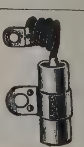
DOME LIGHT FILTER CONDENSER



Type 1180

List Price	Net Price
$1.26	$0.75

OIL GAUGE FILTER CONDENSER



Type 1142-0

Cap. Mfd.	List Price	Net Price
.25	$0.75	$0.45

AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

TUBULAR PAPER CAPACITORS

Type 84

Aerovox cartridge capacitors are especially desirable for use where high grade units are required at low cost. They are compact, non-inductively wound and sealed in **wax impregnated paper tubes with wax filled ends for longer life and protection against moisture.**

Types and D.C.W. Voltages

Cap. Mfds.	Type 484 400v. List Price	Type 484 400v. Net Price	Type 684 600v. List Price	Type 684 600v. Net Price
.001	$0.25	$0.15	$0.25	$0.15
.002	.25	.15	.25	.15
.003	.25	.15	.25	.15
.004	.25	.15	.25	.15
.005	.25	.15	.25	.15
.006	.25	.15	.25	.15
.0075	.25	.15	.25	.15
.01	.25	.15	.25	.15
.015	.25	.15	.25	.15
.02	.25	.15	.25	.15
.025	.25	.15	.31	.18
.03	.25	.15	.31	.18
.05	.25	.15	.31	.18
.06	.31	.18	.37	.22
.075	.31	.18	.37	.22
.1	.31	.18	.37	.22
.15	.31	.18	.44	.26
.2	.37	.22	.50	.30
.25	.37	.22	.56	.33
.5	.56	.33	.75	.45
1.0	.75	.45	.94	.56

Cap. Mfds.	Type 1084 1000v. List Price	Type 1084 1000v. Net Price	Type 1684 1600v. List Price	Type 1684 1600v. Net Price
.001	$0.31	$0.18	$0.56	$0.33
.002	.31	.18	.56	.33
.003	.31	.18	.56	.33
.004	.31	.18	.56	.33
.005	.31	.18	.56	.33
.006	.31	.18	.56	.33
.0075	.50	.30	.56	.33
.01	.50	.30	.56	.33
.015	.50	.30	.56	.33
.02	.50	.30	.56	.33
.03	.56	.33	.63	.37
.05	.56	.33	.69	.41
.06	.63	.37	.75	.45
.075	.69	.41	.82	.49
.1	.75	.45	.88	.52
.15	.88	.52		
.2	.94	.56		
.25	1.07	.64		

METAL-CASED Ultra-Compact PAPER CAPACITORS

Type 80

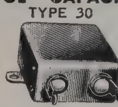
Ultra-compact heavy-duty capacitors. Wax-impregnated, wax-illed. Used as replacements in ound equipment, high power radio eceivers, electronic devices, and ommunication equipment. Housed n a rust-proof container with sol-lering terminals conveniently lo-ated.

Type 1080—1000v. D.C. Work.

Cap. fds.	Size-Ins. D. W. L.	List Price	Net Price
5	11/16x1¼x2	$2.27	$1.36
.0	1¼x1¼x2	3.16	1.89
.0	2½x1¼x2	4.87	2.92
.0	2⅜x2 7/16 x2	7.84	4.70

DRAWN-CASE OIL FILLED "HYVOL" CAPACITORS

TYPE 30



For applications requiring a compact superior-grade oil-impregnated, oil-filled capacitor. Non-inductive paper sections encased in a one-piece drawn metal case with soldered bottom plate for hermetic seal. Absolutely immersion-proof terminal assembly. Meets severe operating conditions encountered in aircraft, police, broadcast, p.a., and other types of communications equipment.

TYPE 430-400 V.D.C.W.

Cap. Mfds.	L x W x H	List Price	Net Price
.05	1¾x1 x ¾	$2.53	$1.51
.1	1¾x1 x ¾	2.59	1.55
.25	1¾x1 x 13/16	2.65	1.59
.5	1¾x1 x ⅞	2.91	1.74
.75	2 1/16x1¼x ¾	3.16	1.89
1.0	2 x1¾x 13/16	3.22	1.93
2.0	2 x2 x1⅛	4.17	2.50
.05-.05	1¾x1 x 13/16	3.10	1.86
.1-.1	1¾x1 x 13/16	3.22	1.93
.25-.25	1¾x1¼x ⅞	3.29	1.97
.5-.5	2 x1¾x 13/16	3.73	2.23
1.0-1.0	2 x2 x1⅛	4.55	2.73
.05-.05-.05	1¾x1 x 13/16	3.48	2.08
.1-.1-.1	1¾x1 x ⅞	3.67	2.20
.25-.25-.25	2 x1¾x ⅞	4.11	2.46

Type 630—600v D.C. Working

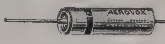
.05	1¾x1 x ¾	$2.59	$1.55
.1	1¾x1 x ¾	2.65	1.59
.25	1¾x1 x 13/16	2.78	1.66
.5	1¾x1 x ⅞	2.97	1.78
.75	2 1/16x1¼x ⅞	3.22	1.93
1.0	2 x1¾x ⅞	3.41	2.04
2.0	2 x2 x1 3/16	4.55	2.73
.05-.05	1¾x1 x 13/16	3.29	1.97
.1-.1	1¾x1 x 13/16	3.35	2.01
.25-.25	1¾x1¼x ⅞	3.41	2.04
.5-.5	2 x1¾x ⅞	3.92	2.35
1.0-1.0	2 x2 x1 3/16	4.74	2.84
.05-.05-.05	1¾x1 x 13/16	3.67	2.20
.1-.1-.1	1¾x1 x 15/16	3.79	2.27
.25-.25-.25	2 x1¾x ⅞	4.24	2.54

Type 1030—1000v D.C. Working

.05	1¾x1 x ¾	$2.65	$1.59
.1	1¾x1 x ¾	2.84	1.70
.25	1¾x1 x 13/16	2.91	1.74
.5	2 1/16x1¼x ⅞	3.16	1.89
.75	2 x1¾x ⅞	3.79	2.27
1.0	2 x1¾x 1	4.17	2.50
.05-.05	1¾x1 x 13/16	3.29	1.97
.1-.1	1¾x1 x 13/16	3.54	2.12
.25-.25	2 1/16x1¼x ⅞	3.79	2.27
.5-.5	2 x1¾x 1	4.93	2.95
.05-.05-.05	1¾x1 x 13/16	3.79	2.27
.1-.1-.1	1¾x1¼x ⅞	4.17	2.50
.25-.25-.25	2 x2 x1	5.31	3.18

MIDGET TUBULAR METAL-CASED "HYVOL" CAPACITORS

Type 38



These units are hermetically-sealed and are exceptionally compact. Originally designed as alternates for mica capacitors but have since become a standard item in the Aerovox oil-filled capacitor line. Not only used as replacements in existing equipment, but are especially suitable for newly-designed equipment, particularly where allowable weight of the finished assembly and allotted space is at a minimum. Despite unusual ultra-small size for oil-impregnated, oil-filled capacitors, constructional and electrical characteristics meet many of the exacting conditions to which molded-in-bakelite mica capacitors are normally subjected. Type 38 units are normally supplied with case insulated, and are provided with outer insulating tube.

Type 338T—300v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	5/16 x 1 3/16	$0.63	$0.37
.002	5/16 x 1 3/16	.63	.37
.003	5/16 x 1 3/16	.63	.37
.005	5/16 x 1 3/16	.63	.37
.006	5/16 x 1 3/16	.63	.37
.0075	5/16 x 1 3/16	.63	.37
.01	5/16 x 1 3/16	.63	.37

Type 538T—500v D.C. Working

.001	5/16 x 1 3/16	$0.69	$0.41
.002	5/16 x 1 3/16	.69	.41
.003	5/16 x 1 3/16	.69	.41
.005	5/16 x 1 3/16	.69	.41
.006	7/16 x 1 3/16	.69	.41
.0075	7/16 x 1 3/16	.69	.41
.01	7/16 x 1 3/16	.69	.41

Type 638T—600v D.C. Working

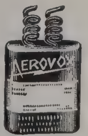
.001	7/16 x 1 3/16	$0.75	$0.45
.002	7/16 x 1 3/16	.75	.45
.003	7/16 x 1 3/16	.75	.45
.005	7/16 x 1 3/16	.75	.45
.006	7/16 x 1 3/16	.75	.45
.0075	7/16 x 1 3/16	.75	.45
.01	7/16 x 1 3/16	.75	.45

Type 838T—800v D.C. Working

.001	7/16 x 1 3/16	$0.82	$0.49
.002	7/16 x 1 3/16	.82	.49
.003	7/16 x 1 3/16	.82	.49
.005	7/16 x 1 3/16	.82	.49

UNCASED PAPER CAPACITORS

Type UC



Non-inductively wound high grade uncased sections, neatly shaped and wrapped in black varnished paper with ends sealed with pitch and provided with insulated wire leads, eight inches long. Designed for replacement use in filter block repair work.

TYPE UC200-200 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.1	2 x ¾x ¼	$0.50	$0.30
.25	2 x1 x 5/16	.50	.30
.5	2 x1 x ½	.63	.37
1.0	2 x1⅜x 11/16	.94	.56

TYPE UC400-400V.D.C.W.

.1	2 x ⅞x ¼	$0.56	$0.33
.25	2 x1 x ⅜	.63	.37
.5	2 x1 5/16 x 9/16	.75	.45
1.0	2 x1⅞x 11/16	1.13	.67
2.0	3¼x1⅞x ⅞	1.77	1.06
4.0	4⅜x1⅞x1⅛	3.03	1.81

TYPE UC600-600 V.D.C.W.

.25	2 x1⅛x 9/16	$0.75	$0.45
.5	2 x1 9/16 x 13/16	.94	.56
1.0	3¼x1⅞x 11/16	1.39	.83
2.0	3¼x1⅞x1 5/16	2.08	1.24
4.0	4⅜x1⅞x1⅞	4.11	2.46

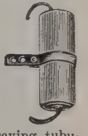
TYPE UC1000-1000 V.D.C.W.

.5	4⅜x1⅞x 11/16	$1.51	$0.90
1.0	4⅜x1⅞x1	2.27	1.36
2.0	4⅜x2¼x1⅞	3.79	2.27

TUBULAR CAPACITORS

OIL-IMPREGNATED OIL-FILLED

Type 89



Immersion-proof, oil-impregnated, oil-filled units in handy, space-saving tubular form. Ideal for use in vibrator applications, coupling and by-pass functions in transmitters, high-voltage amplifiers, in r.f. by-pass circuits, interference eliminators for motors and generators, and in test equipment. Fully sealed against oil leakage or moisture penetration. Case is insulated, not connected to the capacitor section. Mounting strap and outer insulating tube are supplied.

Types and D.C.W. Voltages

Cap. Mfd.	489-400 List Price	489-400 Net Price	689-600 Price List	689-600 Price Net
.015	$0.88	$0.52	$0.94	$0.56
.02	.88	.52	.94	.56
.03	.94	.56	1.01	.60
.04	.94	.56	1.01	.60
.05	.94	.56	1.01	.60
.075	1.01	.60	1.07	.64
.1	1.01	.60	1.13	.67
.25	1.13	.67	1.32	.79
.5	1.26	.75		

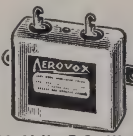
	1089-1000		2089-2000	
.006	$1.01	$0.60	$1.13	$0.67
.0075	1.01	.60	1.13	.67
.01	1.01	.60	1.13	.67
.015	1.01	.60	1.13	.67
.02	1.01	.60	1.13	.67
.03	1.07	.64	1.20	.72
.04	1.07	.64	1.20	.72
.05	1.13	.67	1.26	.75
.075	1.20	.72		
.1	1.26	.75		

Sizes—Type 89

a—½ x 1 7/16
b—½ x 1 11/16
c—11/16 x 1 11/16
d—11/16 x 2 3/16
e—13/16 x 1 11/16
f—13/16 x 2 3/16
g—13/16 x 2 9/16
h—15/16 x 2 3/16
k—1 1/16 x 2 3/16

STAMPED METAL CASE PAPER CAPACITORS

Types 60 and 61



200 Volts D.C. Working

Type	Cap. Mfds.	List Price	Net Price
260	.05	$0.75	$0.45
260	.1	.88	.52
260	.25	1.07	.64
260	.5	1.26	.75
260	.1-.1	1.13	.67
260	.25-.25	1.45	.87
260	.1-.1-.1	1.51	.90
261	1.0	1.64	.98
261	.5-5	1.77	1.06
261	.25-.25-.25	1.89	1.13

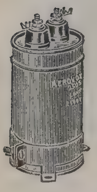
400 Volts D.C. Working

460	.05	$0.88	$0.52
460	.1	1.01	.60
460	.25	1.13	.67
460	.5	1.45	.87
460	.1-.1	1.26	.75
460	.1-.1-.1	1.64	.98
461	.25	1.13	.67
461	1.0	1.89	1.13
461	.25-.25	1.51	.90
461	.5-.5	1.89	1.13
461	.25-.25-.25	2.02	1.21

AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans
Type 05

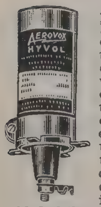


Convenient round can, provided with ring mounting. High-voltage pillar terminals. Hermetically sealed in leak-proof containers. Very conservative ratings for continuous operation.

Type 605-600.v D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2 x 2¾	$3.79	$2.27
2	2 x 2¾	4.93	2.95
4	2 x 3¾	6.83	4.09
Type 1005-1000v. D.C.W.			
1	2 x 3¼	$4.17	$2.50
2	2 x 4¼	5.69	3.41
4	2½ x 4¾	7.21	4.32
Type 1505-1500v. D.C.W.			
1	2 x 3¾	$5.31	$3.18
2	2 x 4¾	7.21	4.32
4	2½ x 4¾	9.11	5.46
Type 2005-2000v. D.C.W.			
1	2 x 4¾	$6.83	$4.09
2	2 x 5¼	7.59	4.55
Type 2505-2500v. D.C.W.			
1	2½ x 4¾	$9.11	$5.46
2	2½ x 5¼	15.19	9.11
Type 3005-3000v. D.C.W.			
1	2½ x 4¾	$13.67	$8.20
2	3 x 5¼	16.71	10.02

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS
Type 14



Particularly applicable for use in high-voltage filter circuits such as cathode-ray tube power supplies, high-voltage by-pass circuits in transmitters and high-powered public address equipment. Type 14 units are made in the standard 1¾" diameter. Grounded can, with one-piece immersion-proof molded-bakelite pillar insulator which provides maximum spacing between live terminal and can. Mounting ring furnished for upright or inverted mounting.

Type 2014-2000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.01	1⅜ x 2¼	$6.01	$3.60
.05	1⅜ x 2¼	6.64	3.98
.1	1⅜ x 2¾	6.96	4.17
.25	1⅜ x 3¼	7.59	4.55
Type 3014-3000v. D.C.W.			
.01	1⅜ x 2¼	$7.02	$4.21
.05	1⅜ x 2¼	7.21	4.32
.1	1⅜ x 2¾	7.59	4.55
.25	1⅜ x 3¾	8.35	5.01

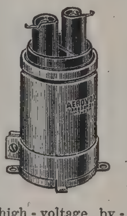
AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans —Inverted Mounting
Type 10

This is an improved design, replacing the former single terminal type. This new design is physically interchangeable with the old. Ideal for crowded assemblies; a logical choice in filter circuits of power supplies, high-gain high-fidelity amplifiers, and small transmitters. Hermetically-sealed. Has one-piece molded bakelite terminal assembly. Both terminal lugs are insulated from container.

Type 610-600v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
2	1½ x 3½	$4.17	$2.50
4	1½ x 5¼	5.69	3.41
Type 1010-1000v. D.C.W.			
1	½1 x 2⅞	$3.79	$2.27
2	1½ x 4½	4.93	2.95
Type 1510-1500v. D.C.W.			
.5	1½ x 2⅞	$4.55	$2.73
1	1½ x 4½	4.93	2.95

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS
OIL-IMPREGNATED OIL-FILLED
Type 12



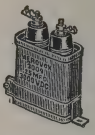
This is an immersion-proof capacitor designed to meet high-voltage operating requirements. Suitable for such high-voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or, as a high-voltage by-pass capacitor. Recommended where long leakage path between terminals is required. Barrier in bakelite top increases insulation and creepage path between terminals. For certain applications, the ceramic insulators may be removed if desired. Supplied with adjustable mounting ring for vertical mounting.

Type 2012-2000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
1.0	2¼ x 3¾	$7.59	$4.55
2.0	2¼ x 5¼	12.91	7.74
Type 3012-3000v. D.C.W.			
.05	2¼ x 2¼	$8.60	$5.16
.1	2¼ x 2¼	9.49	5.69
.25	2¼ x 3¼	11.39	6.83
.5	2¼ x 3¾	13.67	8.20
1.0	2¼ x 5¼	18.23	10.93
Type 4012-4000v. D.C.W.			
.05	2¼ x 2¾	$11.39	$6.83
.1	2¼ x 3¾	12.53	7.51
.25	2¼ x 5¼	13.67	8.20
Type 6012-6000v. D.C.W.			
.03	2¼ x 2¾	$12.15	$7.29
.05	2¼ x 3¾	13.67	8.20
.1	2¼ x 4¾	15.19	9.11
Type 7512-7500v. D.C.W.			
.01	2¼ x 3¼	$11.39	$6.83
.02	2¼ x 3¼	12.53	7.51
.03	2¼ x 3¾	13.67	8.20
.05	2¼ x 4¼	15.19	9.11
.1	2¼ x 4¾	18.99	11.39

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Rectangular Metal Cans
Type 09

Type 09
(Basic)



Type 09MB
(Mounting Bracket)

Type 09MS
(Strap Mounting)

Hermetically-sealed in sturdy can, leakproof and seepageproof. High tension pillar terminals fitted with locknuts and soldering lugs. Exceptionally compact dimensions for given capacity, working voltage—and safety factor due to use of "Hyvol." Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracke is normally supplied as standar equipment, unless otherwise specified, on all units having base size other than 3¾" x 3 3/16" and 3¾ x 4 9/16". Type MS is normally supplied as standard with these latte base sizes.

Type 609-600v. D.C.W.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
.5	2⅛x1 13/16x1 1/16	$4.17	$2.50
1.0	2⅛x1 13/16x1 1/16	5.31	3.18
2.0	2⅞x1 13/16x1 1/16	6.45	3.87
3.0	3⅞x1 13/16x1 1/16	7.59	4.55
4.0	3¼x2½x1 3/16	8.35	5.01
5.0	4⅛x2½x1 3/16	9.49	5.69
6.0	4⅝x2½x1 3/16	10.25	6.15
8.0	3⅞x3¾x1¼	12.15	7.29
10.0	4⅝x3¾x1¼	13.67	8.20
12.0	4¾x3¾x1½	15.19	9.11
15.0	4¾x3¾x1¾	16.77	10.06
Type 1009-1000v. D.C.W.			
.1	2 x1 13/16x1 1/16	$3.79	$2.27
.25	2⅛x1 13/16x1 1/16	4.17	2.50
.5	2⅛x1 13/16x1 1/16	4.55	2.73
1.0	2⅛x1 13/16x1 1/16	5.69	3.41
2.0	3⅞x1 13/16x1 1/16	7.59	4.55
3.0	3½x2½x1 3/16	8.60	5.16
4.0	4⅝x2½x1 3/16	9.49	5.69
5.0	3⅞x3¾x1¼	11.39	6.83
6.0	4¾x3¾x1¼	12.53	7.51
8.0	4¾x3¾x1¼	13.67	8.20
10.0	4⅝x3¾x1¾	15.19	9.11
12.0	3⅞x3¾x2¼	16.71	10.02
15.0	4¾x3¾x2½	18.23	10.93
Type 1509-1500v. D.C.W.			
.5	2⅞x1 13/16x1 1/16	$6.07	$3.64
1.0	4 x1 13/16x1 1/16	6.83	4.09
2.0	4⅛x2½x1 3/16	9.49	5.69
3.0	4¾x2½x1 3/16	11.39	6.83
4.0	4⅝x3¾x1¼	12.91	7.74
5.0	4¾x3¾x1¾	13.67	8.20
6.0	4¾x3¾x1¾	15.57	9.34
8.0	4¾x3¾x2½	18.99	11.39
10.0	4¾x3¾x3 3/16	22.78	13.66
12.0	4¾x3¾x3 3/16	25.06	15.03
15.0	4¾x3¾x4 9/16	27.34	16.40
Type 2009-2000v. D.C.W.			
.1	2 x1 13/16x1 1/16	$6.07	$3.64
.25	2⅛x1 13/16x1 1/16	6.45	3.87
.5	2⅞x1 13/16x1 1/16	6.83	4.09
1.0	3⅜x2½x1 3/16	8.35	5.01
2.0	4 x3¾x1¼	9.87	5.92
3.0	4¾x3¾x1¼	12.15	7.29
4.0	3⅞x3¾x2¼	13.67	8.20
5.0	4¾x3¾x2¼	15.19	9.11
6.0	4⅝x3¾x3 3/16	17.85	10.71
8.0	4⅝x3¾x3 3/16	22.78	13.66
10.0	4¾x3¾x4 9/16	28.10	16.86
12.0	5⅜x3¾x4 9/16	30.38	18.22
15.0	6½x3¾x4 9/16	36.71	22.02

Type 2509-2500v. D.C.W.

Mfds. Cap.	L. W. D. Size-Ins.	Price List	Pric Net
.5	3½x2½x1 3/16	$10.63	$6.3
1.0	3¼x3¾x1¾	12.15	7.2
2.0	4⅝x3¾x1¾	19.74	11.8
4.0	4⅝x3¾x3 3/16	27.34	16.4
10.0	6⅜x3¾x4 9/16	68.36	41.0
Type 3009-3000v. D.C.W.			
.1	2x2½x1 3/16	$12.91	$7.7
.25	2½x2½x1 3/16	13.67	8.2
.5	3⅞x3½x1 3/16	15.19	9.1
1.0	3⅞x3¾x1¾	18.23	10.9
2.0	4⅛x3¾x3¾	22.78	13.6
4.0	4¾x3¾x4 9/16	33.42	20.0
Type 4009-4000v. D.C.W.			
.1	2¾x3¾x2¼	22.78	13.66
.25	2¾x3¾x2¼	24.30	14.58
.5	3⅞x3¾x2¼	27.34	16.40
1.0	5⅛x3¾x2¼	33.42	20.05
2.0	5⅛x3¾x4 9/16	42.53	25.51
4.0	8 x3¾x4 9/16	60.76	36.45
Type 5009-5000v. D.C.W.			
.1	2¾x3¾x2¼	24.37	14.62
.25	3⅜x3¾x2¼	27.53	16.51
.5	4¼x3¾x2¼	30.38	18.22
1.0	4⅜x3¾x4 9/16	37.98	22.78
2.0	6 x3¾x4 9/16	48.61	29.16
Type 6009-6000v. D.C.W.			
.1	3⅜x3¾x2¼	30.38	18.22
.25	4⅝x3¾x2¼	37.98	22.78
.5	4⅞x3¾x4 9/16	43.04	25.82
1.0	8 x3¾x4 9/16	75.96	45.57
Type 7509-7500v. D.C.W.			
.1	3⅞x3¾x2¼	43.04	25.82
.25	5⅛x3¾x2½	45.57	27.34
.5	5⅛x3¾x4 9/16	49.37	29.62

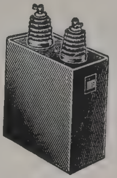
AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

HIGH-VOLTAGE TRANSMITTER TYPE D.C. CAPACITORS

Type 20

6,000v. D.C. Work. to 50,000v. D.C. Work.



These capacitors meet the exacting requirements of radio transmitter service and other applications requiring high-voltage, heavy-duty, transmitter-type oil capacitors. Available in ratings from 6000 volts to 50,000 volts D.C. working. These are single-section or parallel-section capacitors. Type 20 units are critically checked to close standards of physical and electrical perfection. Capacitor sections consist of multi-layered capacitor tissues and high-purity aluminum foil, uniformly and accurately wound under critically-controlled tension, then vacuum-impregnated with Aerovox Hyvol to insure stability of full-rated capacitance, even at zero temperatures. Welded steel containers finished in non-corrosive, dark grey lacquer. Heavy-duty porcelain insulator assembly is cork-gasketed and pressure sealed to prevent leakage of oil or entrance of moisture at the terminals. Single-section units rated at 30 KV or less are normally supplied with capacitor section insulated from ground. Additional information on Type 20 units rated at 37,500 volts and 50,000 volts, as well as voltage-doubler units rated at 25,000 volts output is available on application.

All Type 20 units are built to special order—not carried in stock. Submit full application information when ordering.

Type 6020—6000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
2.0	11x 8x4	$136.00	$ 82.00
4.0	11x12x4	167.00	100.00
5.0	11x12x4	189.00	113.00
6.0	13x12x4	212.00	127.00
10.0	13x12x6	265.00	159.00

Type 7520—7500v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.5	11x 8x4	$ 75.00	$ 45.00
1.0	11x 8x4	98.00	59.00
2.0	11x 8x4	151.00	91.00
4.0	13x12x4	227.00	136.00
6.0	13x12x6	273.00	164.00

Type 10020—10,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
1.0	11x 8x4	$197.00	$118.00
2.0	11x12x4	250.00	150.00
4.0	13x12x6	303.00	182.00
5.0	13x12x6	334.00	200.00

Type 12520—12,500v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.5	11x 8x4	$167.00	$100.00
1.0	11x12x4	212.00	127.00
2.0	13x12x6	265.00	159.00
5.0	15x12x9½	501.00	300.00

Type 15020—15,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.25	11x 8x4	$159.00	$ 95.00
0.5	11x12x4	189.00	113.00
1.0	13x12x4	265.00	159.00
2.0	15x12x9½	349.00	209.00
3.0	15x12x9½	478.00	287.00

Type 20020—20,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.25	11x 8x4	$189.00	$113.00
0.5	11x12x4	243.00	145.00
1.0	13x12x6	326.00	195.00
1.5	15x12x9½	440.00	264.00
2.0	15x12x9½	524.00	314.00
4.0	15x14x16	919.00	551.00

Type 25020—25,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.2	11x12x4	$197.00	$118.00
0.25	11x12x4	265.00	159.00
0.5	13x12x6	288.00	173.00
1.0	15x12x9½	432.00	259.00

Type 37520—37,500v. D.C.W.

(Information supplied on application.)

Type 50020—50,000v. D.C.W.

(Information supplied on application.)

Type 12520 VD

25,000 Volts Output (12,500—12,500 Volts)—Dual Units

(Information supplied on application.)

COMPACT

HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED

"HYVOL" CAPACITORS

Type 16T

(Terminals on Top)

Compact, oil-filled, hermetically-sealed units for use where least space and minimum weight are essential. Corrosion-proof metal container. Special immersion-proof terminals designed for equipment subjected to severe atmospheric and climatic conditions. Suitable for by-pass and filter applications in receivers and low-power transmitters.

Type 416T

400v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.59	$1.55
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.65	1.59
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.84	1.70
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.91	1.74
.5	1$\frac{15}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.97	1.78
1.0	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.29	1.97

Type 616T

600v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.65	$1.59
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.78	1.66
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.91	1.74
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.97	1.78
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.03	1.81
1.0	2$\frac{9}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.41	2.04

Type 1016T

1000v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1¼x1$\frac{5}{16}$x$\frac{11}{16}$	$2.78	$1.66
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.84	1.70
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.97	1.78
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.03	1.81
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.29	1.97

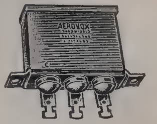
COMPACT

HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED

"HYVOL" CAPACITORS

Type 18B

(Terminals on Bottom)



Compact, oil-filled, hermetically-sealed units. Type 18 is smaller in height and depth than Type 16. However, greater width makes Type 18 adaptable for applications where small-sized dual- and triple-section capacitors with three terminals are required. Otherwise, similar to Type 16 with respect to construction and application.

Type 418B

500v. D.C. Working

Single Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05	1 x1¾x$\frac{9}{16}$	$2.84	$1.70
.1	1 x ¾x$\frac{9}{16}$	2.97	1.78
.25	1½x1¾x$\frac{9}{16}$	3.03	1.81
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.16	1.89
1.0	2 x1¾x$\frac{9}{16}$	3.48	2.08

Dual-Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05-.05	1 x1¾x$\frac{9}{16}$	$3.67	$2.20
.1-.1	1¼x1¾x$\frac{9}{16}$	3.73	2.23
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.92	2.35
.5-.5	2 x1¾x$\frac{9}{16}$	4.24	2.54

Triple-Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05-.05-.05	1 x1¾x$\frac{9}{16}$	$4.49	$2.69
.1-.1-.1	1½x1¾x$\frac{9}{16}$	4.81	2.88
.25-.25-.25	2 x1¾x$\frac{9}{16}$	5.19	3.11

Type 618B

600v. D.C. Working

Single Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05	1 x1¾x$\frac{9}{16}$	$2.91	$1.74
.1	1 x1¾x$\frac{9}{16}$	3.03	1.81
.25	1½x1¾x$\frac{9}{16}$	3.16	1.89
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.35	2.01
1.0	2½x1¾x$\frac{9}{16}$	3.67	2.20

Dual-Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05-.05	1 x1¾x$\frac{9}{16}$	$3.79	$2.27
.1-.1	1½x1¾x$\frac{9}{16}$	3.92	2.35
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	4.17	2.50
.5-.5	2¾x1¾x$\frac{9}{16}$	4.49	2.69

Triple-Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.25-.25	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	$4.55	$2.73
.05-.05-.05	1⅜x1¾x$\frac{9}{16}$	4.93	2.95
.1-.1-.1	1⅝x1¾x$\frac{9}{16}$	5.31	3.18

Type 1018B

1000v. D.C. Working

Single Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05	1 x1¾x$\frac{9}{16}$	$3.03	$1.81
.1	1 x1¾x$\frac{9}{16}$	3.16	1.89
.25	1¾x1¾x$\frac{9}{16}$	3.29	1.97
.5	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	3.48	2.08

Dual-Section Units

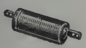
Cap. Mfds.	H x W x D	List Price	Net Price
.05-.05	1⅛x1¾x$\frac{9}{16}$	$4.17	$2.50
.1-.1	1½x1¾x$\frac{9}{16}$	4.43	2.65
.25-.25	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	4.55	2.73

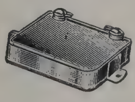
Triple-Section Units

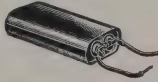
Cap. Mfds.	H x W x D	List Price	Net Price
.05-.05-.05	1⅜x1¾x$\frac{9}{16}$	$4.93	$2.95
.05-.05-.25	2⅞x1¾x$\frac{9}{16}$	5.31	3.18

CUSTOM-BUILT PAPER CAPACITORS TO MEET YOUR SPECIAL NEEDS —

If your paper capacitor needs are most unusual, AEROVOX will work with you in designing and producing special types. With many basic types to draw upon—a wide choice of containers, terminals, mountings, sizes, etc.—we can quickly and economically produce out-of-the-ordinary capacitors to meet those extraordinary requirements. Address your inquiry to Aerovox Engineering Department, New Bedford, Mass.



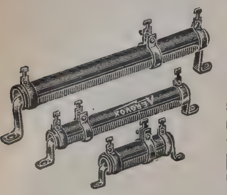




AEROVOX Vitreous-Enameled and Carbon RESISTORS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"SLIDEOHM" Wire-Wound Vitreous-Enameled ADJUSTABLE RESISTORS



Adjustable resistors combining adjustment to any resistance value within unit's range, with positive, permanent, non-fluctuating qualities of wire-wound resistor. Each Slideohm Resistor is provided with horizontal mounting brackets and one adjustable contact slider.

Type 952—25 Watts

Size ⅝ x 2 inches

Ranges	List	Net
1-5000 .... each	$0.95	$0.57
6000-10,000	1.10	.66

Extra Slider Bands–10c ea., Net 6c

Type 954—50 Watts

Size ¾ x 4½ inches

Ranges	List	Net
5-5000 .... each	$1.50	$0.90
6000-25,000	1.65	.99
30,000-50,000	1.90	1.14

Extra Slider Bands–10c ea., Net 6c

Type 956—75 Watts

Size ¾ x 6½ inches

Ranges	List	Net
5-5000 .... each	$1.95	$1.17
6000-25,000	2.20	1.32
30,000-50,000	2.50	1.50
60,000-70,000	2.75	1.65

Extra Slider Bands–15c ea., Net 9c

Type 957—100 Watts

Size 1⅛ x 6½ inches

Ranges	List	Net
5-5000 .... each	$2.20	$1.32
6000-25,000	2.50	1.50
30,000-50,000	2.75	1.65
60,000-75,000	3.00	1.80

Extra Slider Bands–15c ea., Net 9c

Type 958—200 Watts

Size 1⅛ x 10½ inches

Ranges	List	Net
5-10,000 ...... each	$3.30	$1.98
15,000-100,000	3.85	2.31
125,000-150,000	4.00	2.40

Extra Slider Bands–15c ea., Net 9c

Type Resis. Ohms	952 25 Watts Cur. M.A.	954 50 Watts Cur. M.A.	956 75 Watts Cur. M.A.	957 100 Watts Cur. M.A.	958 200 Watts Cur. M.A.
1	5000				
3	2880				
5	2230	3160	3870	4470	6320
10	1580	2240	2740	3160	4470
15	1290		2240	2580	
20	1115				
25	1000	1410	1730	2000	2825
50	710	1000	1220	1410	2000
75	580	815	1000	1150	
100	500	705	865	1000	1400
150	410	575			
200	355	500	610		
250	315	445	550	630	900
300	290	405	500		
400	250	350	430		
500	225	315	385	445	630
750	180	260	315	365	
800		250	305		
850	170				
1000	160	225	275	315	450
1250	140	200	245		
1500	130	180	225	260	365
2000	110	160	195	225	315
2250	105	150			
2500	100	140	173	200	280
3000	90	130	158	180	260
3500	85	120	146	170	240
4000	80	110	137	160	225
4500	74	105	129	150	210
5000	70	100	122	140	200
6000	65	91	111	130	
7000	57	85	103		
7500	53		100	115	165
8000	50	79	97	110	
8500	47				
9000	44	75	91		
10,000	40	71	87	100	140
12,000		64			
15,000		58	71	80	115
20,000		48	61	70	100
25,000		40	55	60	90
30,000		33	50	50	82
35,000			43	43	71
40,000		25	37	37	62
50,000		20	30	30	50
60,000			25	25	42
70,000			21	21	
75,000				20	33
100,000					25
125,000					20
150,000					16

"PYROHM JUNIOR"

Wire-Wound Vitreous-Enameled FIXED RESISTORS

Types 931 and 933

Compact, genuine wire-wound units. Covered with vitreous-enamel. Highest quality materials used throughout. Correctly designed. Note these features:

1. Crack-proof refractory tubing for the support. Adequate heat dissipation.

2. Quality resistance wire precisely space wound under tension.

3. Copper terminal band clamped to tubing. Wire ends wrapped about raised ear and brazed to same.

4. Heavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.

5. Pig-tail of stiff wire 2 in. long soldered to terminal band for positive, non-breakable connection.

Type 931—10 Watts

Size—Ins. $\frac{5}{16}$ x 1¾

Ranges	List	Net
1-10,000	$0.45	$0.27
12,000-50,000	.50	.30

30,000 to 50,000 ohms, rated at 5 watts.

Stock Resistance Ranges

1
2
3
4
5
7.5
10
12
15
20
25
30
35
40
50
75
100
125
150
175

200
250
300
350
400
450
500
600
650
700
750
800
850
900
1000
1100
1200
1250
1400
1500

1750
2000
2500
2750
3000
3500
4000
4500
5000
5500
6000
7000
7500
8000
8500
9000
10,000

12,000
12,500
13,500
14,300
15,000
16,000
17,500
18,000
20,000
22,500
25,000
30,000
35,000
40,000
45,000
50,000

Type 933—20 Watts

Size—Ins. $\frac{9}{16}$ x 2

Ranges	List	Net
1-15,000	$0.70	$0.42
20,000-55,000	.85	.51
60,000-100,000	1.10	.66

25,000-100,000 ohms rated at 7 watts.

Stock Resistance Ranges

1
3
5
10
15
25
50
75
100
150
175
200
250
300
350
400
500

650
700
750
800
850
1000
1200
1250
1500
1750
1850
2000
2250
2400
2500
2750

3000
3500
4000
4500
5000
6000
7000
7500
8000
10,000
12,500
13,000
15;000
20,000
25,000
30,000

35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
85,000
90,000
95,000
100,000

INSULATED MOLDED CARBON RESISTORS

Types 1097 and 1098

Small, noiseless, vibration-proof. Crack-proof molded casing around molded carbon resistance element. Tinned copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, high-gain amplifiers. RMA color - coded; stamped with resistance value. Precision tested. Standard tolerance 10%. These types may come thru for some time in slightly larger sizes until complete changeover is achieved.

Types	Rating Watt	Size Ins.	List ea.	Net ea.
1098	1	1¼ x ⅝	$.17	$.10
1097	½	$\frac{5}{32}$ x ⅝	.13	.08

Stock Resistance Ranges—Ohms

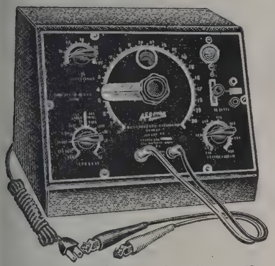
10
15
20
25
30
40
50
60
75
100
120
150
200
250
300
350
400
450
500
600

750
800
900
1000
1250
1500
1750
2000
2250
2500
3000
3500
4000
5000
6000
7000
7500
8000
9000
10000

11000
12000
12500
13000
14000
15000
17500
20000
22500
25000
30000
35000
40000
50000
60000
65000
70000
75000
100000
125000

150000
175000
200000
250000
300000
400000
500000
600000
750000
1 Meg.
1½ Meg.
2 Meg.
2½ Meg.
3 Meg.
4 Meg.
5 Meg.
6 Meg.
7 Meg.
10 Meg.
20 Meg.

AEROVOX TEST INSTRUMENTS



AEROVOX CAPACITANCE AND RESISTANCE BRIDGE

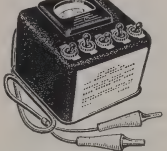
AEROVOX MODEL 76 Resistance Capacitance Bridge is the new postwar general-utility instrument combining simplicity of operation, remarkable degree of accuracy, and modest price. Extreme ruggedness makes it equally suitable out on the job, in the shop, or in the laboratory.

Sloping panel 10″ x 6″. Aluminum, etched and anodized. Steel cabinet, black crackle finish. All readings taken from main 4″ dial. Same calibrated scale eliminates trouble and chances for errors in reading. Linear scale, also an exclusive feature, means no crowding at high end to make readings difficult and inaccurate. Both the resistance and the capacitance readings are covered by six overlapping ranges, as against two or three in usual service instruments, for maximum sensitivity and accuracy. Positive "magic eye" indicator.

Here is what Model 76 bridge does: (1) Measures capacitance from 100 mmf. to 200 mfd. in six ranges. (2) Measures resistance from 10 ohms to 20 megohms in six ranges. (3) Measures power factor from 0 to 50%. (4) Provides D.C. polarizing potential for leakage measurements, from 0 to 600 V. D.C., continuously variable and calibrated in volts. (5) Checks leakage or insulation resistance.

Instrument is provided with shockproof, color-coded test leads fitted with banana plugs for panel jacks, and with clips. Instructions. Measures 10″ x 7¾″ x 8¼″. Weight 8 lbs. 3 oz.

AEROVOX MOTOR-STARTING CAPACITOR SELECTOR



★ Determine the necessary capacitance to replace the wornout motor-starting capacitor, at the mere flip of a switch or two! That's the idea of the Aerovox Motor-Starting Capacitor Selector. In the absence of label, nameplate or other identification means of the original equipment being serviced, this simple, inexpensive, handy instrument provides the immediate answer.

The Capacitor Selector, by throwing a series of toggle switches, provides a choice of capacitance ratings: 17½, 35, 52½, 65, 70, 82½, 100, 117½, 135 and 152½ mfd. A voltmeter indicates the maintenance of safe starting voltage. The instrument is merely clipped to the motor in place of the defective capacitor. Capacitance readings are made from the total of open switches directly from the selector. The 0-150v AC voltmeter can be used independently.

Complete Kit, Model No. 87, comprising Capacitor Selector and two Emergency Capacitors. Dealer's, servicemen's net cost $20.95

Capacitor Selector, Model No. 85............$11.64

Emergency Capacitor, Model No. 86, each $4.65

EMERGENCY CAPACITORS

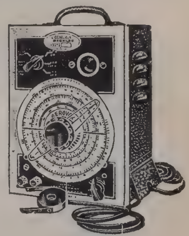
★The RIGHT capacity value is determined by the Capacitor Selector in a jiffy. That's half the job.

The other half is to have that RIGHT capacity immediately available. And that's where the Aerovox Emergency Capacitors come in to round out this Aerovox "Jiffy Way" of handling motor-starting capacitor jobs.

The Aerovox Emergency Capacitors are truly universal Units. Each provides any capacity value from 17½ to 152½ mfd., simply by cutting in one or more sections. The unit then clips on to the motor. The refrigerator gets going without delay. Later, at the serviceman's convenience, the usual replacement is installed.

Emergency Capacitor, Model No. 86, $4.65 Net, each

AEROVOX L-C CHECKER



★ This exclusive Aerovox development has no counterpart, much less an equal. Basically, it determines the effectiveness of any capacitance or inductance while actually connected in its circuit. Testing efficiency is greatly increased. Components may be tested singly or in combinations whereby to determine resonant frequency and effectiveness of given circuits. Circuit or systems may be adjusted by this checking means for proper operating efficiency. Certainly a "must" instrument for the radio worker.

HERE'S A PARTIAL LISTING OF WHAT THE AEROVOX L-C CHECKER DOES:

It checks capacitance of capacitors at radio frequencies **without removing them from circuit.** • It checks alignment of r.f. circuits; also tracking of super-het. oscillator. • It checks alignment of broad or narrow band i.f. amplifiers. • It checks the tuning of wave traps and of image-rejection circuits; frequency ranges of receivers; frequency ranges of signal generators; calibration of wave meters. • Identifies harmonics of frequency standard in precision frequency calibration of radio equipment • It checks natural resonant points of r.f. chokes making sure they are beyond operating range. • It traces resonant absorption trouble in "all-wave" receiver circuits—locating dead spots, etc. • It locates resonant points in shorted windings (unused coils) in multi-range oscillators, etc. • Locates resonant frequency of r.f. coupling chokes, making certain of placement to secure enough gain balance over tuning range of r.f. stage • It checks natural period of antennae and transmission lines in order to have resonant peaks at certain frequencies. • It checks quartz crystals for frequency, false frequency, operation at harmonics, and for activity. • Checks FM i.f. transformers. • Checks alignment of FM i.f. channels. • Checks leakage of paper capacitors. And it checks many other functions when used with auxiliary equipment. This checker operates from AC or from DC 120 volts source. It has a frequency range from 100 KC to 44MC as follows:

Range:			
	A — 75 — 225 KC		D — 1.5 — 5 MC
	B — 200 — 600 KC		E — 4.5 — 14.5 MC
	C — 550 — 1650 KC		F — 13 — 44 MC

Capacitance Range: .00025 mfds. — 1 mfd.

Inductance Range: 0 — 500 MH

Tube Complement: 6J5G, 25Z5, 6E5, VR105

Accuracy: Capacitance and Inductance ± 10%

Frequency Ranges A, B, C: ± 1%

Other ranges: ± 2.5%

Dimensions: 10½ x 7½ x 5½

This new model L-C Checker has provisions for determining the insulation resistance of capacitors in addition to the measurements described in bulletin 995A.

Weight: (shipping) 6 lbs.

Watch for the announcement of the new model Aerovox L-C Checker!

Standard Universal Electrolytic Motor-Starting Replacement Capacitors

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the special Motor-Starting Capacitor Catalog devoted to the AEROVOX complete line. This list is intended to simplify the selection of required capacitor when manufacturer's part number and AEROVOX catalog number are not known. Information given: capacity range, voltage rating, dimensions and type of container may help determine capacitor required in absence of original unit or name-plate data. This listing also ideal for use with the AEROVOX Capacitor Selector.

TYPE MSRT

Supplied with insulating tube (not shown). Former AEROVOX designation Fig. 18A or 18B.

110 VOLTS A.C.—ROUND CANS—ULTRA-COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSRT-217	20-24	20	110	1⅜x3⅛	MSRT or 18B	$1.70	$1.19
MSRT-218	26-30	25	110	1⅜x3⅛	MSRT or 18B	1.70	1.19
MSRT-219	32-36	30	110	1⅜x3⅛	MRST or 18B	1.83	1.28
MSRT-220	38-42	35	110	1⅜x3⅛	MSRT or 18B	1.83	1.28
MSRT-168	43-48	40	110	1⅜x3⅛	MSRT or 18B	1.83	1.28
MSRT-193	53-60	50	110	1⅜x3⅛	MSRT or 18B	1.89	1.32
MSRT-167	64-72	60	110	1⅜x3⅛	MSRT or 18B	1.89	1.32
MSRT-176	70-78	65	110	1⅜x3⅛	MSRT or 18B	2.02	1.41
MSRT-196	75-84	70	110	1⅜x3⅛	MSRT or 18B	2.02	1.41
MSRT-180	86-96	80	110	1⅜x3⅛	MSRT or 18B	2.08	1.45
MSRT-194	97-107	90	110	1⅜x3⅛	MSRT or 18B	2.15	1.50
MSRT-162	108-120	100	110	1⅜x3⅛	MSRT or 18B	2.15	1.50
MSRT-160	124-138	115	110	1⅜x3⅛	MSRT or 18B	2.27	1.58
MSRT-171	145-162	135	110	1⅜x3⅛	MSRT or 18B	2.78	1.94
MSRT-198	161-180	150	110	1⅜x4⅛	MSRT or 18B	3.03	2.12
MSRT-197	161-180	150	110	2 x3⅛	MSRT or 18B	3.03	2.12
MSRT-257	189-210	175	110	2 x3⅛	MSRT or 18B	3.54	2.47
MSRT-192	216-240	200	110	2 x3⅛	MSRT or 18B	4.11	2.87
MSRT-213	243-270	225	110	2 x3⅛	MSRT or 18B	4.55	3.18
MSRT-207	270-300	250	110	2 x3⅛	MSRT or 18B	5.31	3.71
MSRT-210	324-360	300	110	2 x4⅛	MSRT or 18B	6.07	4.24
MSRT-206	378-420	350	110	2 x4⅛	MSRT or 18B	6.83	4.78
MSRT-256	400-480	450	110	2 x4⅛	MSRT or 18B	9.49	6.64

TYPE MSQT

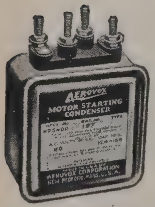
Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 12.

110 VOLTS A.C.—ROUND CANS—HEAVY-DUTY
TYPE MSRT—2" and 2½" Cans with Insulating Tube

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSRT-221	32-36	30	110	2 x4⅛	MSRT or 18B	$3.35	$2.34
MSRT-166	53-60	50	110	2 x4⅛	MSRT or 18B	3.41	2.38
MSRT-149	64-72	65	110	2 x4⅛	MSRT or 18B	3.54	2.47
MSRT-146	86-96	80	110	2 x4⅛	MSRT or 18B	3.60	2.52
MSRT-222	97-107	90	110	2 x4⅛	MSRT or 18B	3.67	2.56
MSRT-147	108-120	100	110	2 x4⅛	MSRT or 18B	3.67	2.56
MSRT-140	124-138	115	110	2 x4⅛	MSRT or 18B	3.79	2.65
MSRT-223	145-162	135	110	2 x4⅛	MSRT or 18B	4.30	3.01
MSRT-224	161-180	150	110	2 x4⅛	MSRT or 18B	4.55	3.18
MSRT-225	189-210	175	110	2 x4⅛	MSRT or 18B	5.19	3.63
MSRT-226	270-300	250	110	2 x4⅛	MSRT or 18B	6.83	4.78
MSRT-227	32-36	30	110	2½x4⅛	MSRT or 18B	3.35	2.34
MSRT-228	53-60	50	110	2½x4⅛	MSRT or 18B	3.41	2.38
MSRT-229	64-72	60	110	2½x4⅛	MSRT or 18B	3.54	2.47
MSRT-107	86-96	80	110	2½x4⅛	MSRT or 18B	3.60	2.52
MSRT-230	97-107	90	110	2½x4⅛	MSRT or 18B	3.67	2.56
MRST-142	108-120	100	110	2½x4⅛	MSRT or 18B	3.67	2.56
MSRT-110	124-138	115	110	2½x4⅛	MSRT or 18B	3.79	2.65
MSRT-148	145-162	135	110	2½x4⅛	MSRT or 18B	4.30	3.01
MSRT-188	161-180	150	110	2½x4⅛	MSRT or 18B	4.55	3.18
MSRT-231	189-210	175	110	2½x4⅛	MSRT or 18B	5.19	3.63
MSRT-232	270-300	250	110	2½x4⅛	MSRT or 18B	6.83	4.78

110 VOLTS A.C.—SQUARE DRAWN CANS
TYPE MSQT—3½" x 3½" with Cardboard Insulating Container

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSQT-233	32-36	30	110	3½x3½x1⅛	MSQT or 12	$3.03	$2.12
MSQT-159A	53-60	50	110	3½x3½x1⅛	MSQT or 12	3.03	2.12
MSQT-234	64-72	60	110	3½x3½x1⅛	MSQT or 12	3.22	2.25
MSQT-159B	86-96	80	110	3½x3½x2	MSQT or 12	3.22	2.25
MSQT-235	97-107	90	110	3½x3½x2	MSQT or 12	3.35	2.34
MSQT-157	108-120	100	110	3½x3½x2	MSQT or 12	3.35	2.34
MSQT-137	124-138	115	110	3½x3½x2	MSQT or 12	3.79	2.65
MSQT-236	145-162	135	110	3½x3½x2	MSQT or 12	4.30	3.01
MSOT-255	161-180	150	110	3½x3½x2	MSQT or 12	4.55	3.18
MSQT-237	189-210	175	110	3½x3½x2	MSQT or 12	5.19	3.63
MSQT-238	270-300	250	110	3½x3½x2	MSQT or 12	6.83	4.78



TYPE MSTT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 15A.

110 VOLTS A.C.—SQUARE DRAWN CANS
Type MSTT—3½" x 3½" with Terminal Board for Thermostat Connections and Cardboard Insulating Container

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSTT-239	32-36	30	110	3½x3½x2	MSTT or 15A	$3.03	$2.12
MSTT-240	53-60	50	110	3½x3½x2	MSTT or 15A	3.03	2.12
MSTT-241	64-72	60	110	3½x3½x2	MSTT or 15A	3.22	2.25
MSTT-242	86-96	80	110	3½x3½x2	MSTT or 15A	3.22	2.25
MSTT-243	97-107	90	110	3½x3½x2	MSTT or 15A	3.35	2.34
MSTT-116	108-120	100	110	3½x3½x2	MSTT or 15A	3.35	2.34
MSTT-101	124-138	115	110	3½x3½x2	MSTT or 15A	3.79	2.65
MSTT-200	145-162	135	110	3½x3½x2	MSTT or 15A	4.30	3.01
MSTT-208	161-180	150	110	3½x3½x2	MSTT or 15A	4.55	3.18
MSTT-244	189-210	175	110	3½x3½x2	MSTT or 15A	5.19	3.63
MSTT-245	270-300	250	110	3½x3½x2	MSTT or 15A	6.83	4.78

Standard Universal Electrolytic Motor-Starting Replacement Capacitors

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the special Motor-Starting Capacitor Catalog devoted to the AEROVOX complete line. This list is intended to simplify the selection of required capacitor when manufacturer's part number and AEROVOX catalog number are not known. Information given: capacity range, voltage rating, dimensions and type of container may help determine capacitor required in absence of original unit or name-plate data. This listing also ideal for use with the AEROVOX Capacitor Selector.

125 VOLTS A.C.—ROUND CANS—ULTRA-COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

(Max. Surge Voltage 120% of Rated Voltage)

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
MSRT-258	20-24	20	125	1⅜x3⅛	MSRT or 18B	$2.08	**$1.45**
MSRT-259	26-30	25	125	1⅜x3⅛	MSRT or 18B	2.08	**1.45**
MSRT-260	32-36	30	125	1⅜x3⅛	MSRT or 18B	2.21	**1.54**
MSRT-261	38-42	35	125	1⅜x3⅛	MSRT or 18B	2.21	**1.54**
MSRT-262	43-48	40	125	1⅜x3⅛	MSRT or 18B	2.21	**1.54**
MSRT-263	53-60	50	125	1⅜x3⅛	MSRT or 18B	2.27	**1.58**
MSRT-264	64-72	60	125	1⅜x3⅛	MSRT or 18B	2.27	**1.58**
MSRT-265	70-78	65	125	1⅜x3⅛	MSRT or 18B	2.46	**1.72**
MSRT-266	75-84	70	125	1⅜x3⅛	MSRT or 18B	2.46	**1.72**
MSRT-267	86-96	80	125	1⅜x3⅛	MSRT or 18B	2.53	**1.77**
MSRT-268	97-107	90	125	1⅜x3⅛	MSRT or 18B	2.59	**1.81**
MSRT-269	108-120	100	125	1⅜x3⅛	MSRT or 18B	2.59	**1.81**
MSRT-270	124-138	115	125	1⅜x3⅛	MSRT or 18B	2.78	**1.94**
MSRT-271	145-162	135	125	1⅜x3⅛	MSRT or 18B	3.35	**2.34**
MSRT-272	161-180	150	125	1⅜x4⅛	MSRT or 18B	3.67	**2.56**
MSRT-273	216-240	200	125	2 x3⅛	MSRT or 18B	4.93	**3.45**
MSRT-274	270-300	250	125	2 x3⅛	MSRT or 18B	6.38	**4.46**
MSRT-275	324-360	300	125	2 x4⅛	MRST or 18B	7.34	**5.13**
MSRT-276	378-420	350	125	2 x4⅛	MSRT or 18B	8.22	**5.75**
MSRT-277	400-480	450	125	2 x4⅛	MSRT or 18B	11.39	**7.97**

125 VOLTS A.C.—ROUND CANS—HEAVY-DUTY
TYPE MSRT—1⅜", 1¾" and 2" Cans with Insulating Tube

(Max. Surge Voltage 140% of Rated Voltage)

MSRT-278	32-36	30	125	1⅜x3⅛	MSRT or 18B	$5.06	**$3.54**
MSRT-279	53-60	50	125	1⅜x3⅛	MSRT or 18B	5.12	**3.58**
MSRT-280	64-72	65	125	1⅜x3⅛	MSRT or 18B	5.31	**3.71**
MSRT-281	86-96	80	125	1⅜x3⅛	MSRT or 18B	5.43	**3.80**
MSRT-282	97-107	90	125	1⅜x3⅛	MSRT or 18B	5.50	**3.85**
MSRT-283	108-120	100	125	1¾x3⅛	MSRT or 18B	5.50	**3.85**
MSRT-284	124-138	115	125	1¾x3⅛	MSRT or 18B	5.69	**3.98**
MSRT-285	145-162	135	125	1¾x3⅛	MSRT or 18B	6.45	**4.51**
MSRT-286	161-180	150	125	2 x3⅛	MSRT or 18B	6.83	**4.78**
MSRT-287	189-210	175	125	2 x3⅛	MSRT or 18B	7.77	**5.43**
MSRT-288	216-240	200	125	2 x3⅛	MSRT or 18B	8.73	**6.11**
MSRT-289	243-270	225	125	2 x4⅛	MSRT or 18B	9.49	**6.64**
MSRT-290	270-300	250	125	2 x4⅛	MSRT or 18B	10.25	**7.17**
MSRT-291	324-360	300	125	2 x4⅛	MSRT or 18B	13.67	**9.56**

220 VOLTS A.C.—ROUND CANS—ULTRA COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

MSRT-246	20-24	20	220	1⅜x3⅛	MSRT or 18B	$2.91	**$2.03**
MSRT-202	26-30	25	220	1⅜x3⅛	MRST or 18B	3.35	**2.34**
MSRT-248	32-36	30	220	2 x4⅛	MSRT or 18B	3.79	**2.65**
MSRT-249	38-42	35	220	2 x4⅛	MSRT or 18B	4.30	**3.01**
MSRT-250	43-48	40	220	2 x4⅛	MSRT or 18B	4.55	**3.18**
MSRT-251	53-60	50	220	2 x4⅛	MSRT or 18B	5.19	**3.63**

220 VOLTS A.C.—SQUARE DRAWN CANS
TYPE MSQT—3½" x 3½" with Cardboard Insulating Container

MSQT-215	26-30	25	220	3½x3½x2	MSQT or 12	$4.55	**$3.18**
MSQT-253	32-36	30	220	3½x3½x2	MSQT or 12	5.81	**3.71**
MSQT-254	43-48	40	220	3½x3½x2	MSQT or 12	6.07	**4.24**

TYPE MSRT

Supplied with insulating tube (not shown). Former AEROVOX designation Fig. 18A or 18B.

AEROVOX
MOTOR STARTING CAPACITOR

TYPE MSQT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 12.

AEROVOX
MOTOR STARTING CONDENSER

TYPE MSTT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 15A.

Standard Universal Replacement Oil Capacitors

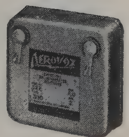
The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.

TYPE RR

Former AEROVOX designation Fig. 25.

TYPE RT

Former AEROVOX designation Fig. 21.



TYPE RD

Former AEROVOX designation Fig. 22.

ROUND CAN—Type RR—1⅜", 2", 2½" and 3" Containers

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
220 VOLTS A.C.						
RR-673	1	220	1⅜x2¾	RR or 25	$ 3.79	$2.65
RR-661	2	220	1⅜x3¾	RR or 25	4.67	3.26
RR-698	3	220	2 x3¾	RR or 25	5.06	3.54
RR-638	4	220	2 x3¾	RR or 25	5.62	3.93
RR-717	5	220	2 x4¼	RR or 25	6.14	4.29
RR-636	6	220	2 x5¼	RR or 25	6.83	4.78
RR-634	8	220	2½x4¼	RR or 25	7.59	5.31
RR-637	10	220	2½x4¾	RR or 25	8.66	6.06
RR-635	12	220	2½x5¼	RR or 25	9.87	6.90
RR-753	15	220	3 x4¾	RR or 25	12.53	8.77
RR-758	18	220	3 x5¼	RR or 25	15.19	10.63
330 VOLTS A.C.						
RR-639	1	330	1⅜x2¾	RR or 25	$ 4.17	$ 2.91
RR-658	2	330	2 x2½	RR or 25	5.19	3.63
RR-640	2	330	2 x3¼	RR or 25	5.19	3.63
RR-641	3	330	2 x3¾	RR or 25	5.56	3.89
RR-642	4	330	2 x4¼	RR or 25	6.19	4.33
RR-643	5	330	2 x5¼	RR or 25	6.77	4.73
RR-644	6	330	2½x4¼	RR or 25	7.52	5.26
RR-767	8	330	2½x5¼	RR or 25	8.35	5.84
RR-768	10	330	3 x4¾	RR or 25	9.54	6.67
RR-769	12	330	3 x5¼	RR or 25	10.88	7.61
RR-770	15	330	3 x5¾	RR or 25	13.79	9.65
440 VOLTS A.C.						
RR-645	1	440	2 x3½	RR or 25	$ 4.61	$ 3.22
RR-646	2	440	2 x4¼	RR or 25	5.75	4.02
RR-647	3	440	2½x3¾	RR or 25	6.14	4.29
RR-648	4	440	2½x4¾	RR or 25	6.83	4.78
RR-722	5	440	2½x5¼	RR or 25	7.46	5.22
RR-738	8	440	3 x5¾	RR or 25	9.23	6.46
660 VOLTS A.C.						
RR-671	1	660	2 x4¾	RR or 25	$ 5.12	$ 3.58
RR-693	2	660	2½x5¼	RR or 25	6.38	4.46
DRAWN CONTAINER—Type RT—3⅜" Square (Terminals on Side)						
220 VOLTS A.C.						
RT-700	3	220	3⅜x3⅜x1⅛	RT or 21	$ 5.06	3.54
RT-719	5	220	3⅜x3⅜x1½	RT or 21	6.14	4.29
RT-727	6	220	3⅜x3⅜x1¾	RT or 21	6.83	4.78
RT-736	8	220	3⅜x3⅜x2¼	RT or 21	7.59	5.31
330 VOLTS A.C.						
RT-688	2	330	3⅜x3⅜x1⅛	RT or 21	$ 5.19	$ 3.63
RT-712	4	330	3⅜x3⅜x1¾	RT or 21	6.19	4.33
RT-730	6	330	3⅜x3⅜x2¼	RT or 21	7.52	5.26
440 VOLTS A.C.						
RT-691	2	440	3⅜x3⅜x1½	RT or 21	$ 5.75	$ 4.02
RT-705	3	440	3⅜x3⅜x2	RT or 21	6.14	4.29
660 VOLTS A.C.						
RT-627	1	660	3⅜x3⅜x1 9/16	RT or 21	$ 5.12	$ 3.58
DRAWN CONTAINER—Type RD—3⅜" Square (Terminals on Bottom)						
220 VOLTS A.C.						
RD-675	1	220	3⅜x3⅜x9/16	RD or 22	$ 3.79	$ 2.65
RD-685	2	220	3⅜x3⅜x13/16	RD or 22	4.67	3.26
330 VOLTS A.C.						
RD-677	1	330	3⅜x3⅜x ⅝	RD or 22	$ 4.17	$ 2.91
RD-522	2	330	3⅜x3⅜x1	RD or 22	5.19	3.63
RD-525	5	330	3⅜x3⅜x2 1/16	RD or 22	6.77	4.73
440 VOLTS A.C.						
RD-680	1	440	3⅜x3⅜x15/16	RD or 22	$ 4.61	$ 3.22

Standard Universal Replacement Oil Capacitors

The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.

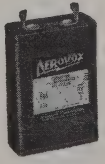
Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
DRAWN CONTAINER—Type RS—4 3/8" Square (Terminals on Side)						
220 VOLTS A.C.						
RS-728	6	220	4 3/8 x 4 3/8 x 1 1/8	RS or 23	$ 6.83	$ 4.78
RS-743	10	220	4 3/8 x 4 3/8 x 1 7/16	RS or 23	8.66	6.06
RS-749	12	220	4 3/8 x 4 3/8 x 1 5/8	RS or 23	9.87	6.90
RS-659	15	220	4 3/8 x 4 3/8 x 1 7/8	RS or 23	12.53	8.77
RS-757	16	220	4 3/8 x 4 3/8 x 2	RS or 23	13.79	9.65
330 VOLTS A.C.						
RS-529	4	330	4 3/8 x 4 3/8 x 1 1/8	RS or 23	$ 6.19	$ 4.33
RS-530	5	330	4 3/8 x 4 3/8 x 1 1/8	RS or 23	6.77	4.73
RS-745	10	330	4 3/8 x 4 3/8 x 2 1/16	RS or 23	9.54	6.67
440 VOLTS A.C.						
RS-714	4	440	4 3/8 x 4 3/8 x 1 9/16	RS or 23	$ 6.83	$ 4.78
RS-732	6	440	4 3/8 x 4 3/8 x 2 1/16	RS or 23	8.28	5.79
660 VOLTS A.C.						
RS-681	1	660	4 3/8 x 4 3/8 x 1 1/8	RS or 23	$ 5.12	$ 3.58
RS-695	2	660	4 3/8 x 4 3/8 x 1 11/16	RS or 23	6.38	4.46
DRAWN CONTAINER—Type RB, 4 3/8" Square (Terminals on Bottom)						
220 VOLTS A.C.						
RB-686	2	220	4 3/8 x 4 3/8 x 9/16	RB or 24	$ 4.67	$ 3.26
RB-701	3	220	4 3/8 x 4 3/8 x 5/8	RB or 24	5.06	3.54
RB-711	4	220	4 3/8 x 4 3/8 x 3/4	RB or 24	5.62	3.93
RB-720	5	220	4 3/8 x 4 3/8 x 7/8	RB or 24	6.14	4.29
330 VOLTS A.C.						
RB-689	2	330	4 3/8 x 4 3/8 x 5/8	RB or 24	$ 5.19	$ 3.63
RB-703	3	330	4 3/8 x 4 3/8 x 3/4	RB or 24	5.56	3.89
440 VOLTS A.C.						
RB-679	1	440	4 3/8 x 4 3/8 x 13/16	RB or 24	$ 4.61	$ 3.22
RB-692	2	440	4 3/8 x 4 3/8 x 1 1/16	RB or 24	5.75	4.02
660 VOLTS A.C.						
RB-707	3	660	4 3/8 x 4 3/8 x 2 1/4	RB or 24	$ 7.39	$ 5.17
RECTANGULAR CASE—Type RY						
220 VOLTS A.C.						
RY-674	1	220	2 x 1 13/16 x 1 1/16	RY or 28	$ 3.79	$ 2.65
RY-684	2	220	3 1/4 x 1 13/16 x 1 1/16	RY or 28	4.67	3.26
RY-699	3	220	3 7/8 x 1 13/16 x 1 1/16	RY or 28	5.06	3.54
RY-710	4	220	3 1/4 x 2 1/2 x 1 3/16	RY or 28	5.62	3.93
RY-718	5	220	3 7/8 x 2 1/2 x 1 3/16	RY or 28	6.14	4.29
RY-726	6	220	4 5/8 x 2 1/2 x 1 3/16	RY or 28	6.83	4.78
RY-735	8	220	3 7/8 x 3 3/4 x 1 1/4	RY or 28	7.59	5.31
RY-742	10	220	4 5/8 x 3 3/4 x 1 1/4	RY or 28	8.66	6.06
RY-748	12	220	4 1/4 x 3 3/4 x 1 3/4	RY or 28	9.87	6.90
RY-754	15	220	5 1/8 x 3 3/4 x 1 3/4	RY or 28	12.53	8.77
RY-759	20	220	5 1/8 x 3 3/4 x 2 1/2	RY or 28	16.39	11.47
RY-763	25	220	5 1/8 x 3 3/4 x 3 3/16	RY or 28	19.62	13.73
RY-766	30	220	3 3/4 x 3 3/4 x 4 9/16	RY or 28	22.78	15.94
330 VOLTS A.C.						
RY-663	1	330	2 1/4 x 1 13/16 x 1 1/16	RY or 28	$ 4.17	$ 2.91
RY-664	2	330	3 7/8 x 1 13/16 x 1 1/16	RY or 28	5.19	3.63
RY-665	3	330	3 1/2 x 2 1/2 x 1 3/16	RY or 28	5.56	3.89
RY-666	4	330	4 5/8 x 2 1/2 x 1 3/16	RY or 28	6.19	4.33
RY-667	5	330	3 7/8 x 3 3/4 x 1 1/4	RY or 28	6.77	4.73
RY-668	6	330	4 1/8 x 3 3/4 x 1 1/4	RY or 28	7.52	5.26
RY-669	8	330	3 7/8 x 3 3/4 x 1 3/4	RY or 28	8.35	5.84
RY-670	10	330	4 5/8 x 3 3/4 x 1 3/4	RY or 28	9.54	6.67
RY-751	12	330	4 5/8 x 3 3/4 x 2 1/4	RY or 28	10.88	7.61
RY-755	15	330	4 1/8 x 3 3/4 x 3 3/16	RY or 28	13.79	9.65
RY-760	20	330	4 5/8 x 3 3/4 x 4 9/16	RY or 28	18.23	12.76
RY-764	25	330	4 5/8 x 3 3/4 x 4 9/16	RY or 28	22.78	15.94
440 VOLTS A.C.						
RY-678	1	440	3 7/8 x 1 13/16 x 1 1/16	RY or 28	$ 4.61	$ 3.22
RY-690	2	440	4 1/8 x 2 1/2 x 1 3/16	RY or 28	5.75	4.02
RY-704	3	440	3 1/2 x 3 3/4 x 1 1/4	RY or 28	6.14	4.29
RY-713	4	440	3 1/2 x 3 3/4 x 1 3/4	RY or 28	6.83	4.78
RY-723	5	440	4 1/2 x 3 3/4 x 1 3/4	RY or 28	7.46	5.22
RY-731	6	440	3 13/16 x 3 3/4 x 2 1/4	RY or 28	8.28	5.79
RY-739	8	440	4 5/8 x 3 3/4 x 2 1/2	RY or 28	9.23	6.46
RY-746	10	440	4 5/8 x 3 3/4 x 3 3/16	RY or 28	10.50	7.35
RY-752	12	440	3 7/8 x 3 3/4 x 4 9/16	RY or 28	12.01	8.40
RY-756	15	440	4 5/8 x 3 3/4 x 4 9/16	RY or 28	15.31	10.71
RY-761	20	440	6 x 3 3/4 x 4 9/16	RY or 28	20.05	14.03
660 VOLTS A.C.						
RY-694	2	660	4 3/4 x 3 3/4 x 1 3/4	RY or 28	$ 6.38	$ 4.46
RY-706	3	660	4 5/8 x 3 3/4 x 2 1/4	RY or 28	7.39	5.17
RY-715	4	660	4 x 3 3/4 x 4 9/16	RY or 28	8.22	5.75
RY-724	5	660	4 5/8 x 3 3/4 x 3 3/16	RY or 28	8.98	6.28
RY-733	6	660	5 3/8 x 3 3/4 x 3 3/16	RY or 28	9.92	6.94
RY-740	8	660	5 3/8 x 3 3/4 x 4 9/16	RY or 28	10.56	7.39
RY-747	10	660	6 3/8 x 3 3/4 x 4 9/16	RY or 28	12.65	8.85

TYPE RS

Former AEROVOX designation Fig. 23.

TYPE RB

Former AEROVOX designation Fig. 24.



TYPE RY

Former AEROVOX designation Fig. 28.

Standard Universal Replacement Oil Capacitors

The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.

TYPE RF
Former AEROVOX designation Fig. 20.

RECTANGULAR CASE—Type RF—4⅞" x 3⅛" (Terminals on Cover)

220 VOLTS A.C.

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RF-676	1	220	4⅞x3⅛x ⅞	RF or 20	$ 3.79	$ 2.65
RF-687	2	220	4⅞x3⅛x1⅛	RF or 20	4.67	3.26
RF-702	3	220	4⅞x3⅛x1¼	RF or 20	5.06	3.54
RF-662	4	220	4⅞x3⅛x1⅜	RF or 20	5.62	3.93
RF-721	5	220	4⅞x3⅛x1½	RF or 20	6.14	4.29
RF-729	6	220	4⅞x3⅛x1⅝	RF or 20	6.83	4.78
RF-737	8	220	4⅞x3⅛x1⅞	RF or 20	7.59	5.31
RF-744	10	220	4⅞x3⅛x2⅛	RF or 20	8.66	6.06
RF-750	12	220	4⅞x3⅛x2⅜	RF or 20	9.87	6.90
RF-660	20	220	4⅞x3⅛x3⅜	RF or 20	16.39	11.47
RF-657	30	220	4⅞x3⅛x4⅝	RF or 20	22.78	15.94

330 VOLTS A.C.

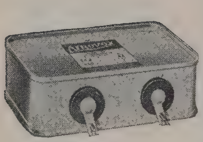
Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RF-508	1	330	4⅞x3⅛x1	RF or 20	$ 4.17	$ 2.91
RF-509	2	330	4⅞x3⅛x1⅛	RF or 20	5.19	3.63
RF-510	3	330	4⅞x3⅛x1⅜	RF or 20	5.56	3.89
RF-511	4	330	4⅞x3⅛x1½	RF or 20	6.19	4.33
RF-649	5	330	4⅞x3⅛x1¾	RF or 20	6.77	4.73
RF-512	6	330	4⅞x3⅛x1⅞	RF or 20	7.52	5.26
RF-513	8	330	4⅞x3⅛x2¼	RF or 20	8.35	5.84
RF-561	10	330	4⅞x3⅛x2⅝	RF or 20	9.54	6.67
RF-562	12	330	4⅞x3⅛x3	RF or 20	10.88	7.61
RF-563	14	330	4⅞x3⅛x3⅞	RF or 20	12.65	8.85
RF-564	16	330	4⅞x3⅛x4¼	RF or 20	15.19	10.63
RF-620	20	330	4⅞x3⅛x4½	RF or 20	18.23	12.76
RF-765	25	330	4⅞x3⅛x5½	RF or 20	22.78	15.94

440 VOLTS A.C.

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RF-650	1	440	4⅞x3⅛x1	RF or 20	$ 4.61	$ 3.22
RF-586	2	440	4⅞x3⅛x1⅜	RF or 20	5.75	4.02
RF-584	3	440	4⅞x3⅛x1¾	RF or 20	6.14	4.29
RF-652	4	440	4⅞x3⅛x2	RF or 20	6.83	4.78
RF-653	5	440	4⅞x3⅛x2⅜	RF or 20	7.46	5.22
RF-654	6	440	4⅞x3⅛x2⅝	RF or 20	8.28	5.79
RF-655	8	440	4⅞x3⅛x3¼	RF or 20	9.23	6.46
RF-600	10	440	4⅞x3⅛x3⅞	RF or 20	10.50	7.35
RF-599	12	440	4⅞x3⅛x4¾	RF or 20	12.01	8.40
RF-762	20	440	4⅞x3⅛x7	RF or 20	20.05	14.03

660 VOLTS A.C.

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RF-672	1	660	4⅞x3⅛x1½	RF or 20	$ 5.12	$ 3.58
RF-696	2	660	4⅞x3⅛x2¼	RF or 20	6.38	4.46
RF-708	3	660	4⅞x3⅛x3	RF or 20	7.39	5.17
RF-716	4	660	4⅞x3⅛x3¾	RF or 20	8.22	5.75
RF-725	5	660	4⅞x3⅛x4½	RF or 20	8.98	6.28
RF-734	6	660	4⅞x3⅛x5¼	RF or 20	9.92	6.94
RF-741	8	660	4⅞x3⅛x6¾	RF or 20	10.56	7.39



TYPE RK
Former AEROVOX designation Fig. 29.

RECTANGULAR CASE—TYPE RK—4⅞" x 3⅛" (Terminals on Side)

330 VOLTS A.C.

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RK-612	3	330	4⅞x3⅛x1½	RK or 29	$ 5.56	$ 3.89

660 VOLTS A.C.

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
RK-548	1	660	4⅞x3⅛x1½	RK or 29	$ 5.12	$ 3.58
RK-549	2	660	4⅞x3⅛x2¼	RK or 29	6.38	4.46
RK-550	3	660	4⅞x3⅛x3	RK or 29	7.39	5.17
RK-551	4	660	4⅞x3⅛x3¾	RK or 29	8.22	5.75
RK-552	5	660	4⅞x3⅛x4½	RK or 29	8.98	6.28
RK-553	6	660	4⅞x3⅛x5¼	RK or 29	9.92	6.94

AEROVOX Special-duty Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

P. S.

● This is a postscript. This page contains several new Aerovox products recently introduced and not as yet cataloged. These special-duty capacitors are of particular interest to advanced radio workers, builders of special equipment, experimenters and engineers.

Other new products are being announced from time to time. Aerovox engineering is keeping abreast of the rapid advances of the radio-electronic art. Therefore, if you do not see what you need in these pages, tell us about your unusual needs. Aerovox either has a type already developed and in production, or will consider an entirely new type if warranted by the anticipated demand.

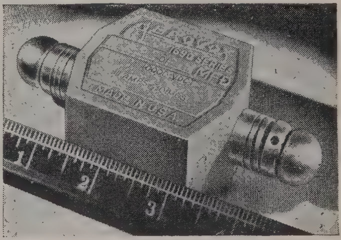
LOW-INDUCTANCE MICA CAPACITOR

AEROVOX SERIES 1690 is a molded-in-bakelite mica capacitor designed for exceptionally low loss operation at ultra high frequencies. External evidence of its efficiency is offered by the rounded hardware—round nuts, round washers and spherical lock nuts eliminating sharp edges and corners that cause corona losses. The use of fine threads for the terminal studs insures maximum contact and minimum r.f. resistance. Silver plating of all conducting members minimizes skin resistance. The body is of XM or yellow low-loss bakelite. Internally, the mica stack is designed for a straight-line path for high frequencies.

This type is several times larger than the conventional molded-in-bakelite transmitting micas. Body dimensions are 2⅜" wide x 2-3/16" deep x 1⅜" high, and 4¾" overall between rounded terminal tips.

Units are available in ratings up to 20,000 volts D.C. Test or 10,000 volts operating, and in capacitance values up to .001 mfd. at the highest voltage rating.

This type has been developed specifically for lower r.f. resistance and impedance, thereby providing increased KVA ratings for given size. Such units can be advantageously applied as blocking capacitors in transmission lines, as tank capacitors for high-frequency oscillators, as by-pass capacitors for ultra-high-frequency energy, and as coupling or by-pass capacitors in induction-heating circuits.



WATER-COOLED MICA CAPACITOR

AEROVOX SERIES 1780 water-cooled mica capacitor is available for extra-heavy duty service such as high-power transmitters and induction furnaces. The water-cooling feature boosts the KVA rating by a factor of five or more, or conversely, greatly reduces the bulk for given rating.

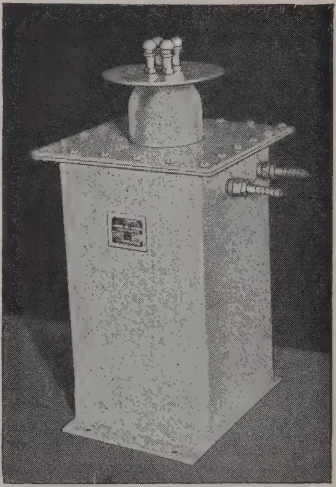
The higher KVA ratings are obtained in two ways: First, by exceptional design such as critical arrangement and location of mica sections; critical selection of materials; specially-plated parts; large cross-section of conductors; attention to details. Second, by the use of a water-cooling system so designed as to provide maximum heat transfer from capacitor to cooling coils.

The mica stacks are in an oil bath. Cooling coils in the oil bath provide for the efficient transfer of heat. What this cooling system means may be judged from the fact that a unit handling 200 KVA for air-cooled operations steps up to 1000 KVA with water-cooling.

The series-parallel mica stack is designed for uniform current distribution throughout. There is a large factor of safety. Silver-plated hardware minimizes skin resistance. Terminals are furnished with large radii of curvature to minimize and even eliminate corona. The steatite insulator is shaped to hold gradients below corona limits.

Heavy non-ferrous welded metal case, hermetically-sealed and grounded. Side-mounted nipples for connecting water-cooling hose. Sturdy mounting flanges. Provisions for making connections with high-current-capacity conductors. Four-stud terminal for low-loss connections.

Available in ratings up to 25,000 volts A.C. Test, and in capacitances up to .01 mfd.



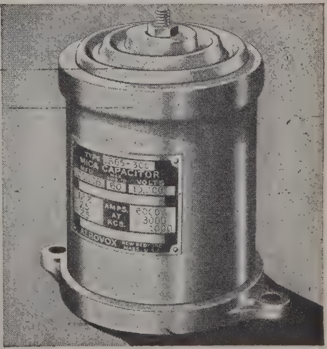
ULTRA-HIGH-FREQUENCY CAPACITORS

AEROVOX SERIES 1860 and 1865 are engineered and especially recommended for use in ultra-high-frequency radio equipment such as television and FM transmitter, as well as other miscellaneous applications in the u.h.f. field. In such applications they are readily adaptable for use as fixed-tuning capacitors, by-pass, blocking, coupling, neutralizing and antenna-series capacitors.

Losses are extremely low, due to the highly refined sulphur dielectric. Corona losses are avoided by the unique construction design, the grounded case and the terminal on each type.

Series 1860 (not illustrated) is the smaller unit in an aluminum can, intended more for the radio amateur and experimenter, and for low-cost assemblies. It has a suitably plated brass terminal mounted on a mica insulating plate. Available in four types: .0001 mfd., 10,000 v.; .000025 mfd., 10,000 v.; .00005, 5000 v.; .00005, 10,000 v. Voltage is Peak Working Volts.

Series 1865 (illustrated) is the larger unit, in a cast aluminum case with steatite insulator supporting the higher-voltage terminal. Available in capacitances from .00002 to .000125 mfd., at 10,000 v.



Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

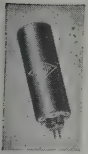
RADIO'S MASTER

AMERICAN CONDENSER CO.

4410 No. RAVENSWOOD AVE. CHICAGO 40,

AMCON PAPER CAPACITORS

There is a standard type of Amcon Paper Capacitor to fill practically all commonly encountered requirements—a wide range of capacities, voltages, dimensions, casings and terminals. All are built to AMCON'S highest precision standards. For special capacitor problems, AMCON'S competent engineering staff is always available and inquiries for specific needs are invited.



Type PPLL

PAPER CAPACITORS IN PLASTIC CONTAINERS

Type PPL

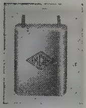
Encased in gleaming plastic with inverted one nut mounting permitting use on top or side of chassis. Condenser unit is oil cooled and molded in oil proof wax. Permanently sealed, moisture proof, wide temperature range.

Working Voltage 600 V.D.C.—Test Voltage 1800 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
PPL62	2	1⅜ x 3½	$2.15
PPLL62	2	1⅜ x 3½	2.50

TYPE US UNCASED SECTIONS

IDEAL FOR REPLACEMENT WORK



Designed for reliability rather than for appearance. Wound of chemically pure paper and foil, carefully impregnated and sealed with high melting point wax. Long, securely anchored leads.

Working Voltage 600 V.D.C.—Test Voltage 1800 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
US-601	1	½ x 2¼ x 1¾	$0.90
US-602	2	⅞ x 2½ x 2⅛	1.35
US-604	4	¾ x 3⅛ x 1⅞	2.70

Working Voltage 1000 V.D.C.—Test Voltage 1800 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
US-1001	1	¾ x 3⅛ x 1⅞	$1.50
US-1002	2	⅞ x 3⅛ x 2	2.50

TUBULAR PAPER CAPACITORS

Non-inductively wound with highest quality paper and tinfoil. Pigtail leads hot soldered to sections. Vacuum sealed in thoroughly impregnated cardboard tubes and fully protected against moisture.

WORKING VOLTAGE 600 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
TP60T1	.0001	⅜ x 1⅛	$0.15
TP60T25	.00025	⅜ x 1⅛	.15
TP60T50	.0005	⅜ x 1⅛	.15
TP60B1	.001	⅜ x 1⅛	.15
TP60B20	.002	⅜ x 1⅛	.15
TP60B30	.003	⅜ x 1⅛	.15
TP60B50	.005	⅜ x 1⅛	.15
TP60B60	.006	⅜ x 1⅛	.15
TP6001	.01	⅜ x 1⅛	.15
TP6002	.02	7/16 x 1⅛	.15
TP6005	.05	9/16 x 1⅝	.20
TP6010	.1	11/16 x 1⅝	.25
TP6025	.25	15/16 x 1¾	.30
TP6050	.5	11/16 x 2⅜	.40
TP6100	1.	1⅛ x 2¾	.50

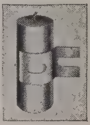
TUBULAR UNITS FOR VIBRATOR USE

Sturdy, heavy duty units specifically designed to withstand the high voltage encountered in vibrator duty.

WORKING VOLTAGE 1600 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
TPX005	.005	7/16 x 1¾	$0.30
TPX01	.01	½ x 1¾	.35
TPXO2	.02	⅝ x 1¾	.45

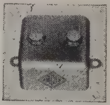
TYPE GC GENERATOR CONDENSER



For heavy-duty automotive service. Leads hot soldered and swedged to the condenser section and to the can. Thoroughly impregnated and sealed.

.5 Generator Condenser 50c

TYPE AHB-PAPER DIELECTRIC (BATH-TUB) CAPACITORS



Units are non-inductively wound, wax impregnated, oil cooled, wax sealed and encased in drawn metal container, well tinned to prevent corrosion. Exclusive AMCON Terminals (combination one-piece bushing) give high voltage rating between terminals and can. Tested at three times rated voltage.

600 VOLTS D.C. WORKING

Cat. No.	Cap. Mfd.	Size (ins.)	C to C Mount	List
AHB05	.05	1 13/16x1x¾	2⅛	$1.70
AHB10	.1	1 13/16x1x¾	2⅛	1.75
AHB25	.25	1 13/16x1x¾	2⅛	1.80
AHB50	.5	1 13/16x1x13/16	2⅛	1.95
AHB100	1.0	2x1¾x⅞	2⅜	2.25
AHB200	2.0	2x2x1⅛	2⅜	3.00
AHB05D	.05x.05	1 13/16x1x¾	2⅛	2.15
AHB10D	.1x.1	1 13/16x1x13/16	2⅛	2.20
AHB25D	.25x.25	2x1¾x⅞	2⅜	2.25
AHB50D	.5x.5	2x1¾x⅞	2⅜	2.55
AHB10T	.1x.1x.1	1 13/16x1x13/16	2⅛	2.50

1000 VOLTS D.C. WORKING

Cat. No.	Cap. Mfd.	Size (ins.)	C to C Mount	List
AHBM05	.05	1 13/16x1x¾	2⅛	$1.75
AHBM10	.1	1 13/16x1x13/16	2⅛	1.85
AHBM25	.25	1 13/16x1x13/16	2⅛	1.90
AHBM50	.5	2x1¾x⅞	2⅜	2.05
AHBM1	1.	2x2x1⅛	2⅜	2.75
AHBM05D	.05x.05	1 13/16x1x13/16	2⅛	2.15
AHBM10D	.1x.1	1 13/16x1x13/16	2⅛	2.30
AHBM25D	.25x.25	2x1¾x⅞	2⅜	2.50

AMERICAN CONDENSER CO.

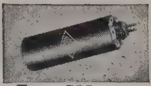
4410 No. RAVENSWOOD AVE. CHICAGO 40

AMCON ELECTROLYTIC CAPACITORS

All AMCON Electrolytic Capacitors measure up to the highest standards for consistent uniformity in electrical characteristics and for dependable long life in service. Inquiries for specific needs are invited.

ELECTROLYTIC CAPACITORS IN PLASTIC CONTAINERS

Type PL



Type PLL

Inverted type plastic casing can be used on a top chassis mounting with a nut. 100% moisture proof, withstands extreme heat or cold. Type PL with 4½" insulated wire leads; PLL with soldering lugs.

**TYPE PL—WORKING VOLTAGE 450 V.D.C.
PEAK 600 V.D.C.**

Cat. No.	Cap. Mfd.	Size	List
PL5-8	8	1⅜ x 3½	$1.20
PL5-10	10	1⅜ x 3½	1.50
PL5-12	12	1⅜ x 3½	1.60
PL5-16	16	1⅜ x 3½	1.75
PL5-20	20	1⅜ x 3½	1.95
PL5-24	24	1⅜ x 3½	2.05
PL5-30	30	1⅜ x 3½	2.25
PL5-35	35	1⅜ x 3½	2.35
PL5-40	40	1⅜ x 3½	2.65
PL5-88	8-8	1⅜ x 3½	1.90

**TYPE PLL—WORKING VOLTAGE 450 V.D.C.
PEAK 600 V.D.C.**

Cat. No.	Cap. Mfd.	Size	List
PLL 5—2 Lugs	8	1⅜ x 3½	$1.45
PLL10—2 Lugs	10	1⅜ x 3½	1.75
PLL12—2 Lugs	12	1⅜ x 3½	1.85
PLL16—2 Lugs	16	1⅜ x 3½	2.00
PLL20—2 Lugs	20	1⅜ x 3½	2.20
PLL24—2 Lugs	24	1⅜ x 3½	2.30
PLL30—2 Lugs	30	1⅜ x 3½	2.50
PLL35—2 Lugs	35	1⅜ x 3½	2.60
PLL5 40—2 Lugs	40	1⅜ x 3½	2.90
PLL5 88—3 Lugs	8-8	1⅜ x 3½	2.15

TYPE IC CAPACITORS

Standard Amcon quality condensers offered for use where economy is a prime factor. Furnished in kraft cardboard tubes with 1¼ inch c-c spade bolt mounting.

WORKING VOLTAGE 450 V. — PEAK 600 V.

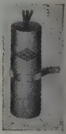
Cat. No.	Cap. Mfd.	Size	List
1C5- 8	8	1⅜ x 3½	$1.00
1C5-48	4-8	1⅜ x 3½	1.50
1C5-88	8-8	1⅜ x 3½	1.60
1C5-10	10	1⅜ x 3½	1.30
1C5-12	12	1⅜ x 3½	1.40
1C5-16	16	1⅜ x 3½	1.55
1C5-20	20	1⅜ x 3½	1.75
1C5-24	24	1⅜ x 3½	1.90
1C5-30	30	1⅜ x 3½	2.10
1C5-35	35	1⅜ x 3½	2.25
1C5-40	40	1⅜ x 3½	2.40

TYPE IC FILTER BLOCKS

Concentrically wound units with all sections having a common negative. High voltage sections are rated 150 working V., 200 peak V. Low voltage sections are 25 working V., 50 peak V. Also available on special order with separate negatives.

Cat. No.	Cap. Mfd.	Size	List
IC2-101	16-12 & 10-10	1⅜ x 3½	$2.15
IC2-102	16-8 & 5-5	1⅜ x 3½	2.00

TYPE KT CAPACITORS

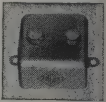


Kraft tube unit with center mounting bracket for use in assemblies where space is limited. 4½" insulated wire leads. Dual units made with four or three leads and common negative. Other capacity combinations available on request.

**THREE LEADS — COMMON NEGATIVE
Working Volts 150 D.C. — Peak V. 200 D.C.**

Cat. No.	Cap. Mfd.	Size	List
KT3-20-20	20-20	1 x 2⅜	$1.25
KT3-30-20	30-20	1 x 2⅜	1.40
KT3-40-20	40-20	1 x 3	1.60
KT3-40-40	40-40	1 x 3	1.85
KT3-60-30	60-30	1 x 3	2.05
	4 LEADS		
KT4-20-20	20-20	1 x 2⅜	$1.45
KT4-30-30	30-30	1 x 3	2.00
KT4-40-40	40-40	1 x 3	2.10

TYPE AEB ELECTROLYTIC (BATH TUB TYPE)



Constructed to withstand salt water immersion tests—ideal for marine use. Characteristics remain constant under extreme climatic variations. Engineered to highest standards—hermetically sealed.

Cat. No.	Cap. Mfd.	Volts	C-C Mount	Size	List
AEB10	10	25	1$\frac{13}{16}$x1x$\frac{13}{16}$	2⅛	$1.75
AEB25	25	25	1$\frac{13}{16}$x1x$\frac{13}{16}$	2⅛	1.90
AEB105	10	50	1$\frac{13}{16}$x1x$\frac{13}{16}$	2⅛	1.80
AEB255	25	50	1$\frac{13}{16}$x1x$\frac{13}{16}$	2⅛	1.95

TYPE CB ELECTROLYTIC In Cardboard Containers

These dry electrolytics are available in a wide variety of capacities and voltages. Furnished with six inch leads and solder lug mountings. Triple sealed for long unfailing service.

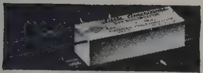
WORKING VOLTAGE 450 V.D.C.—PEAK 600 V.D.C.

Cat. No.	Cap. Mfd.	Size	List
CB5-2	2	1x⅝x2¾	$0.65
CB5-4	4	1x¾x3⅛	.75
CB5-8	8	1x⅞x3⅛	.95
CB5-12	12	1x1⅜x3⅛	1.30
CB5-16	16	1x1⅜x3⅛	1.45
CB5-44	4-4	1x1⅜x3⅛	1.20
CB5-48	4-8	1¼x1½x3⅛	1.35
CB5-88	8-8	1¼x1½x3⅛	1.50
	AC-DC FILTER BLOCKS		
CB2-101	16-12 10-10	1x1¼x2$\frac{15}{16}$	2.15
CB2-102	16-8 5-5	1x1¼x2$\frac{15}{16}$	2.00
CB2-103	20-10-10	1x1¼x2$\frac{15}{16}$	2.15

AMERICAN CONDENSER CO.

4410 No. RAVENSWOOD AVE. CHICAGO 40.

AMCON ELECTROLYTIC CAPACITORS



MIDGET PAPER ELECTROLYTICS

TYPES LP2 - LP3 - LP5

Small and compact, these dry electrolytics are readily wired into almost inaccessible places—are interchangeable in any circuit with standard larger size capacitors. Uniform, dependable characteristics. Dual and multiple type units are of separate sections.

TYPE LP-2 150 W. V. — 200 P.V. D.C.

Cat. No.	Cap. Mfd.	Size	List
LP2-8	8	2⅜ x ¾ x ¾	$0.75
LP2-12	12	2⅜ x ¾ x ¾	.75
LP2-16	16	2⅜ x ¾ x ¾	.90
LP2-20	20	2⅜ x ¾ x ¾	.95
LP2-30	30	2⅜ x ¾ x ¾	1.10
LP2-40	40	2⅜ x 1¼ x ¾	1.25
LP2-12-12	12-12	2⅜ x 1¼ x ¾	1.35
LP2-12-16	12-16	2⅜ x 1¼ x ¾	1.45
LP2-16-16	16-16	2⅜ x 1¼ x ¾	1.50
LP2-30-10	30-10	2⅜ x 1¼ x ¾	1.75
LP2-20-10-10 C.N.	20-10-10	2⅜ x 1¼ x ¾	2.00

TYPE LP-3 250 W.V. 325 P.V. DC

Cat. No.	Cap. Mfd.	Size	List
LP3-8	8	2⅜ x ¾ x ¾	$0.80
LP3-12	12	2⅜ x ¾ x ¾	.95
LP3-16	16	2⅜ x ¾ x ¾	1.05
LP3-20	20	2⅜ x 1¼ x ¾	1.20
LP3-4-8	4-8	2⅜ x 1¼ x ¾	1.15
LP3-8-8	8-8	2⅜ x 1¼ x ¾	1.25
LP3-8-16	8-16	2⅜ x 1¼ x ¾	1.45
LP3-16-16	16-16	2⅜ x 1¼ x ¾	1.65
LP3-8-8-8 CN	8-8-8	2⅜ x 1¼ x ¾	1.90

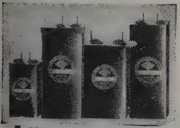
TYPE LP-5 450 W.V. 525 P.V. DC

Cat. No.	Cap. Mfd.	Size	List
LP5-2	2	2⅜ x ¾ x ¾	$0.65
LP5-4	4	2⅜ x ¾ x ¾	.75
LP5-8	8	2⅜ x ¾ x ¾	.90
LP5-10	10	2⅜ x ¾ x ¾	1.15
LP5-12	12	2⅜ x 1¼ x ¾	1.30
LP5-16	16	2⅜ x 1¼ x ¾	1.45
LP5-4-4	4-4	2⅜ x 1¼ x ¾	1.20
LP5-4-8	4-8	2⅜ x 1¼ x ¾	1.35
LP5-8-8	8-8	2⅜ x 1¼ x ¾	1.50
LP5-8-8-8	8-8-8	3 x 1¼ x 1	2.20

LITTLE AMERICAN ELECTROLYTICS

Highest precision standards plus extreme compactness. Moisture proof with tinned leads securely anchored to foil. Traditional AMCON dependability and long life.

	Cap. Mfd.	Size	List
25 VOLT D. C.	5	17/32" x 1½"	$0.40
	10	17/32" x 1½"	.40
	25	17/32" x 1½"	.50
50 VOLT D. C.	5	17/32" x 1½"	.45
	10	17/32" x 1½"	.50
	25	17/32" x 1½"	.55
	5-5	⅝" x 2⅛"	.65
	10-10	⅝" x 2⅛"	.65
150 VOLT D. C.	4	⅝" x 2⅛"	.40
	8	⅝" x 2⅛"	.45
	12	⅝" x 2⅛"	.50
	16	⅝" x 2⅛"	.55
	20	⅝" x 2⅛"	.60
	30	¾" x 2⅛"	.65
	40	¾" x 2⅛"	.70
	12-12	¾" x 2⅛"	.95
	16-16	¾" x 2⅛"	1.05
250 VOLT D. C.	4	⅝" x 2⅛"	.45
	8	⅝" x 2⅛"	.50
	12	⅝" x 2⅛"	.65
	16	⅝" x 2⅛"	.75
	20	¾" x 2⅛"	.80
	40	¾" x 2⅛"	.95
350 VOLT D. C.	4	⅝" x 2⅛"	.50
	8	⅝" x 2⅛"	.55
	12	¾" x 2⅛"	.70
	16	¾" x 2⅛"	.80
450 VOLT D. C.	4	⅝" x 2⅛"	.55
	8	⅝" x 2⅛"	.60
	12	¾" x 2⅛"	.75
	16	¾" x 2⅛"	.90
	8-8	1" x 2¼"	1.00



AMCON TELEPHONE CONDENSERS Type AHT

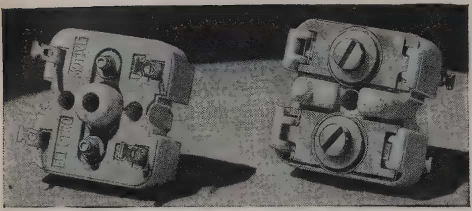
HERMETICALLY SEALED IN METAL CONTAINERS

Each unit receives full minute test at flash-test rating—is fully guaranteed as to capacity, insulation and breakdown tests. Heavy-duty, water-tight, all-metal containers, enamel dipped. Minus 10, plus 30 tolerance, standard; others on special order.

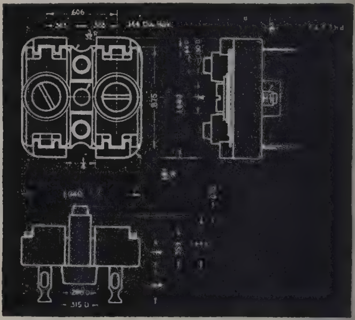
No.	Mfd.	FL. Test	Size			Lug. Dis.	List
280	1/20	500 V.D.C.	½	2¼	1¼	⅜	$0.80
290	1/10	500 V.D.C.	½	2¼	1¼	⅜	1.00
310	1/4	500 V.D.C.	½	3½	1¾	⅝	1.10
311	1/4	500 V.D.C.	½	2¼	1¼	⅜	1.10
321	1/2	500 V.D.C.	½	4½	1¾	⅝	1.20
322	1/2	500 V.D.C.	½	4	1¾	⅝	1.20
323	1/2	500 V.D.C.	¾	2¼	1¼	⅜	1.10
324	1/2	500 V.D.C.	½	2¼	1¼	⅜	1.10
325	1/2	500 V.D.C.	⅝	2¼	1¼	⅜	1.10
331	1	500 V.D.C.	½	4½	2¾	1¼	1.50
332	1	500 V.D.C.	½	4½	1¾	⅝	1.50
333	1	500 V.D.C.	¾	4½	2	⅝	1.50
334	1	500 V.D.C.	½	4	2¾	1¼	1.50
337	1	400 V.D.C.	1	2¼	1¼	⅜	1.40
341	1½	500 V.D.C.	¾	3⅞	1⅝	⅜	1.80
342	1½	500 V.D.C.	¾	3⅝	2⅝	1¼	1.80
343	1½	500 V.D.C.	⅞	3	2⅜	1¼	1.80
350	2	500 V.D.C.	¾	4½	3	1¼	1.90
351	2	500 V.D.C.	⅝	4⅜	2¾	1¼	1.90
355	2	500 V.D.C.	¾	4½	2	⅝	1.90
356	2	400 V.D.C.	½	4½	2¾	1¼	1.80
358	2	400 V.D.C.	1	3	2	⅝	1.80
359	2	400 V.D.C.	½	4	2¾	1¼	$1.80
370	3	500 V.D.C.	⅞	4½	3¼	1¼	2.50
371	3	500 V.D.C.	¾	4½	3	1¼	2.50
372	3	400 V.D.C.	⅝	4⅜	2¾	1¼	2.30
380	4	500 V.D.C.	1⅛	4½	2¾	1¼	3.10
381	4	500 V.D.C.	⅞	4½	3¼	1¼	3.10
400	1/20	1000 V.D.C.	½	2¼	1¼	⅜	1.10
410	1/10	1000 V.D.C.	½	2¼	1¼	⅜	1.30
420	1/4	1000 V.D.C.	¾	2¼	1¼	⅜	1.50
430	1/2	1000 V.D.C.	15/16	4½	1¾	⅝	1.60
431	1/2	1000 V.D.C.	¾	4½	2	⅝	1.60
440	1	1000 V.D.C.	⅝	4⅜	2¾	1¼	1.90
441	1	1000 V.D.C.	1½	4½	2	⅝	1.90
442	1	750 V.D.C.	¾	4½	2	⅝	1.80
443	1	750 V.D.C.	15/16	4½	1¾	⅝	1.80
450	2	1000 V.D.C.	¾	4½	4⅜	2	2.60
451	2	1000 V.D.C.	1¼	4½	2¾	1¼	2.60
452	2	750 V.D.C.	¾	4½	3	1¼	2.10
453	2	750 V.D.C.	1½	4½	2	⅝	2.10
460	3	1000 V.D.C.	1½	4½	3	1¼	3.10
470	4	1000 V.D.C.	1½	4½	4⅜	2	3.90
471	4	750 V.D.C.	1½	4½	3	1¼	3.60

EL-MENCO CAPACITORS

TYPE 50 DUAL PADDER



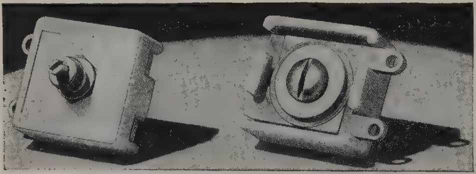
Type 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I. F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1-1/16" x 1-1/16".



PRICES, TYPE 50

Part No.	No. of Plates	Guaranteed Range		List Price
		At tight cap. will be more than MMF	At two turns open cap. will be less than MMF	
504	4 Pl.	260	50	$0.80
503	3 Pl.	170	19	.70
502	2 Pl.	80	7.5	.60

TYPE 30 PADDER



El-Menco Padding Condensers have been acclaimed by engineers as the finest development in adjustable mica condensers.

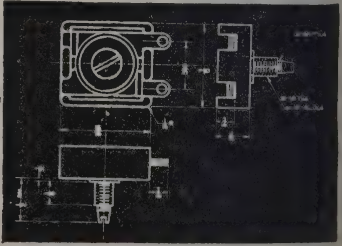
The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

The adjustable screw advances 1/64 inch for one complete rotation thus insuring accurate adjustment of the capacity setting.

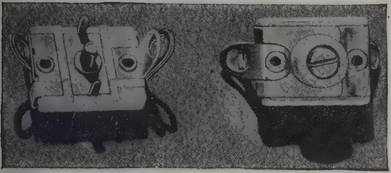
PRICES TYPE 30 PADDER

Part No.	No. of Plates	Guaranteed Range		List Price
		At tight cap. will be more than MMF	At 2½ turns open cap. will be less than MMF	
306	6 Pl.	1050	280	$0.70
305	5 Pl.	800	200	.65
304	4 Pl.	560	130	.60
303	3 Pl.	315	85	.55
302	2 Pl.	115	20	.50



EL-MENCO CAPACITORS

TYPE 46 MICA TRIMMER CONDENSER



The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

El Menco trimmer condensers are treated for resistance to humidity and for permanence of capacity setting.
Trimmers shown here are standard sizes and capacities.

PRICES TYPE 46

Part No.	No. of Plates	Guaranteed Range At tight cap. will be more than MMF	 At 3 turns open cap. will be less than MMF	List Price
469	9 Pl.	780	150	$0.70
468	8 Pl.	680	125	.65
467	7 Pl.	580	100	.60
466	6 Pl.	480	70	.55
465	5 Pl.	380	45	.50
464	4 Pl.	280	25	.45
463	3 Pl.	180	9	.40
462	2 Pl.	80	4	.30
461	1½ Pl.	30	2	.30
460	1¼ Pl.	15	1.5	.30

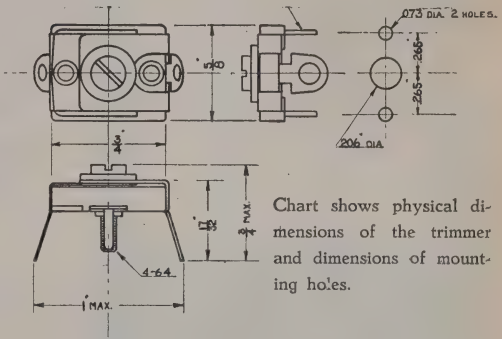


Chart shows physical dimensions of the trimmer and dimensions of mounting holes.

EL MENCO FUSED PLUG

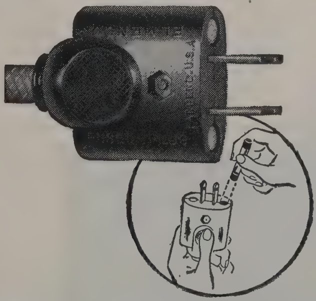
They're all saying again, "It's a wonder no one thought of it before." Here's a plug *that carries its own fuses.*

It attaches to the cord just as any standard plug, looks pretty much the same, light-weight, but easier to handle because of finger grips. However, it contains two small fuses, which provide complete protection against damage to the appliance and to the main line.

Blown fuses are easily removable; replacements are available up to 10 amperes.

Fuses Available Wherever Electrical Supplies Are Sold

LIST PRICE 35¢ EACH
LESS FUSES



REMOVE FUSES IN A JIFFY

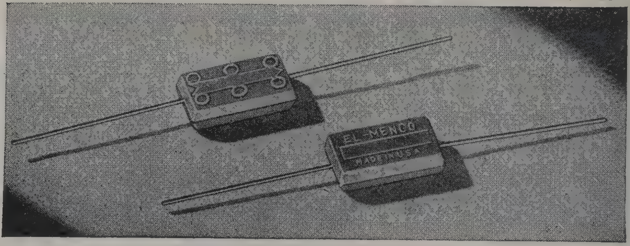
•

REPLACE FUSES INSTANTLY

UNDERWRITERS LABORATORY APPROVED

EL-MENCO CAPACITORS

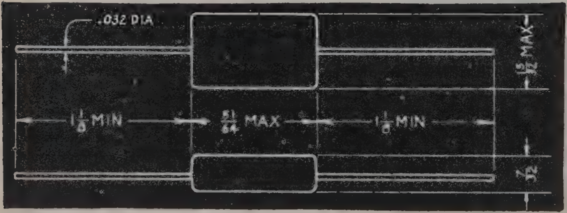
**FIXED
MICA
DIELECTRIC
CAPACITORS**
•
**ALL
IMPREGNATED
AND
JAN-C-5
COLOR
CODED**



**MADE IN
ACCORDANCE
WITH
AMERICAN
WAR
STANDARDS
TO MEET
ARMY AND
NAVY
JAN-C-5
SPECIFICATIONS**

All units are rated at 500 Volts D.C. working and tested at 1000 Volts D.C. except on capacities higher than 6200 mmf. which are rated at 300 Volts D.C. working and 600 Volts D.C. Test. All are tested for accuracy of capacity according to tolerance requested and voltage breakdown.

Type Designation	Cap. mmf.	DC Wkg. Vtge.	COLOR CODE				LIST PRICE	
			Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	Regular Mica	Silvered Mica
CM20-050-	5	500	black	green	black	gold	$0.25	$0.60
CM20-100-	10	500	black	brown	black	black	.25	.50
CM20-120-	12	500	black	brown	red	black	.25	.50
CM20-150-	15	500	black	brown	green	black	.25	.50
CM20-180-	18	500	black	brown	gray	black	.25	.50
CM20-200-	20	500	black	red	black	black	.25	.50
CM20-220-	22	500	black	red	red	black	.25	.50
CM20-240-	24	500	black	red	yellow	black	.25	.50
CM20-270-	27	500	black	red	violet	black	.25	.50
CM20-300	30	500	black	orange	black	black	.25	.50
CM20-330-	33	500	black	orange	orange	black	.20	.50
CM20-360-	36	500	black	orange	blue	black	.20	.50
CM20-390-	39	500	black	orange	white	black	.20	.50
CM20-430-	43	500	black	yellow	orange	black	.20	.50
CM20-470-	47	500	black	yellow	violet	black	.20	.50
CM20-510	51	500	black	green	brown	black	.20	.50
CM20-560-	56	500	black	green	blue	black	.20	.50
CM20-620-	62	500	black	blue	red	black	.20	.50
CM20-680-	68	500	black	blue	gray	black	.20	.50
CM20-750	75	500	black	violet	green	black	.20	.50
CM20-820-	82	500	black	grey	red	black	.20	.50
CM20-910-	91	500	black	white	brown	black	.20	.50
CM20-101-	100	500	black	brown	black	brown	.20	.50
CM20-111-	110	500	black	brown	brown	brown	.20	.50
CM20-121-	120	500	black	brown	red	brown	.20	.50
CM20-131-	130	500	black	brown	orange	brown	.20	.50
CM20-151-	150	500	black	brown	green	brown	.20	.50
CM20-161-	160	500	black	brown	blue	brown	.20	.50
CM20-181-	180	500	black	brown	gray	red	.20	.50
CM20-201-	200	500	black	red	black	brown	.20	.50
CM20-221-	220	500	black	red	red	brown	.20	.50
CM20-241-	240	500	black	red	yellow	brown	.25	.50
CM20-271-	270	500	black	red	violet	brown	.25	.60
CM20-301-	300	500	black	orange	black	brown	.25	.60
CM20-331-	330	500	black	orange	orange	brown	.25	.70
CM20-361-	360	500	black	orange	blue	brown	.25	.70
CM20-391-	390	500	black	orange	white	brown	.25	.70
CM20-431-	430	500	black	yellow	orange	brown	.25	.80
CM20-471-	470	500	black	yellow	violet	brown	.25	.80
CM20-511-	510	500	black	green	brown	brown	.25	.80
CM20-561-	560	500	black	green	blue	brown	.25	.90
CM20-621-	620	500	black	blue	red	brown	.25	.90
CM20-681-	680	500	black	blue	gray	brown	.25	1.00
CM20-751-	750	500	black	violet	green	brown	.25	1.20
CM20-821-	820	500	black	gray	red	brown	.25	1.35
CM20-911-	910	500	black	white	brown	brown	.25	1.35
CM20-102-	1000	500	black	brown	black	red	.30	1.50



STANDARD

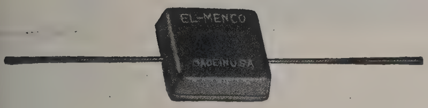
tolerance on above listed units are:

Regular MICA .... ±20%

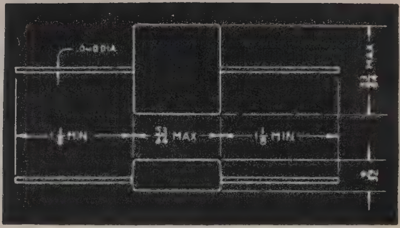
Silvered MICA .... ± 5%

(closest tolerance ±1 MMFD)

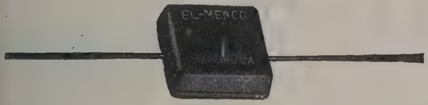
EL-MENCO CAPACITORS



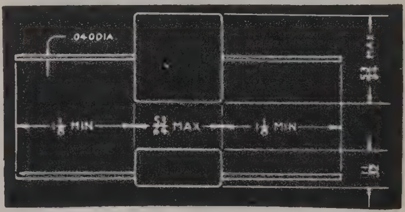
CM30



Type Designation	Cap. mmf.	DC Wkg. Vtge.	COLOR CODE Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	LIST PRICE Regular Mica	Silvered Mica
CM30-102-	1000	500	black	brown	black	red	$0.30	$1.50
CM30-112-	1100	500	black	brown	brown	red	.30	1.50
CM30-122-	1200	500	black	brown	brown	red	.30	1.50
CM30-132-	1300	500	black	brown	orange	red	.30	1.50
CM30-152-	1500	500	black	brown	green	red	.30	1.80
CM30-162-	1600	500	black	brown	blue	red	.40	1.80
CM30-182-	1800	500	black	brown	gray	red	.40	1.80
CM30-202-	2000	500	black	red	black	red	.40	1.80
CM30-222-	2200	500	black	red	red	red	.40	1.80
CM30-242-	2400	500	black	red	yellow	red	.45	2.40
CM30-272-	2700	500	black	red	violet	red	.45	2.40
CM30-302-	3000	500	black	orange	black	red	.50	2.70
CM30-332-	3300	500	black	orange	orange	red	.50	2.70



CM35



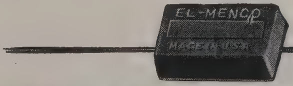
Type Designation	Cap. mmf.	DC Wkg. Vtge.	Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	Regular Mica	Silvered Mica
CM35-362-	3600	500	black	orange	blue	red	.50	2.70
CM35-392-	3900	500	black	orange	white	red	.55	2.85
CM35-432-	4300	500	black	yellow	orange	red	.55	2.85
CM35-472-	4700	500	black	yellow	violet	red	.55	2.85
CM35-512-	5100	500	black	green	brown	red	.60	3.00
CM35-562-	5600	500	black	green	blue	red	.60	3.50
CM35-622-	6200	500	black	blue	red	red	.70	4.00
CM35-682-	6800	300	black	blue	gray	red	.75	4.50
CM35-752-	7500	300	black	violet	green	red	.80	5.00
CM35-822-	8200	300	black	gray	red	red	.80	5.50
CM35-912-	9100	300	black	white	brown	red	.85	6.00
CM35-103-	10000	300	black	brown	black	orange	.90	6.50
CM45-203-	20000	600	black	red	black	orange	1.90	....

NOTE: CM40 can be supplied in same capacities and prices as CM35 shown above.

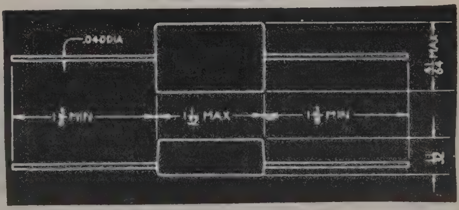
COLOR CODING TABLE

Color	Significant Figure	Decimal Multiplier	Tolerance
Black	0	1	20 per cent (M)
Brown	1	10	
Red	2	100	2 per cent (G)
Orange	3	1000	
Yellow	4		
Green	5		
Blue	6		
Violet	7		
Gray	8		
White	9		
Gold	—		5 per cent (J)
Silver	—		10 per cent (K)

OTE: For any RMA size not shown in above listings, figure price o the nearest capacity.



CM40



TYPE A PLASTICONS

DIELECTRIC

PLASTICON A is a transparent, thin plastic film. Made to our specifications, it is chemically pure, and has extremely uniform characteristics. Superior to the finest linen or kraft condenser paper hitherto used, Plasticon A film is free from metallic particles or other foreign matter. It has a much higher tensile strength than paper and does not become brittle with age and heat. It is not porous in the same sense as paper and has a higher breakdown voltage (4000 to 4500 v.p.m. as against 700 to 1000 v.p.m. for paper).

PROCESSING

Plasticon A film is carefully processed to remove all traces of moisture. The capacitor sections are cased in various types of containers and impregnated through small vents and then solder sealed. With a uniform film as a foundation, this process guarantees uniformity in production.

IMPREGNANTS

The three impregnants used in Plasticon A capacitors are chemically neutral to the film. They are carefully processed to remove residual moisture and entrapped gases.

PLASTICON AO . . .	Mineral oil impregnated Plasticon A capacitor winding. Properly processed mineral oil is one of the finest electrical insulating mediums.
PLASTICON AS . . .	Silicone fluid impregnated Plasticon A winding. Silicones are Hydrocarbon-Silicon-Oxygen compounds of great thermal, chemical, and electrical stability. The silicone fluid used in Plasticon AS units will not deteriorate at 250°C. It has a dielectric constant of 3 and a p.f. of .0002. For a liquid it has an extremely high dielectric strength (about 2000 v.p.m.)
PLASTICON AW . . .	Petroleum-Wax impregnated Plasticon A capacitor winding. Used at rated voltage and temperature Plasticon AW capacitors have a fine performance record on less severe applications where size and cost are a factor.

COMPARISON CHARTS

CHARACTERISTIC		PLASTICON AO	PLASTICON AS	PLASTICON AW	Chlorinated Oil Paper Capacitor	Vegetable Oil Paper Capacitor
Temperature Range		—40°C to +105°C	—60°C to +125°C	—40°C to +75°C	—40°C to +93°C	—40°C to +85°C
Insulation resistance megohms per mfd.	25°C	6000 to 12,000	10,000 to 23,000	6000 to 8000	8000	700
	85°C	100 to 150	400 to 600	2000 at 75°C	30-40	under 10
	125°C	—	50 to 100	—	—	—
60 cycle Power Factor in percent	—40°C	1.6 to 1.7	0.9 to 1.0	1.6 to 1.7	above 10%	above 10%
	25°C	0.9 to 1.0	0.7 to 0.8	0.9 to 1.0	0.3 to 0.4	0.35 to 0.5
	85°C	0.3 to 0.4	0.1 to 0.3	0.5 at 75°C	0.6 to 2.0	above 10%
	125°C	—	0.9 to 1.0	—	—	—
Capacitance shift 25°C=100%	—40°C	94%	96%	95%	70 to 73%	75%
	0°C	98%	99%	98%	90%	99%
	85°C	103%	102%	102% at 75°C	97%	96%
DC Life Tests (2xDC rated) (Insulation resistance change)	70°C	+50% in 1000 hrs.	—	+25% in 1000 hrs.	—25% in 1000 hrs.	—20% in 1000 hrs.
	85°C	+35% in 1000 hrs.	+20% in 1000 hrs.	—	—50% in 1000 hrs.	Failed in 500 hrs.
	105°C	+20% in 1000 hrs.	+15% in 1000 hrs.	—	Failed in 105 hrs.	Failed in 75 hrs.
	125°C	Failed in 200 hrs.	+ 5% in 1000 hrs	—	—	—
AC Life Tests ½ KVA)	85°C	pf drops in 1000 hrs.	pf drops in 1000 hrs.	pf drops in 1000 hrs. (at 70°C)	pf drops in 1000 hrs.	Failed in 100 hrs.
	125°C	—	pf drops in 1000 hrs.		Failed in 20 hrs.	—
Size Factors of Dc Capacitors (Cubic dimensions)	600V	1	0.9	1	0 9	0.9
	1000V	1	0.9	1	1.0	1.0
	2000V	1	0.9	—	1.4	1.4
	3000V	1	0.9	—	2.0	2.0
	5000V	1	0.9	—	2.5	2.5
	10,000V	1	0.9	—	5.0	5.0
Size Factors of AC Capacitors (Cubic dimensions)	220	1	0.9	1	0.9	.9
	330	1	0.9	1	1.0	1.25
	440	1	0.9	—	1.1	1.6
	660	1	0.9	—	1.3	2.5
Weight Factor (approximate)	600VDC	1	.95	1	1.1	1.1
	2000VDC	1	.95	—	1.5	1.5
	5000VDC	1	.95	—	2.7	2.7
	440VAC	1	.95	—	1.1	1.7
Approximate Costs	600VDC	1	1.5	0.9	1.1	1.1
	3000VDC	1	1.4	—	1.3	1.3
	660VAC	1	1.5	—	1.1	1.5

Condenser Products Company
CHICAGO 22, ILLINOIS

PLASTICON CP CAPACITORS

DC CAPACITORS *for the following applications*

TRANSMITTERS, RADIO AND TELEVISION
AIRCRAFT ELECTRONIC EQUIPMENT
AMPLIFIERS
CAPACITANCE TESTERS
OSCILLOSCOPES
DYNAMOTOR AND MOTOR FILTERS
TELEVISION AND COMMUNICATION RECEIVERS
ELECTRONIC TIMERS
DC POWER SUPPLIES
DIELECTRIC AND INDUCTION HEATERS

DC OVALS

SPECIFICATIONS:

Mineral oil impregnated and filled. Hermetically sealed; can be operated in any position.

Conservatively rated; can be operated continuously at 10% over rated voltage.

Capacitance Tolerance—Standard plus or minus 10%.

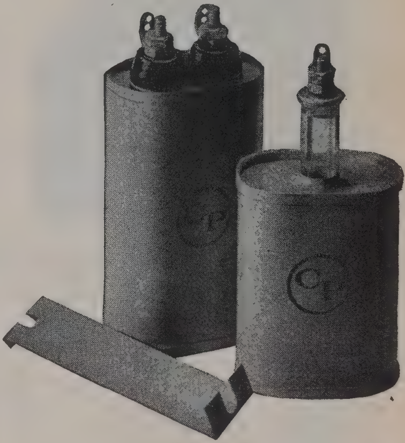
Ambient Temperature Range—minus 40°C to plus 85°C. If required, Plasticon AOCO capacitors can be made for 105°C operation.

Insulators—Two wet-process porcelain bushings on Types AOCO6C, AOCO1M and AOCO2M. One soldered-in metallized glass standoff, can grounded on Types AOCO3M, AOCO5M, AOCO8M and AOCO10M.

Terminals—All DC Ovals have 8-32 screw and hex nuts with removable hot-tinned solder lugs.

Case—Obround (flattened oval) cross section. Drawn or lock-seam lead coated steel with heavy finish of gray organic lacquer.

Brackets—Two right angle mounting foot brackets are provided as standard on all AOCO capacitors. Add ½″ to C to get mounting centers. Universal mounting strap or spade-screw bracket can be furnished on request.



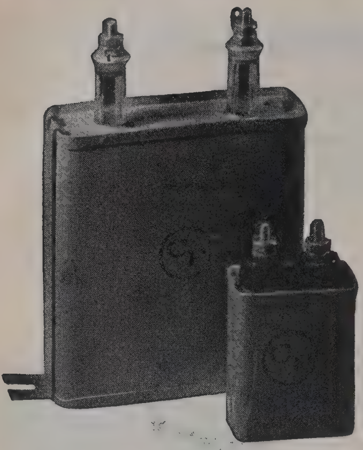
Cat. No.	Cap. Mfd.	Volts D.C.	A—height of can; B—width; C—thickness; D—height of insulator assembly; E—distance between centers of insulators.					List Price*
			A	B	C	D	E	
AOCO6C05	0.5	600	2	2	1	⅞	1	$ 3.20
AOCO6CI	1.0		2	2	1	⅞	1	3.30
AOCO6C2	2.0		2⅜	2	1¼	⅞	¾	4.00
AOCO6C4	4.0		4	2	1¼	⅞	¾	4.80
AOCO1M05	0.5	1000	2	2	1	⅞	1	3.30
AOCO1M1	1.0		2⅜	2	1¼	⅞	1	3.50
AOCO1M2	2.0		3½	2	1¼	⅞	¾	4.70
AOCO1M4	4.0		4⅝	2	1¼	⅞	¾	5.70
AOCO2M025	0.25	2000	2	2	1	⅞	1	4.10
AOCO2M05	0.5		2	2	1	⅞	1	4.30
AOCO2M1	1.0		2⅜	2	1¼	⅞	¾	5.20
AOCO2M2	2.0		4	2	1¼	⅞	¾	6.00
AOCO3M01	0.1	3000	2⅜	2	1¼	1¼		6.90
AOCO3M025	0.25		2⅜	2	1¼	1¼		7.60
AOCO3M05	0.5		2¾	2	1¼	1¼		9.85
AOCO3M1	1.0		4	2	1¼	1¼		10.90
AOCO5M01	0.1	5000	2¾	2	1¼	1¼		12.80
AOCO5M025	0.25		3½	2	1¼	1¼		14.00
AOCO5M05	0.5		4⅝	2	1¼	1¼		16.50
AOCO8M005	0.05	8000	2¾	2	1¼	1¼		13.80
AOCO8M01	0.1		3½	2	1¼	1¼		15.20
AOCO10M005	0.05	10,000	3½	2	1¼	1¼		17.50

*PRICES INCREASED 10% SEPTEMBER 15, 1946

Condenser Products Company

CHICAGO 22, ILLINOIS

PLASTICON CAPACITORS



DC RECTANGULARS

SPECIFICATIONS:

Mineral oil impregnated and filled. Hermetically sealed; can be operated in any position.

Conservatively rated; can be operated continuously at 10% over rated voltage.

Capacitance Tolerance—Standard plus or minus 10%.

Ambient Temperature Range—minus 40°C to plus 85°C. If required, Plasticon AOC capacitors can be made for 105°C operation.

Insulators—Two wet process porcelain bushings on Types AOC6C, AOC1M, AOC2M. Two soldered-in metallized glass standoffs on Types AOC3M, AOC4M, AOC5M, AOC75C, AOC10M.

Terminals—All DC Rectangulars have 8-32 screw and hex nuts with removable hot-tinned solder lugs.

Case—Rectangular base; lead coated steel with heavy finish of gray organic lacquer.

Brackets—Two right angle mounting foot brackets are provided as standard. Add ½″ to B or C to get mounting centers.

Universal mounting strap or spade-screw bracket can be furnished on request.

Cat. No.	Cap. Mfd.	Volts D.C.	A—height of can; B—width; C—thickness; D—height of insulator assembly; E—distance between centers of insulators.					List Price*
			A	B	C	D	E	
AOC6C1	1.0	600	2⅛	1¾	1	⅞	¾	$ 3.40
AOC6C2	2.0		2¾	1¾	1	⅞	¾	4.10
AOC6C4	4.0		3½	2½	1-3/16	⅞	1⅛	5.10
AOC6C6	6.0		4	2½	1-3/16	⅞	1⅛	6.50
AOC6C8	8.0		4	3¾	1¼	⅞	2	7.70
AOC6C10	10.0		4⅝	3¾	1¼	⅞	2	8.65
AOC1M05	0.5	1000	2⅛	1¾	1	⅞	¾	3.40
AOC1M1	1.0		2⅜	1¾	1	⅞	¾	3.65
AOC1M2	2.0		4	1¾	1	⅞	¾	4.90
AOC1M4	4.0		4	2½	1-3/16	⅞	1⅛	5.95
AOC1M6	6.0		4⅝	3¾	1¼	⅞	2	7.65
AOC1M8	8.0		4⅝	3¾	1¾	⅞	2	8.40
AOC1M10	10.0		4⅝	3¾	1¾	⅞	2	9.70
AOC1M12	12.0		4	3¾	2¼	⅞	2	10.50
AOC2M01	0.1	2000	2⅛	1¾	1	⅞	¾	3.90
AOC2M025	0.25		2⅛	1¾	1	⅞	¾	4.20
AOC2M05	0.5		2⅜	1¾	1	⅞	¾	4.40
AOC2M1	1.0		3½	1¾	1	⅞	¾	5.35
AOC2M2	2.0		3½	2½	1-3/16	⅞	1⅛	6.20
AOC2M3	3.0		3½	3¾	1¼	⅞	2	7.50
AOC2M4	4.0		3½	3¾	1¾	⅞	2	8.40
AOC2M5	5.0		4	3¾	1¾	⅞	2	9.70
AOC2M6	6.0		4⅝	3¾	1¾	⅞	2	11.85
AOC2M8	8.0		4⅝	3¾	2¼	⅞	2	14.60
AOC2M10	10.0		4	3¾	3-3/16	⅞	2	17.70
AOC2M12	12.0		4⅝	3¾	3-3/16	⅞	2	19.60
AOC3M01	0.1	3000	2⅛	2½	1-3/16	1¼	1⅛	9.20
AOC3M025	0.25		2⅛	2½	1-3/16	1¼	1⅛	9.50
AOC3M05	0.5		2¾	2½	1-3/16	1¼	1⅛	10.00
AOC3M1	1.0		4	2½	1-3/16	1¼	1⅛	11.00
AOC3M2	2.0		4	3¾	1¼	1¼	2	14.00
AOC3M4	4.0		4⅝	3¾	2¼	1¼	2	19.35
AOC4M01	0.1	4000	2⅛	2½	1-3/16	1¼	1⅛	18.35
AOC4M025	0.25		2¾	2½	1-3/16	1¼	1⅛	19.20
AOC4M05	0.5		3½	2½	1-3/16	1¼	1⅛	21.70
AOC4M1	1.0		4	3¾	1¼	1¼	2	25.00
AOC4M2	2.0		4	3¾	1¾	1¼	2	30.00
AOC4M4	4.0		4	3¾	4-9/16	1¼	2	48.85
AOC5M05	0.5	5000	4	2½	1-3/16	1¼	1⅛	24.20
AOC5M1	1.0		4	3¾	1¾	1¼	2	30.00
AOC5M2	2.0		3½	3¾	4-9/16	1¼	2	37.50
AOC75C1	1.0	7500	3½	3¾	4-9/16	1¼	2	45.00
AOC10M1	1.0	10,000	4	3¾	4-9/16	2	2	80.00

*PRICES INCREASED 10% SEPTEMBER 15, 1946

Condenser Products Company

CHICAGO 22, ILLINOIS

PLASTICON CP CAPACITORS

GLASSMIKES

ELEVISION AND OSCILLOSCOPE CIRCUITS
IBRATOR BUFFER AND ARC ELIMINATION
F AND RF COUPLING AND BYPASS USES
EIGER COUNTER AND INSTRUMENT CAPACITORS
IGH TEMPERATURE AC AND DC APPLICATIONS, Etc.

Modern functionally designed capacitors. Metal ferrules are soldered to silver bands fused to each end of heavy-walled glass tubes. This vacuum tight assembly is fungus-proof and passes Signal Corp, Air Corp, and Navy thermal cycle and immersion tests. Ample flashover spacing is provided between silver bands for sea level operation. Submit specifications for high altitude applications.

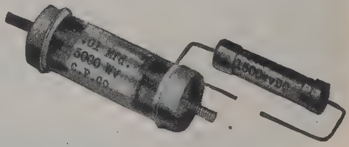
pecifications:

ounting: 2" tinned copper wire pigtails are provided on all Glassmikes 19/32 OD and under. 8-32 screw terminals, and removable solder lugs on all other Glassmikes. Glassmikes can also be mounted in fuse clips.

C and RF operation: Glassmikes can be operated at low and medium power. Submit specifications, including frequency and ambient temperature.

emperature range: PLASTICON ASG: from 60°C to plus 125° C. PLASTICON AOG: from minus 40°C to plus 105°C.

apacitance tolerance: Plus or minus 10%.



PLASTICON ASG Silicone-Filled GLASSMIKES

Cat. No	Cap. Mfd.	Volts D. C.	Diam. & Length	List Price
ASG 1	.01	600	19/32 x 1-3/16	$1.50
ASG 2	.02		19/32 x 1-3/16	1.60
ASG 3	.05		19/32 x 1-9/16	1.75
ASG 4	.1		3/4 x 1-3/4	1.95
ASG 5	.25		29/32 x 2-1/4	2.25
ASG 6	.5		1-3/8 x 2-3/4	2.60
ASG 7	.005	1000	19/32 x 1-3/16	1.50
ASG 8	.01		19/32 x 1-3/16	1.60
ASG 9	.02		19/32 x 1-3/16	1.70
ASG 10	.05		3/4 x 1-3/4	1.85
ASG 11	.1		3/4 x 2-1/4	2.15
ASG 12	.25		29/32 x 2-3/4	2.50
ASG 13	.002	2000	19/32 x 1-3/16	1.90
ASG 14	.005		19/32 x 1-3/16	2.05
ASG 15	.01		19/32 x 1-3/16	2.25
ASG 16	.02		19/32 x 1-9/16	2.50
ASG 17	.05		3/4 x 1-3/4	2.80
ASG 18	.1		29/32 x 2-1/4	3.20
ASG 19	.25		1-3/8 x 2-3/4	3.70
ASG 20	.001	3000	19/32 x 1-3/16	5.15
ASG 21	.002		19/32 x 1-3/16	5.25
ASG 22	.005		19/32 x 1-3/16	5.40
ASG 23	.01		19/32 x 1-9/16	5.60
ASG 24	.02		3/4 x 1-3/4	5.85
ASG 25	.05		29/32 x 2-1/4	6.15
ASG 26	.1		1-3/8 x 2-3/4	6.50
ASG 27	.001	5000	19/32 x 1-3/16	$6.50
ASG 28	.002		19/32 x 1-3/16	6.70
ASG 29	.005		19/32 x 1-9/16	6.95
ASG 30	.01		3/4 x 1-3/4	7.25
ASG 31	.02		3/4 x 2-1/4	7.65
ASK 32	.05		1-3/8 x 2-3/4	8.15
ASG 33	.1		1-3/8 x 3-1/2	9.10
ASG 34	.001	7500	19/32 x 1-9/16	7.00
ASG 35	.002		19/32 x 1-9/16	7.25
ASG 36	.005		3/4 x 1-3/4	7.55
ASG 37	.01		3/4 x 2-1/4	8.15
ASG 38	.02		29/32 x 2-3/4	9.25
ASG 39	.05		1-3/8 x 2-3/4	11.50
ASG 40	.0005	10,000	19/32 x 1-9/16	7.30
ASG 41	.001		19/32 x 1-9/16	7.50
ASG 42	.002		19/32 x 1-9/16	7.80
ASG 43	.005		3/4 x 1-3/4	9.00
ASG 44	.01		29/32 x 2-1/4	10.50
ASG 45	.02		1-3/8 x 2-3/4	12.50
ASG 46	.03		1-3/8 x 3-1/2	15.00
ASG 47	.0005	15,000	29/32 x 2-3/4	14.50
ASG 48	.001		29/32 x 2-3/4	14.80
ASG 49	.002		1-3/8 x 2-3/4	15.50
ASG 50	.0005	20,000	1-3/8 x 3-1/2	19.50
ASG 51	.001		1-3/8 x 3-1/2	20.50
ASG 52	.0005	30,000	1-3/8 x 3-1/2	22.50

PLASTICON AOG MINERAL Oil-Filled GLASSMIKES
VIBRATOR CAPACITORS

Cat. No.	Cap. Mfd.	Volts D. C.	Diam. & Length	List Price
AOG 1	.001	1600	19/32 x 1-3/16	$1.10
AOG 2	.002		19/32 x 1-3/16	1.10
AOG 3	.005		19/32 x 1-3/16	1.10
AOG 4	.006		19/32 x 1-3/16	1.10
AOG 5	.007		19/32 x 1-3/16	1.10
AOG 6	.008		19/32 x 1-3/16	1.10
AOG 7	.01	1600	19/32 x 1-3/16	$1.10
AOG 8	.015		19/32 x 1-9/16	1.20
AOG 9	.02		19/32 x 1-9/16	1.25
AOG 10	.03		3/4 x 1-3/4	1.30
AOG 11	.04		3/4 x 1-3/4	1.35
AOG 12	.05		3/4 x 1-3/4	1.35

Condenser Products Company
CHICAGO 22, ILLINOIS

PLASTICONS*

The Best Photo-Flash Capacitors

SPEEDIER DISCHARGE MORE BRILLIANT LIGHT

For Photographic Quality

PLASTICONS:* The most complete line of Energy Storage Capacitors

PLASTICONS* Are Superior to Paper Capacitors:

- **Lighter Weight**
- **More Compact**
- **Lower Losses (less inductance and series resistance)**
- **Operates More Safely at High Voltages**
- **Lower Absorbtion (less residual energy)**

PLASTICON* Type AOCE Capacitors are used extensively in Energy Storage Welders

Order from your jobber: If he cannot supply you, order direct.

**PLASTICONS: Plastic-Film Dielectric Capacitors*

Condenser Products Company
Chicago 22, Illinois

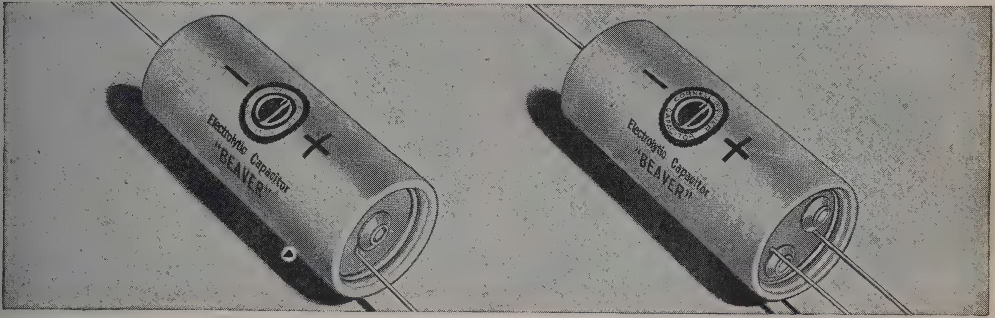
Cat. No.	Watt Seconds	Peak Chg. Volts	Hgt.	Dimensions W	Th	Wt. lbs.
AOCOE16C4	5	1600	4	2	1¼	.5
AOCOE22C3	7.6	2250	4	2	1¼	.5
AOCOE3M2	9.	3000	4	2	1¼	.5
AOCOE4M1.5	12	4000	4	2	1¼	.5
AOCOE55C1	15.1	5500	4	2	1¼	.5
AOCE2M15	30	2000	4	3¾	3-3/16	2.7
AOCE2M25	48	2000	5½	4-9/16	3¾	4.5
AOCE25C32	100	2500	6⅜	4-9/16	3¾	5.2
AOCE4M12	100	4000	4½	4-9/16	3¾	4.
AOCE4M24	200	4000	8	4-9/16	3¾	7.5

Referring to Plasticons illustrated.

Prices increase September 15,

1—Type AOCE
2—Type AOCOE
3—Illustrates group arrangement of AOCOE units with follow advantages: flexibility, lighter weight, economy.

TUBULAR CAN-TYPE DRY ELECTROLYTIC CAPACITORS



Electrolytic Capacitor "BEAVER"
Electrolytic Capacitor "BEAVER"
CORNELL-DUBILIER CAPACITORS

TYPES BR AND BRD "BLUE BEAVER"* CAPACITORS

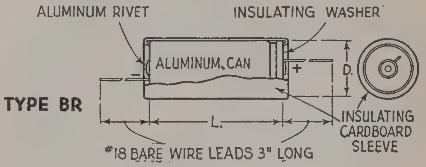
Types BR and BRD "Blue Beavers" are the most popular electrolytic capacitors employed for all applications where units are required for convenient mounting in small spaces beneath a chassis or connected directly in the wiring assembly. They are small in physical size and self-supporting by means of strong, bare tinned-copper wire leads, while the larger sizes may be mounted with a metal strap or any other arrangement which may be found suitable.

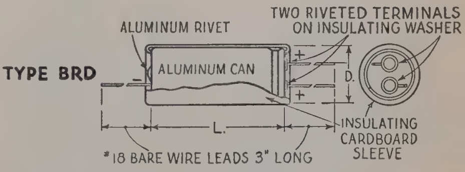
Type BR capacitors employ seamless, drawn aluminum can construction encased in a tightly fitted insulated cardboard tube sleeve. A bare tinned-copper wire lead is riveted to the bottom of the can for negative connection while the positive terminal lead is riveted in the center of an insulated disc cover at the opposite end. Polarity of all units is clearly indicated on the cardboard tube casing.

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
		25 V. D.C.		
BR 102A	10	5/8 x 1 1/16	$0.63	$0.37
BR 202A	20	5/8 x 1 1/16	.69	.41
BR 252A	25	5/8 x 1 1/16	.75	.45
BR 502	50	5/8 x 1 7/16	.94	.56
		50 V. D.C.		
BR 550	5	5/8 x 1 1/16	.63	.37
BR 105	10	5/8 x 1 1/16	.69	.41
BR 205	20	5/8 x 1 7/16	.75	.45
BR 255	25	5/8 x 1 7/16	.88	.52
BR 505	50	5/8 x 1 11/16	1.06	.63
		150 V. D.C.		
BR 415	4	5/8 x 1 1/16	.63	.37
BR 815	8	5/8 x 1 1/16	.69	.41
BR 1215	12	5/8 x 1 7/16	.75	.45
BR 1615	16	5/8 x 1 7/16	.88	.52
BR 2015	20	5/8 x 1 11/16	.94	.56
BR 3015	30	3/4 x 2	1.01	.60
BR 4015	40	3/4 x 2	1.06	.63
BR 5015	50	7/8 x 2	1.26	.75
		250 V. D.C.		
BR 425	4	5/8 x 1 1/16	.69	.41
BR 825	8	5/8 x 1 7/16	.75	.45
BR 1225	12	5/8 x 2	1.01	.60
BR 1625	16	3/4 x 1 11/16	1.13	.67
BR 2025	20	3/4 x 1 11/16	1.26	.75
BR 4025	40	7/8 x 2 1/2	1.44	.86
		350 V. D.C.		
BR 435	4	5/8 x 1 7/16	.75	.45
BR 835	8	3/4 x 1 11/16	.88	.52
BR 1235	12	3/4 x 2	1.06	.63
BR 1635	16	7/8 x 2	1.26	.75
		450 V. D.C.		
BR 145	1	5/8 x 1 1/16	.69	.41
BR 245	2	5/8 x 1 1/16	.75	.45
BR 445	4	5/8 x 1 7/16	.88	.52
BR 845	8	3/4 x 2	.94	.56
BR 1045	10	7/8 x 2	1.06	.63
BR 1245	12	7/8 x 2	1.13	.67
BR 1645	16	7/8 x 2 1/2	1.39	.83
BR 2045	20	1 x 2 1/2	1.51	.90
BR 3045	30	1 x 3	1.82	1.09
BR 4045	40	1 x 3	2.20	1.32
		500 V. D.C.		
BR 850	8	7/8 x 1 11/16	1.32	.79
BR 1650	16	1 x 2 1/2	2.02	1.21

Type BRD, dual section units, in the small size (BRD202A), are furnished in an aluminum tube which is closed at both ends with an insulated disc, each disc supporting a positive wire lead. Common negative connection to the unit is made to a metal mounting strap around the middle of the tube. No cardboard tube sleeve is of course supplied on this unit. All other BRD capacitors are furnished with positive leads riveted on an insulated disc cover at one end of a drawn aluminum can and provided with a cardboard tube sleeve.

All BR and BRD units are hermetically sealed and are suited for operation under conditions of relatively high humidity. The range of capacities and voltage ratings available cover practically all uses as replacements in radio service work. Two and more of these small size capacitors may be strapped together in a unit in order to obtain a wide variety of capacity combinations employed in various circuits of standard receivers.



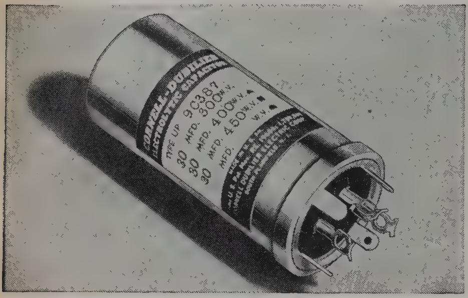


TWO RIVETED TERMINALS ON INSULATING WASHER
ALUMINUM RIVET
TYPE BRD
ALUMINUM CAN
–
+
+
D.
L.
INSULATING CARDBOARD SLEEVE
#18 BARE WIRE LEADS 3" LONG

Cat. No.	Cap. Mfd.	D.C. W Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
BRD 202A	20–20	25	3/4 x 1 1/8	$1.35	$0.81
BRD 2215	20–20	150	7/8 x 1 11/16	1.63	.97
BRD 3315	30–30	150	1 x 2	1.84	1.10
BRD 3515	30–50	150	1 x 2 1/2	2.12	1.27
BRD 4215	40–20	150	1 x 2	1.84	1.10
BRD 4415	40–40	150	1 x 2 1/2	2.12	1.27
BRD 2225	20–20	250	1 x 2	2.22	1.33
BRD 2235	20–20	350	1 x 3	2.50	1.50
BRD 1145	10–10	450	1 x 2 1/2	1.84	1.10
BRD 1845	18–18	450	1 x 3	2.50	1.50

*** Reg. U. S. Pat. Off.**

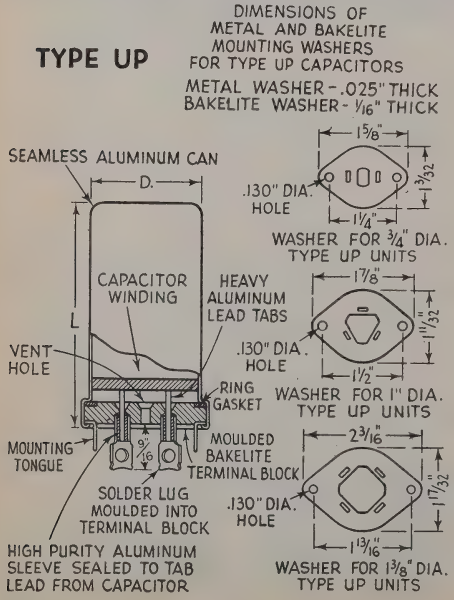
PRONG-BASE DRY ELECTROLYTIC CAPACITORS


TYPE UP 90387
30 MFD. 300 W.V.
30 MFD. 400 W.V.
30 MFD. 450 W.V.

TYPE UP CYLINDRICAL CAN UNITS

Type UP capacitors are the smallest can-type electrolytic units available. They are hermetically sealed in aluminum cans with positive terminal lugs on a bakelite insulating cover, the can being the common negative terminal.

Projecting tongues provide facilities for mounting in a vertical position on metal chassis bodies or on metal or bakelite mounting washer. Bakelite and metal washers are furnished with each unit. The projecting tongues have small wire holes and are tinned for convenient soldering to common negative connections. All solder lugs are mechanically strong, being made of cold rolled steel, although nothing other than pure aluminum comes in contact with the electrolyte within the container to cause galvanic corrosion. Electrically, these Type UP units possess excellent characteristics, having exceptionally low leakage and power factor, and are especially dependable in operation over wide temperature variations with minimum capacity change.


TYPE UP
DIMENSIONS OF METAL AND BAKELITE MOUNTING WASHERS FOR TYPE UP CAPACITORS
METAL WASHER - .025" THICK
BAKELITE WASHER - 1/16" THICK
SEAMLESS ALUMINUM CAN
D.
L
CAPACITOR WINDING
HEAVY ALUMINUM LEAD TABS
VENT HOLE
RING GASKET
MOUNTING TONGUE
9/16
MOULDED BAKELITE TERMINAL BLOCK
SOLDER LUG MOULDED INTO TERMINAL BLOCK
HIGH PURITY ALUMINUM SLEEVE SEALED TO TAB LEAD FROM CAPACITOR
1 5/8"
1 3/32
.130" DIA. HOLE
1 1/4"
WASHER FOR 3/4" DIA. TYPE UP UNITS
1 7/8"
1 11/32"
.130" DIA. HOLE
1 1/2"
WASHER FOR 1" DIA. TYPE UP UNITS
2 3/16"
1 17/32"
.130" DIA. HOLE
1 13/16"
WASHER FOR 1 3/8" DIA. TYPE UP UNITS

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 1A J22	40	25	¾ x 2	$1.01	$0.60
UP 4A J23	100	25	1 x 2	1.64	.98
UP 1A J24	30	150	¾ x 2	1.06	.63
UP 4A J25	50	150	1 x 2	1.44	.86
UP 1A J26	20	250	¾ x 2	1.06	.63
UP 4A J10	30	250	1 x 2	1.39	.83
UP 4A J27	40	250	1 x 2	1.51	.90
UP 1A J28	15	300	¾ x 2	1.01	.60
UP 4A J29	30	300	1 x 2	1.51	.90
UP 6A J30	50	350	1 x 3	2.20	1.32
UP 9A J31	125	350	1⅜ x 3	3.98	2.38
UP 1015	10	450	1 x 2	1.13	.67
UP 4A J18	15	450	1 x 2	1.51	.90
UP 2045	20	450	1 x 2	1.70	1.02
UP 4045	40	450	1 x 3	2.45	1.47
UP 9A J32	80	400	1⅜ x 3	3.73	2.23

Dual Section Units

UP 2215	20-20	150	1 x 2	$1.51	$0.90
UP 3315	30-30	150	1 x 2	1.70	1.02
UP 6B J34	50-50	150	1 x 3	2.02	1.21
UP 2225	20-20	250	1 x 2	1.70	1.02
UP 4B J36	15-15	300	1 x 2	1.51	.90
UP 1145	10-10	450	1 x 2	1.82	1.09
UP 6B J38	20-20	450	1 x 3	2.52	1.51
UP 9B J39	40-40	450	1⅜ x 3	4.04	2.42
UP 9B J40	80-10	400	1⅜ x 3	4.17	2.50

Triple Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D x L.	List Price	Net Price
UP 4C J2	30-20/20	150/25	1 x 2	$1.76	$1.05
UP 6C J41	50-50/20	150/25	1 x 3	2.20	1.32
UP 4C J58	20-20/100	150/6	1 x 2	1.70	1.02
UP 4C J59	40-20/100	150/6	1 x 2	1.82	1.09
UP 6C J60	20-20/250	150/6	1 x 3	1.82	1.09
UP 6C J61	40-20/250	150/6	1 x 3	2.20	1.32
UP 6C J62	40-20/100	150/12	1 x 3	1.89	1.13
UP 4C J3	15-15/20	250/25	1 x 2	1.70	1.02
UP 6C J21	30-30/20	250/25	1 x 3	2.08	1.24
UP 4C J5	10-10/20	350/25	1 x 2	1.70	1.02
UP 6C J12	10-10/20	450/25	1 x 3	2.02	1.21
UP 4C J43	20-20-20	25	1 x 2	1.39	.83
UP 4C J1	20-20-20	150	1 x 2	1.82	1.09
UP 6C J44	40-40-40	150	1 x 3	2.40	1.44
UP 6C J45	10-15-30	250	1 x 3	2.02	1.21
UP 6C J20	20/15-10	450/300-300	1 x 3	2.27	1.36
UP 6C J17	15-20-20	450-350-250	1 x 3	2.52	1.51
UP 6C J18	10-10-10	450	1 x 3	2.40	1.44
UP 6C J47	15-15-15	450	1 x 3	2.65	1.69
UP 10C 156	15-15/10	450/300	1 x 3½	2.40	1.44

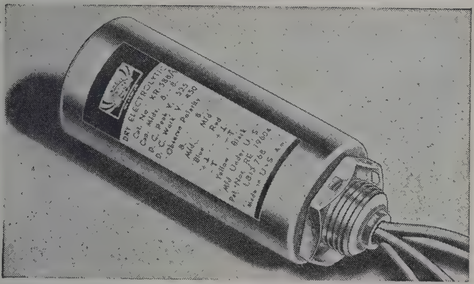
Quadruple Section Units

UP 9D J48	50-50-50/20	150/25	1⅜ x 3	$2.90	$1.74
UP 9D J50	20/15-15/20	450/350/25	1⅜ x 3	2.83	1.69
UP 7D J51	10-10-10/20	450/25	1⅜ x 2	2.58	1.54
UP 7D J52	20-15/20-20	450/25	1⅜ x 2	2.78	1.66
UP 9D J53	40-30-10/20	450/25	1⅜ x 3	4.29	2.57
UP 7D J54	10-10-10-10	450	1⅜ x 2	2.90	1.74
UP 9D J55	20-20/30-30	450/300	1⅜ x 3	3.91	2.34
UP 9D J56	20-20-20-20	450	1⅜ x 3	4.17	2.50

Hardware For Type UP Capacitors

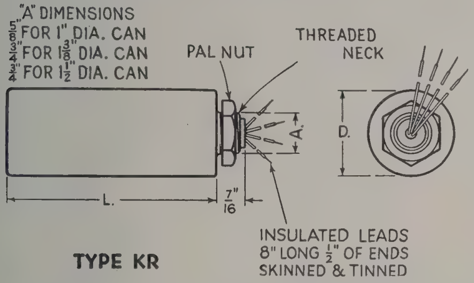
Cat. No.	Item	Description	List Price	Net Price
22272	Wrench for	Mounting Type UP Units	$1.13	$0.67
19891	Bakelite Washer	For ¾" UP	.06	.03
19884	Bakelite Washer	For 1" UP	.06	.03
19888	Bakelite Washer	For 1⅜" UP	.06	.03
19890	Metal Washer	For ¾" UP	.06	.03
19883	Metal Washer	For 1" UP	.06	.03
19887	Metal Washer	For 1⅜" UP	.06	.03
21368-1	Mounting Clip	For ¾" UP	.14	.08
21368-2	Mounting Clip	For 1" UP	.14	.08
21368-3	Mounting Clip	For 1⅜" UP	.14	.08
22153-1	Insulating Tube	For ¾ x 2" UP	.06	.03
22153-4	Insulating Tube	For 1 x 2" UP	.06	.03
22153-6	Insulating Tube	For 1 x 3" UP	.06	.03
22153-7	Insulating Tube	For 1⅜ x 2" UP	.06	.03
22153-9	Insulating Tube	For 1⅜ x 3" UP	.06	.03

ONE-HOLE MOUNTING DRY ELECTROLYTIC CAPACITORS



TYPE KR CYLINDRICAL CAN UNITS

Types KR and KRC single-hole mounting units are compact etched foil type dry electrolytic capacitors furnished in cylindrical (inverted mounting) aluminum cans. Available in single, dual and triple sections with color-coded leads. Made in all popular voltage ratings for use in A.C.-D.C. or voltage-doubler midgets and A.C. operated sets.



TYPE KR

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KR 105	50	25	1 x 2 9/16	$1.64	$0.98
KR 204	4	250	1 x 2 9/16	1.13	.67
KR 208	8	250	1 x 2 9/16	1.44	.86
KR 212	12	250	1 x 2 9/16	1,70	1.02
KR 225	25	250	1 x 3½	2.27	1.36
KR 350	50	300	1⅜ x 3¾	4.17	2.50
KR 504	4	450	1 x 2½	1.32	.79
KR 508	8	450	1 x 2½	1.64	.98
KR 512A	12	450	1 x 2½	2.14	1.28
KR 516A	16	450	1 x 3½	2.40	1.44
KR 520	20	450	1⅜ x 2½	2.83	1.69
KR 530	30	450	1⅜ x 3½	3.16	1.89
KR 540	40	450	1⅜ x 4⅜	3.48	2.08
KR 604	4	600	1⅜ x 3½	2.83	1.69
KR 608	8	600	1⅜ x 4½	3.98	2.38
KR 616	16	600	1½ x 4½	5.30	3.18

Common Negative Units

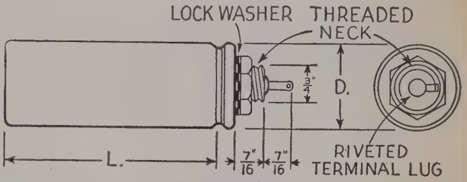
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KRC 248	4–8	250	1 x 3	$2.02	$1.21
KRC 288	8–8	250	1 x 3	2.20	1.32
KRC 2888	8–8–8	250	1⅜ x 3	3.21	1.92
KRC 548	4–8	450	1 x 3	2.20	1.32
KRC 588	8–8	450	1⅜ x 2½	2.45	1.47
KRC 5116	16–16	450	1⅜ x 3½	3.41	2.04
KRC 5220	20–20	450	1⅜ x 4⅜	3.59	2.15
KRC 5888	8–8–8	450	1⅜ x 3½	3.53	2.11

Separate Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KR 248	4–8	250	1⅜ x 2¾	$2.02	$1.21
KR 288	8–8	250	1⅜ x 2¾	2.20	1.32
KR 2888	8–8–8	250	1⅜ x 3½	3.21	1.92
KR 2881	8–8–16	250	1⅜ x 3½	3.59	2.15
KR 2811	8–16–16	250	1⅜ x 3½	3.98	2.38
KR 548A	4–8	450	1⅜ x 3	2.20	1.32
KR 588A	8–8	450	1⅜ x 3	2.45	1.47
KR 5816A	8–16	450	1⅜ x 4½	2.90	1.74
KR 5888A	8–8–8	450	1⅜ x 4½	3.53	2.11

TYPE WR REPLACEMENTS FOR WET ELECTROLYTIC CAPACITORS

These dry electrolytic capacitors furnished in cylindrica aluminum cans are offered as substitutes for replacement of wet electrolytic units which have been discontinued in manufacture during the war. The limited range of capacities listed below cover practically all applications in standard radio receivers and other equipment in which wet type electrolytic capacitors were originally employed.



TYPE WR
WET ELECTROLYTIC REPLACEMENT

TYPE WR – 500-Volt D.C. Replacements

Cat. No.	Cap. Mfd.	Replacement for	Size—Ins. Dia. x Lth.	List Price	Net Price
WR 10	10	4 to 12 mfd.	1⅜ x 2½	$1.44	$0.86
WR 20	20	16 to 20 mfd.	1⅜ x 2½	2.08	1.24
WR 30	30	20 to 30 mfd.	1⅜ x 3¼	2.40	1.44
WR 40	40	30 to 40 mfd.	1⅜ x 3¼	2.52	1.51

For one-inch diameter can wet electrolytic replacements we recommend employing C-D Type KR capacitors in one-inch diameter cans of equivalent capacity and voltage ratings.

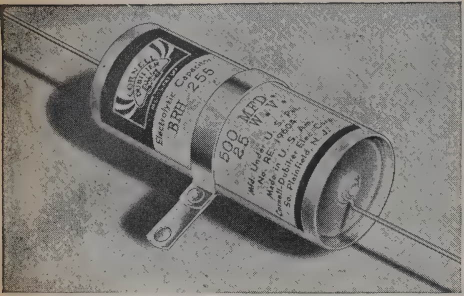
TYPE EB REPLACEMENT CAPACITORS

Type EB electrolytic capacitors are especially suited for replacement purposes in radio receivers to replace units of larger physical sizes. They are identical in mounting hole dimensions and general construction to Type WR capacitors except they are provided with insulated color-coded wire leads brought through the threaded neck of the unit instead of a lug terminal.

TYPE EB—450-Volt D.C. Electrolytic Capacitors

Cat No.	Cap. Mfd.	Size—Ins. Dia. x Lth.	List Price	Net Price
EB 9080	8	1⅜ x 4⅜	$1.64	$0.98
EB 9100	10	1⅜ x 4⅜	1.89	1.13
EB 9120	12	1½ x 4⅜	2.14	1.28
EB 9160	16	1½ x 4⅜	2.40	1.44
EB 9180	18	1½ x 4⅜	2.52	1.51
EB 8800	8-8	1½ x 4⅜	2.45	1.47

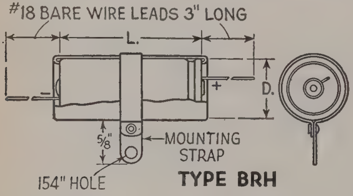
HIGH CAPACITY DRY ELECTROLYTIC CAPACITORS


Electrolytic Capacitor
BRH 255
500 MFD.
25 W.V.
Mfd. Under U. S. Pat.
No. RE. 19604
Made in U. S. A.
Cornell-Dubilier Elec. Corp.
So. Plainfield, N. J.

TYPE BRH HIGH-CAPACITY LOW-VOLTAGE UNITS

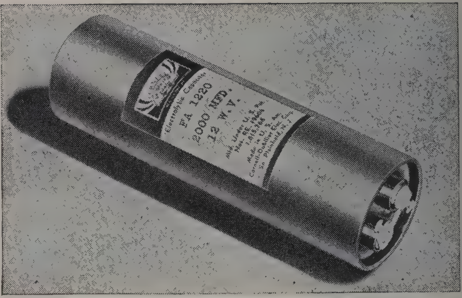
These compact C-D etched foil electrolytic capacitors have been especially designed for all applications requiring high capacity units operating in low voltage D.C. circuits. They are widely employed in portable radio power rectifying circuits, electric fence devices, telephone and D.C. timing circuits Units are available in standard capacities and voltage ratings for all uses.

Hermetically sealed in pure aluminum cans with an external cardboard insulating sleeve, these units are provided with metal mounting strap and bare wire leads for convenient wiring into any circuit assembly. They are constructed identically the same as Type BR "Blue Beavers" except all units are provided with a mounting strap.


#18 BARE WIRE LEADS 3" LONG
L.
D.
−
+
5/8"
MOUNTING STRAP
.154" HOLE

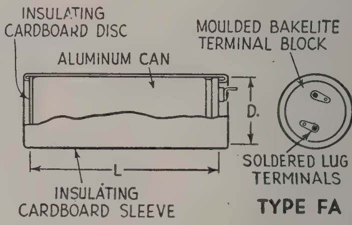
TYPE BRH

Cat. No.	Cap. Mfd.	D.C. W.Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
BRH 601	100	6	⅝ x 1¹⁄₁₆	$1.13	$0.67
BRH 6025	250	6	⅝ x 1⁷⁄₁₆	1.44	.86
BRH 605	500	6	⅝ x 2½	1.89	1.13
BRH 610	1000	6	⅞ x 2	2.65	1.59
BRH 615	1500	6	⅞ x 2½	3.41	2.04
BRH 620	2000	6	1 x 2½	4.17	2.50
BRH 121	100	12	⅝ x 1⁷⁄₁₆	1.26	.75
BRH 1225	250	12	¾ x 2	1.64	.98
BRH 125	500	12	⅞ x 2½	2.27	1.36
BRH 151	100	15	⅝ x 1⁷⁄₁₆	1.32	.79
BRH 1525	250	15	¾ x 2	1.89	1.13
BRH 155	500	15	⅞ x 2½	2.65	1.59
BRH 251	100	25	⅝ x 2	1.39	.83
BRH 2525	250	25	⅞ x 2	2.27	1.36
BRH 255	500	25	1 x 2½	3.41	2.04
BRH 501	100	50	¾ x 2	1.51	.90


Electrolytic Capacitor
FA 1220
2000 MFD.
12 W.V.
Made in U. S. A.
Cornell-Dubilier Elec. Corp.
So. Plainfield, N. J.

TYPE FA HIGH-CAPACITY LOW-VOLTAGE UNITS

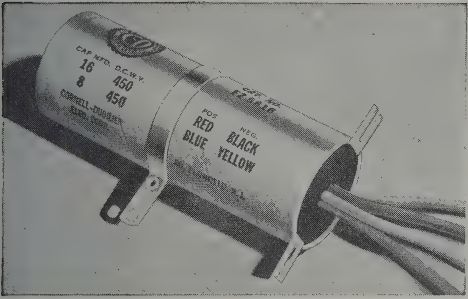
Type FA capacitors in round aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, "A" battery power supplies and other low voltage circuits where hum-free operation is essential. All units are provided with lug terminals on a moulded bakelite cover and furnished with an external cardboard insulating sleeve for protection against short circuits.


INSULATING CARDBOARD DISC
MOULDED BAKELITE TERMINAL BLOCK
ALUMINUM CAN
D.
L
SOLDERED LUG TERMINALS
INSULATING CARDBOARD SLEEVE

TYPE FA

Cat. No.	Cap. Mfd.	D.C. W.Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
FA 1205	500	12	1⅜ x 2½	$2.27	$1.36
FA 1210	1000	12	1⅜ x 3¼	3.79	2.27
FA 1215	1500	12	1⅜ x 4⅛	4.55	2.73
FA 1220	2000	12	1⅜ x 4⅛	4.92	2.95
FA 1225	2500	12	1½ x 4⅛	5.68	3.40
FA 1230	3000	12	1½ x 4⅛	6.06	3.63
FA 1240	4000	12	1¾ x 4⅛	8.35	5.01
FA 1505	500	15	1⅜ x 2½	2.65	1.59
FA 1510	1000	15	1⅜ x 3¼	4.55	2.73
FA 1520	2000	15	1⅜ x 4⅛	5.68	3.40
FA 1530	3000	15	1½ x 4⅛	7.97	4.78
FA 1540	4000	15	1¾ x 4⅛	12.14	7.28
FA 1805	500	18	1⅜ x 2½	3.03	1.81
FA 1810	1000	18	1⅜ x 3¼	4.55	2.73
FA 1820	2000	18	1⅜ x 4⅛	6.06	3.63
FA 1840	4000	18	1¾ x 4⅛	13.67	8.20
FA 2005	500	20	1⅜ x 3¼	3.41	2.04
FA 2010	1000	20	1⅜ x 4⅛	4.92	2.95
FA 2020	2000	20	1¾ x 4⅛	6.83	4.09
FA 2040	4000	20	2 x 4⅛	15.18	9.10
FA 2505	500	25	1⅜ x 3¼	3.41	2.04
FA 2510	1000	25	1⅜ x 4⅛	5.30	3.18
FA 2520	2000	25	1¾ x 4⅛	9.11	5.46
FA 2540	4000	25	2 x 4⅛	18.98	11.38
FA 3010	1000	30	1¾ x 4⅛	5.68	3.40
FA 3020	2000	30	2½ x 4⅛	12.14	7.28
FA 3040	4000	30	3 x 4⅛	22.02	13.21
FA 3505	500	35	1⅜ x 4⅛	4.55	2.73
FA 3510	1000	35	1¾ x 4⅛	6.06	3.63
FA 3520	2000	35	2½ x 4⅛	13.67	8.20
FA 3530	3000	35	3 x 4⅛	20.12	12.07
FA 4010	1000	40	1¾ x 4⅛	6.83	4.09
FA 4020	2000	40	2½ x 4⅛	15.18	9.10
FA 5005	500	50	1⅜ x 4⅛	4.92	2.95
FA 5010	1000	50	1¾ x 4⅛	9.11	5.46
FA 5020	2000	50	2½ x 4⅛	18.98	11.38

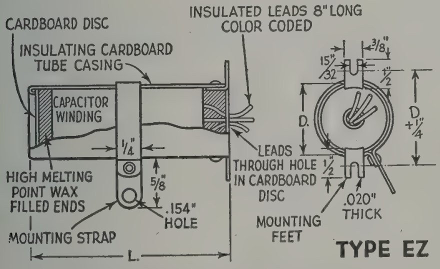
CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS



TYPE EZ UNIVERSAL-MOUNTING UNITS

Type EZ capacitors are especially popular for radio servicing where low cost replacements are required. They are designed with mounting feet for upright mounting to replace inverted can-type units, spade-lug units, or may be mounted beneath the chassis by means of the mounting strap provided around the center of the cardboard tube casing. In any instance, the unused mountings may easily be cut off.

These units are without doubt the most practical all-around replacement capacitors available and incorporate C-D etched foil features in design and construction. They are completely sealed in moisture-proof cardboard tube casing, filled with special wax compound, and provided with insulated wire leads eight inches long. All units are clearly stamped with capacities, voltages and color code designation of leads.


CARDBOARD DISC
INSULATED LEADS 8" LONG COLOR CODED
INSULATING CARDBOARD TUBE CASING
CAPACITOR WINDING
1/4
HIGH MELTING POINT WAX FILLED ENDS
5/8
.154" HOLE
MOUNTING STRAP
L.
LEADS THROUGH HOLE IN CARDBOARD DISC
15/32"
3/8"
1/2
D.
D. +1/4"
1/2
.020" THICK
MOUNTING FEET
TYPE EZ

COLOR CODING OF WIRE LEADS ON TYPE EZ CAPACITORS

BLACK	—Common negative lead.
RED	—Positive, highest voltage or capacity.
BLUE	—Positive, next highest voltage or capacity.
GREEN	—Positive, next highest voltage or capacity.
YELLOW	—Positive, next highest voltage or capacity, or negative in units where two separate negative terminals are required.
BROWN	—Negative, in units where three separate negative terminals are required.

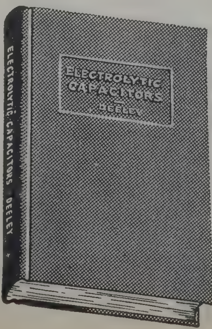
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
EZ 825	8	250	⅞ x 2½	0.81	$0.48
EZ 1625	16	250	1 x 2¾	1.13	.67
EZ 2425	24	250	1 1/16 x 2¾	1.32	.79
EZ 835	8	350	15/16 x 2½	.88	.52
EZ 1235	12	350	15/16 x 2¾	1.06	.63
EZ 1635	16	350	1 x 2¾	1.26	.75
EZ 2435	24	350	1 x 3½	1.51	.90
EZ 845	8	450	⅞ x 2¾	.94	.56
EZ 1245	12	450	1 x 2¾	1.13	.67
EZ 1645	16	450	1 1/16 x 2¾	1.39	.83
EZ 3045	30	450	1¼ x 3½	2.65	1.59

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
	Dual Common Negative Units				
EZ 2215	20–20	150	1 x 2½	1.89	$1.13
EZ 3315	30–30	150	1 1/16 x 2¾	2.20	1.32
EZ 5515	50–50	150	1 1/16 x 3½	2.52	1.51
EZ 8825	8–8	250	1 x 2¾	1.32	.79
EZ 8835	8–8	350	15/16 x 3½	1.44	.86
EZ 8845	8–8	450	1 x 3½	1.64	.98
	Dual Separate Section Units				
EZ 288	8–8	250	1⅜ x 2¾	$1.64	$0.98
EZ 2116	16–16	250	1⅜ x 3¾	2.52	1.51
EZ 388	8–8	350	1⅜ x 3	1.89	1.13
EZ 3112	12–12	350	1⅜ x 3¾	2.40	1.44
EZ 3116	16–16	350	1⅜ x 4¾	2.78	1.66
EZ 588	8–8	450	1⅜ x 3	2.08	1.24
EZ 5816	8–16	450	1⅜ x 3¾	2.52	1.51
EZ 5112	12–12	450	1⅜ x 3¾	2.52	1.51
EZ 5116	16–16	450	1⅜ x 4¾	3.03	1.81
	Triple Common Negative Units				
EZ 2215C	20–20/20	150/25	1 x 3	$2.20	$1.32
EZ 3215C	30–20/20	150/25	1 x 3	2.40	1.44
EZ 3115C	30–10/20	150/25	1 x 3	2.20	1.32
EZ 4215C	40–20/20	150/25	1 1/16 x 3	2.27	1.36
EZ 32115	30–20–10	150	1⅛ x 2¾	2.27	1.36
EZ 42215	40–20–20	150	1⅛ x 3	2.52	1.51
EZ 1A135C	15–10/20	350/25	1⅛ x 3½	2.52	1.51
EZ 2143C	20/10/20	400/350/25	1⅜ x 3⅛	2.83	1.69
	Triple Separate Section Units*				
EZ 8825S	8–8/20	250/25	1⅜ x 3	$2.33	$1.39
EZ 8835S	8–8/20	350/25	1⅜ x 3¾	2.27	1.36
EZ 12D35S	12–12/20	350/25	1⅜ x 3¾	2.90	1.74
EZ 16D35S	16–16/20	350/25	1⅜ x 4¾	3.21	1.92
EZ 8845S	8–8/20	450/25	1⅜ x 3¾	2.52	1.51
EZ 12D45S	12–12/20	450/25	1⅜ x 4¾	3.03	1.81
EZ 88825	8–8–8	250	1⅜ x 3	2.52	1.51
EZ 88835	8–8–8	350	1⅜ x 3¾	2.52	1.51
EZ 88845	8–8–8	450	1⅜ x 3¾	2.83	1.69
	Quadruple Common Negative Units				
EZ 8815CC	8–8/10–10	150/25	1 x 2¾	$2.20	$1.32
EZ 3215CC	30–20/10–10	150/25	1 3/16 x 2¾	2.78	1.66
EZ 42215C	40–20–20/20	150/25	1 3/16 x 3	2.83	1.69
EZ 53215C	50–30–20/20	150/25	1 3/16 x 3½	3.09	1.85
EZ 44315C	40–40–30/20	150/25	1 3/16 x 3½	3.16	1.89
EZ 55515C	50–50–50/20	150/25	1⅜ x 3½	3.48	2.08
	Quadruple Separate Section Units*				
EZ 16D15SS	16–16/10–10	150/25	1⅜ x 3	$2.90	$1.74
EZ 8815SS	8–8/10–10	450/25	1⅜ x 3¾	3.03	1.81
EZ 43215SS	40–30–20/20	150/25	1⅜ x 3¾	4.11	2.46

*First section separate, others common negative.

"ELECTROLYTIC CAPACITORS"

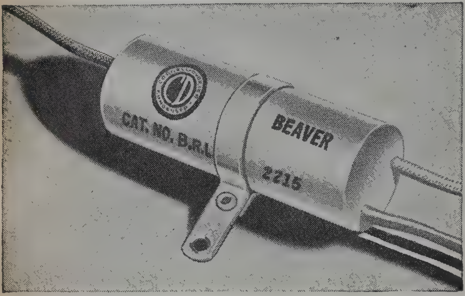
By PAUL McK. DEELEY


ELECTROLYTIC CAPACITORS DEELEY
ELECTROLYTIC CAPACITORS DEELEY

This instructive book supplies the reader with specific information concerning the many factors involved in the theory, design and construction of electrolytics. It is profusely illustrated and describes all applications of electrolytic capacitors. 300 pages, size 5½" x 7⅞", cloth bound hard cover. Every page is a gold mine of facts and data.

This 300-page book postpaid — for only **$1.00 net**

CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS


CAT. NO. B.R.L.
BEAVER
2215

TYPE BRL CARDBOARD TUBE UNITS

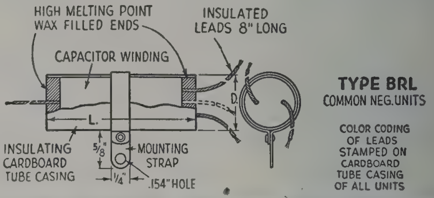
Type BRL Capacitors are dual and triple common negative units in cardboard tube containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the cardboard tube casing. Units are provided with insulated wire leads brought out at both ends of the unit. A mounting strap around the center of the cardboard tube casing enables mounting the unit with one screw under the chassis assembly.

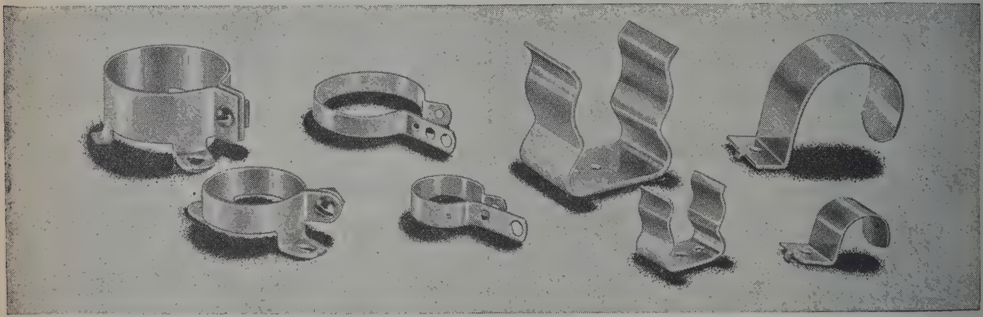
Dual Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRL 2101	10–10	25	5/8 x 1 3/4	$1.06	**$0.63**
BRL 115	10–10	50	5/8 x 2 1/4	1.26	**.75**
BRL 2115	20–10	150	7/8 x 2 1/2	1.44	**.86**
BRL 2215	20–20	150	7/8 x 2 1/2	1.64	**.98**
BRL 4215	40–20	150	15/16 x 2 3/4	1.76	**1.05**
BRL 8125	8–16	250	7/8 x 2 3/4	1.64	**.98**
BRL 1125	16–16	250	1 x 2 3/4	1.89	**1.13**
BRL 8845	8–8	450	1 x 2 3/4	1.64	**.98**
BRL 8145	8–16	450	1 1/16 x 3 1/4	2.08	**1.24**

Triple Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRL 2215C	20–20/20	150/25	1 x 2 1/2	$2.20	**$1.32**
BRL 4215C	40–20/20	150/25	1 x 2 3/4	2.40	**1.44**
BRL 5315C	50–30/20	150/25	1 1/8 x 3	2.83	**1.69**


HIGH MELTING POINT WAX FILLED ENDS
INSULATED LEADS 8" LONG
CAPACITOR WINDING
L.
D.
INSULATING CARDBOARD TUBE CASING
5/8
1/4"
MOUNTING STRAP
.154" HOLE
TYPE BRL
COMMON NEG. UNITS
COLOR CODING OF LEADS STAMPED ON CARDBOARD TUBE CASING OF ALL UNITS



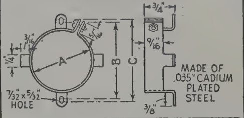
Mounting Rings, Tubular Straps, Mounting Clips and "C" Clamps

CAPACITOR MOUNTING HARDWARE

Additional hardware for mounting all types of electrolytic capacitors as well as tubular paper units is available as shown in the accompanying diagrams and listed below.

Part No.	Description	List Price	Net Price
14582	Mounting Ring for 1" dia. Cans	$0.09	**$0.05**
12125	Mounting Ring for 1 3/8" dia. Cans	.09	**.05**
15591	Mounting Ring for 1 1/2" dia. Cans	.14	**.08**
16693	Mounting Ring for 1 3/4" dia. Cans	.17	**.10**
14464	Mounting Ring for 2" dia. Cans	.21	**.12**
13590	Mounting Ring for 2 1/2" dia. Cans	.21	**.12**
13591	Mounting Ring for 3" dia. Cans	.21	**.12**
15266	Mounting Ring for 3 1/2" dia. Cans	.21	**.12**
17842	Mounting Ring for 1" dia. Cans	.09	**.05**
19213	Mounting Ring for 1 1/8" dia. Cans	.09	**.05**
18573	Mounting Ring for 1 1/4" dia. Cans	.09	**.05**
17843	Mounting Ring for 1 3/8" dia. Cans	.09	**.05**
17844	Mounting Ring for 1 1/2" dia. Cans	.14	**.08**
21368-1	Mounting Clip for 3/4" dia. Cans	.14	**.08**
21368-2	Mounting Clip for 1" dia. Cans	.14	**.08**
21368-3	Mounting Clip for 1 3/8" dia. Cans	.14	**.08**
17920	"C" Clamp for 5/8"–3/4" Cans or Tubulars	.14	**.08**
17921	"C" Clamp for 7/8"–1" Cans or Tubulars	.14	**.08**
17922	"C" Clamp for 1 1/8"–1 1/4" Cans or Tubulars	.14	**.08**
17923	"C" Clamp for 1 3/8"–1 1/2" Cans or Tubulars	.14	**.08**
16279 to 16287	Tubular Straps for Mounting All Types of Tubular Units	.06	**.03**

MOUNTING RINGS


3/4"
3/16"
5/16"
1/4
A
B
C
9/16"
7/32" x 5/32" HOLE
3/8"
MADE OF .035" CADIUM PLATED STEEL

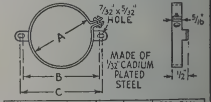
FOR CAN SIZES 1" TO 1 1/2" DIA.

*INSIDE DIAMETER (CAN DIAMETER SIZE)

PART No.	A*	B	C
17842	1	1 3/8	1 1/2
19213	1 1/8	1 7/32	1 21/32
18573	1 1/4	1 5/8	1 3/4
17843	1 3/8	1 11/16	1 7/8
17844	1 1/2	1 7/8	2

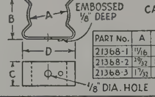
MOUNTING RINGS

FOR CAN SIZES - 1" TO 3 1/2" DIAMETER


7/32" x 5/32" HOLE
A
B
C
5/16"
1/2"
MADE OF 1/32" CADIUM PLATED STEEL

PART No.	A	B	C	FOR CAN SIZE
14582	31/32	1 3/8	1 1/2	1"
12125	1 11/32	1 11/16	1 13/16	1 3/8"
15591	1 15/32	1 13/16	1 15/16	1 1/2"
16693	1 23/32	2 3/16	2 5/16	1 3/4"
14464	1 31/32	2 7/16	2 9/16	2"
13590	2 15/32	2 15/16	3 1/16	2 1/2"
13591	2 31/32	3 7/16	3 9/16	3"
15266	3 15/32	3 15/16	4 1/16	3 1/2"

MOUNTING CLIPS

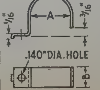

B
A
EMBOSSED 1/8" DEEP
D
C
1/8" DIA. HOLE

MADE OF CADIUM PLATED STEEL

PART No.	A	B	C	D	FOR CAN SIZE
21368-1	11/16	25/32	1/2	25/32	3/4"
21368-2	29/32	13/64	19/32	1 1/16	1"
21368-3	1 7/32	1 1/2	7/8	1 7/16	1 3/8"

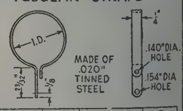
"C" CLAMPS

MADE OF CADIUM PLATED STEEL


1/16"
A
3/16"
.140" DIA. HOLE
B

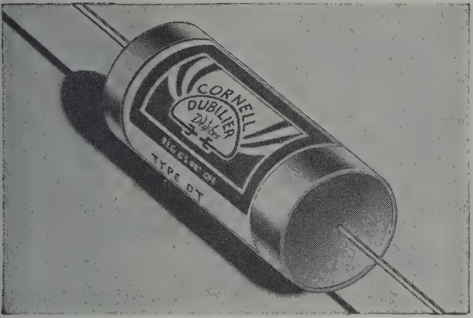
PART No.	A FOR TUBE SIZE	B
17920	5/8" - 3/4"	1/2
17921	7/8" - 1"	1/2
17922	1 1/8" - 1 1/4"	3/4
17923	1 3/8" - 1 1/2"	3/4

TUBULAR STRAPS


I.D.
23/32"
1/8
MADE OF .020" TINNED STEEL
1/4"
.140" DIA. HOLE
.154" DIA HOLE

PART No.	I.D.	PART No.	I.D.
16279	7/16	20440	15/16
16280	1/2	27950	1
17203	9/16	21187	1 1/16
17516	5/8	21068-1	1 1/8
16285	11/16	19033-1	1 1/4
17517	3/4	17673-1	1 3/8
[illegible]	[illegible]	17606	1 1/2

TUBULAR PAPER CAPACITORS



TYPES DT AND MD TUBULAR UNITS

Type DT, "Dwarf Tiger" capacitors are non-inductively wound, wax impregnated units in specially treated cardboard tubes with high melting point wax filled ends. They have tinned-copper wire leads 2½" long.

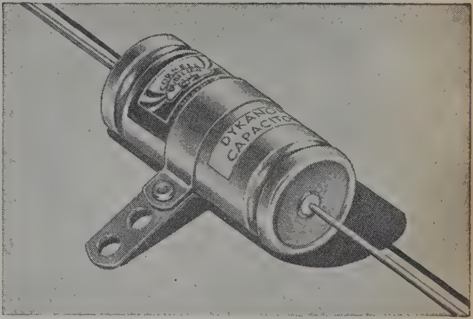
Type MD "Blue Tiger" capacitors are impregnated with Dykanol "D" which provides longer life under more severe conditions of humidity and temperature.

TYPE DT—Wax Impregnated Units

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C.		
DT 4S1	.01	13/32 x 1 1/4	$0.25	$0.15
DT 4S15	.015	13/32 x 1 1/4	.25	.15
DT 4S2	.02	3/8 x 1 3/8	.25	.15
DT 4S25	.025	3/8 x 1 3/8	.25	.15
DT 4S3	.03	15/32 x 1 3/8	.25	.15
DT 4S4	.04	15/32 x 1 5/8	.25	.15
DT 4S5	.05	15/32 x 1 5/8	.25	.15
DT 4S6	.06	1/2 x 1 5/8	.31	.18
DT 4P1	.1	19/32 x 1 5/8	.31	.18
DT 4P2	.2	11/16 x 2	.36	.21
DT 4P25	.25	11/16 x 2	.36	.21
DT 4P5	.5	7/8 x 2 1/8	.56	.33
DT 4W1	1.	1 x 2 5/8	.75	.45
		600 V. D.C.		
DT 6T1	.0001	11/32 x 1 3/16	.25	.15
DT 6T25	.00025	11/32 x 1 3/16	.25	.15
DT 6T5	.0005	11/32 x 1 3/16	.25	.15
DT 6D1	.001	11/32 x 1 1/4	.25	.15
DT 6D2	.002	13/32 x 1 1/4	.25	.15
DT 6D3	.003	13/32 x 1 1/4	.25	.15
DT 6D4	.004	13/32 x 1 1/4	.25	.15
DT 6D5	.005	13/32 x 1 1/4	.25	.15
DT 6D6	.006	13/32 x 1 1/4	.25	.15
DT 6S1	.01	7/16 x 1 3/8	.25	.15
DT 6S15	.015	13/32 x 1 5/8	.25	.15
DT 6S2	.02	15/32 x 1 5/8	.25	.15
DT 6S25	.025	15/32 x 1 5/8	.31	.18
DT 6S3	.03	1/2 x 1 5/8	.31	.18
DT 6S4	.04	9/16 x 1 5/8	.31	.18
DT 6S5	.05	19/32 x 1 5/8	.31	.18
DT 6S6	.06	5/8 x 1 5/8	.36	.21
DT 6P1	.1	11/16 x 1 7/8	.36	.21
DT 6P2	.2	13/16 x 2 1/8	.56	.33
DT 6P25	.25	7/8 x 2 1/8	.56	.33
DT 6P3	.3	1 x 2 1/8	.69	.41
DT 6P5	.5	1 x 2 3/4	.75	.45

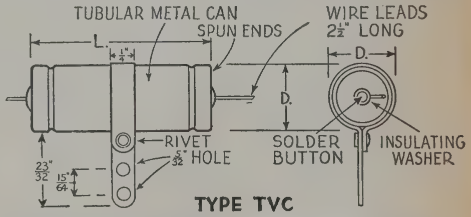
TYPE MD—Dykanol "D" Impregnated Units

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		1600 V. D.C.		
MD 16D1	.001	3/8 x 1 1/4	$0.56	$0.33
MD 16D2	.002	15/32 x 1 1/4	.56	.33
MD 16D25	.0025	15/32 x 1 1/2	.56	.33
MD 16D3	.003	15/32 x 1 1/2	.56	.33
MD 16D4	.004	1/2 x 1 1/2	.56	.33
MD 16D5	.005	9/16 x 1 1/2	.56	.33
MD 16D6	.006	9/16 x 1 1/2	.56	.33
MD 16D7	.007	5/8 x 1 1/2	.56	.33
MD 16D8	.008	5/8 x 1 1/2	.56	.33
MD 16S1	.01	9/16 x 2	.56	.33
MD 16S15	.015	5/8 x 2	.56	.33
MD 16S2	.02	11/16 x 2	.56	.33
MD 16S25	.025	3/4 x 2	.56	.33
MD 16S3	.03	25/32 x 2	.56	.33
MD 16S4	.04	15/16 x 2	.63	.37
MD 16S5	.05	1 x 2	.69	.41



TYPE TVC METAL TUBULARS

Type TVC capacitors are compact tubular metal can type units designed to withstand severe climatic conditions. They are non-inductively wound, impregnated and filled with Dykanol "B" to maintain high insulation resistance.

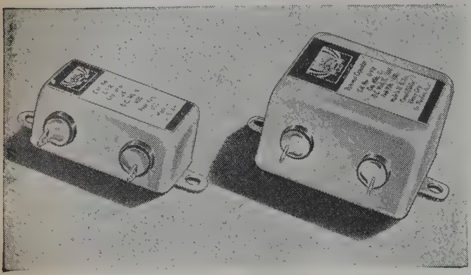


TYPE TVC—Dykanol Impregnated and Filled Units in Metal Tube Containers (See Note below).

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C.		
TVC 4D5	.005	7/16 x 1 1/8	$0.88	$0.52
TVC 4S1	.01	7/16 x 1 1/8	.88	.52
TVC 4S15	.015	7/16 x 1 1/8	.88	.52
TVC 4S2	.02	7/16 x 1 1/4	.88	.52
TVC 4S3	.03	7/16 x 1 3/8	.94	.56
TVC 4S4	.04	17/32 x 1 1/4	.94	.56
TVC 4S5	.05	17/32 x 1 3/8	.94	.56
TVC 4P1	.1	5/8 x 1 11/16	1.01	.60
TVC 4P25	.25	3/4 x 2 1/16	1.13	.67
TVC 4P5	.5	1 x 2 1/16	1.19	.71
		600 V. D.C.		
TVC 6D5	.005	7/16 x 1 1/8	.94	.56
TVC 6S1	.01	7/16 x 1 1/8	.94	.56
TVC 6S15	.015	7/16 x 1 1/8	.94	.56
TVC 6S2	.02	7/16 x 1 1/8	.94	.56
TVC 6S3	.03	7/16 x 1 1/4	1.01	.60
TVC 6S4	.04	17/32 x 1 1/8	1.01	.60
TVC 6S5	.05	17/32 x 1 1/4	1.01	.60
TVC 6P1	.1	5/8 x 1 1/2	1.13	.67
TVC 6P25	.25	3/4 x 1 13/16	1.70	1.02
TVC 6P5	.5	1 x 1 13/16	2.40	1.44
		1000 V. D.C.		
TVC 10D5	.005	17/32 x 1 1/8	1.01	.60
TVC 10S1	.01	17/32 x 1 1/8	1.01	.60
TVC 10S15	.015	17/32 x 1 1/8	1.01	.60
TVC 10S2	.02	17/32 x 1 1/4	1.01	.60
TVC 10S3	.03	17/32 x 1 3/8	1.06	.63
TVC 10S4	.04	17/32 x 1 1/2	1.06	.63
TVC 10S5	.05	17/32 x 1 5/8	1.13	.67
TVC 10P1	.1	5/8 x 2 1/16	1.51	.90
		1600 V. D.C.		
TVC 16D5	.005	5/8 x 1 5/16	1.13	.67
TVC 16S1	.01	5/8 x 1 5/16	1.13	.67
TVC 16S15	.015	5/8 x 1 9/16	1.13	.67
TVC 16S2	.02	5/8 x 1 11/16	1.13	.67
TVC 16S3	.03	5/8 x 2 /16	1.13	.67
TVC 16S4	.04	3/4 x 1 13/16	1.26	.75
TVC 16S5	.05	7/8 x 1 11/16	1.39	.83

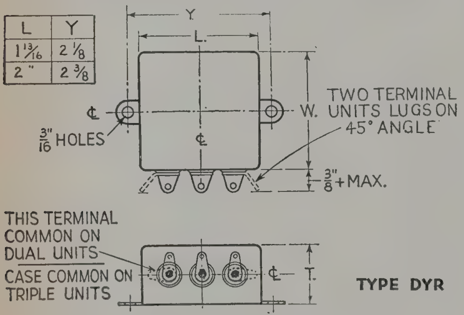
NOTE—For units provided with insulating sleeve over metal tube add 10c to list price. When ordering add "–6" to Cat. No. (Example TVC 4D5–6).

DRAWN METAL SHELL PAPER CAPACITORS



TYPE DYR DYKANOL "G" FILLED UNITS

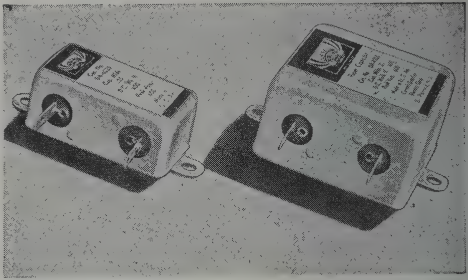
Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling and A.C. circuits under all humidity conditions and at temperatures up to approximately 85° C. (185° F.). They are built to stand an immersion test in hot water and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications for maximum capacity and voltage in minimum space, where quality and reliability are of paramount importance. They are impregnated and filled with Dykanol "G" and sealed in non-corrosive cases with leakproof riveted terminals.


Y
L.
TWO TERMINAL UNITS LUGS ON 45° ANGLE
W.
℄
3/16" HOLES
3/8"+MAX.
THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
T.

L	Y
1 13/16	2 1/8
2"	2 3/8

TYPE DYR

Cat. No.	Capacity Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V.D.C. Work.		
DYR 6005	.05	1 13/16 x 1 x 3/4	$2.58	**$1.54**
DYR 6010	.1	1 13/16 x 1 x 3/4	2.65	**1.59**
DYR 6025	.25	1 13/16 x 1 x 3/4	2.78	**1.66**
DYR 6050	.5	1 13/16 x 1 x 7/8	2.96	**1.77**
DYR 6100	1	2 x 1 3/4 x 7/8	3.41	**2.04**
DYR 6200	2	2 x 2 x 1 1/8	4.55	**2.73**
DYR 60055	.05-.05	1 13/16 x 1 x 3/4	3.28	**1.96**
DYR 6011	.1-.1	1 13/16 x 1 x 3/4	3.34	**2.00**
DYR 6022	.25-.25	1 13/16 x 1 1/4 x 3/4	3.41	**2.04**
DYR 6055	.5-.5	2 x 1 3/4 x 7/8	3.91	**2.34**
DYR 6110	1.-1.	2 x 2 x 1 1/8	4.80	**2.88**
DYR 6111	.1-.1-.1	1 13/16 x 1 x 3/4	3.79	**2.27**
DYR 6222	.25-.25-.25	2 x 1 3/4 x 13/16	4.29	**2.57**
DYR 6555	.5-.5-.5	2 x 2 x 1 1/8	5.18	**3.10**
		1000 V.D.C. Work.		
DYR 10005	.05	1 13/16 x 1 x 3/4	2.65	**1.59**
DYR 10010	.1	1 13/16 x 1 x 3/4	2.83	**1.69**
DYR 10025	.25	1 13/16 x 1 x 3/4	2.90	**1.74**
DYR 10050	.5	2 x 1 3/4 x 13/16	3.16	**1.89**
DYR 10100	1	2 x 2 x 1 1/8	4.17	**2.50**
DYR 100055	.05-.05	1 13/16 x 1 x 3/4	3.28	**1.96**
DYR 10011	.1-.1	1 13/16 x 1 x 3/4	3.53	**2.11**
DYR 10022	.25-.25	2 x 1 3/4 x 13/16	3.79	**2.27**
DYR 10055	.5-.5	2 x 2 x 1 1/8	4.92	**2.95**
DYR 10111	.1-.1-.1	1 13/16 x 1 1/4 x 3/4	4.17	**2.50**
DYR 10222	.25-.25-.25	2 x 2 x 1 1/8	5.30	**3.18**

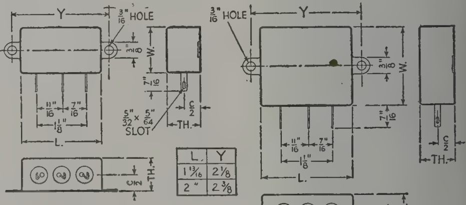


TYPES DA, DB & DC WAX FILLED UNITS

Types DA to DC capacitors are non-inductively wound and wax-potted in drawn metal shell containers. They are available in a large variety of ratings for radio frequency bypass, audio frequency coupling and bypass functions. Lug terminals are amply insulated. Integral with casing, the mounting feet allow ease of assembly.

In the single and dual section capacitor units, the terminals are insulated from the container. The duals have three terminals, the common lug being on the left. In the triple and quadruple section capacitors, the common terminal connection is grounded to the metal case.

All units are wound with the highest grade pure aluminum foil and multi-laminated Kraft tissue, thoroughly dried under vacuum pressure, impregnated in the finest grade wax compound, oil-cooled, and potted in a special wax compound. Conservative D. C. ratings of these capacitors by triple testing assure dependable service in operation.

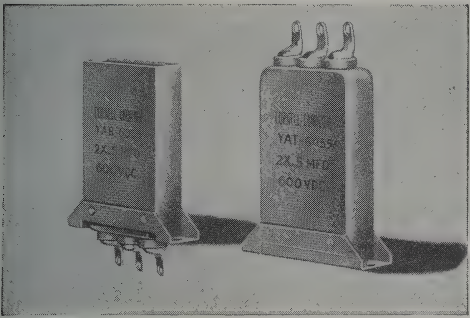


L.	Y
1 13/16	2 1/8
2"	2 3/8

TYPES DA, DB, DC

Cat. No.	Capacity Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		400 V.D.C. Work.		
DA 4011	.1	1 13/16 x 1 x 3/4	$1.01	**$0.60**
DA 4025	.25	1 13/16 x 1 x 3/4	1.13	**.67**
DA 4050	.5	1 13/16 x 1 x 7/8	1.44	**.86**
DA 4100	1	2 x 1 3/4 x 13/16	1.89	**1.13**
DA 4200	2	2 x 2 x 1 1/8	2.40	**1.44**
DB 4010	.1-.1	1 13/16 x 1 x 3/4	1.26	**.75**
DB 4025	.25-.25	2 x 1 1/4 x 3/4	1.51	**.90**
DB 4050	.5-.5	2 x 1 3/4 x 1	1.89	**1.13**
DC 4010	.1-.1-.1	1 13/16 x 1 x 3/4	1.64	**.98**
		600 V.D.C. Work.		
DA 6011	.1	1 13/16 x 1 x 3/4	1.13	**.67**
DA 6025	.25	1 13/16 x 1 1/4 x 3/4	1.39	**.83**
DA 6050	.5	2 x 1 3/4 x 13/16	1.82	**1.09**
DA 6100	1	2 x 2 x 1 1/8	2.27	**1.36**

DRAWN METAL SHELL PAPER CAPACITORS



TYPE YAB AND YAT DYKANOL CAPACITORS

Types YAT and YAB are impregnated and filled with Dykanol "G" (chlorinated diphenyl) a synthetic, non-inflammable, non-oxidizable liquid compound which is unaffected by wide latitude of temperature changes or voltage stresses. They are especially suited for use in bypass, audio frequency coupling circuits and other applications where conditions of high humidity and temperatures are encountered.

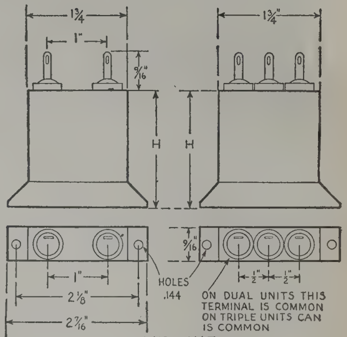
Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers, designated as Types YAT and YAB accordingly. All units are provided with rugged metal mounting brackets which provide rigid mountings. Two or more units may be mounted close together in an assembly.

Single section units are provided with two terminals while dual and triple section units have three terminals. In single and dual section units terminals are insulated from the metal container. The third terminal of dual section units is the common terminal and marked for identification. In triple section units the common terminal connection is grounded to the metal case.

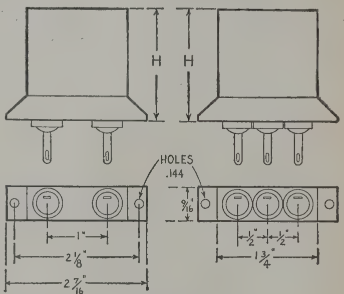
Types WAT and WAB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together for compactness.

TYPES YAT AND YAB—Dykanol "G" Impregnated and Filled Units

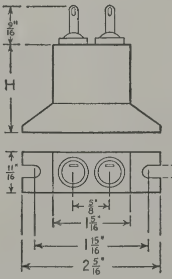
Cat. Nos.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
	600 V.D.C. Work.			
YAT or **YAB 6005**	.05	2 7/16 x 9/16 x 1	$3.28	**$1.96**
YAT or **YAB 6010**	.1	2 7/16 x 9/16 x 1	3.34	**2.00**
YAT or **YAB 6025**	.25	2 7/16 x 9/16 x 1 1/2	3.48	**2.08**
YAT or **YAB 6050**	.5	2 7/16 x 9/16 x 1 7/8	3.73	**2.23**
YAT or **YAB 6100**	1.0	2 7/16 x 9/16 x 2 1/2	4.29	**2.57**
YAT or **YAB 60055**	.05-.05	2 7/16 x 9/16 x 1	4.11	**2.46**
YAT or **YAB 6011**	.1-.1	2 7/16 x 9/16 x 1 1/2	4.23	**2.53**
YAT or **YAB 6022**	.25-.25	2 7/16 x 9/16 x 1 7/8	4.29	**2.57**
YAT or **YAB 6055**	.5-.5	2 7/16 x 9/16 x 2 1/2	4.92	**2.95**
YAT or **YAB 60555**	.05-.05-.05	2 7/16 x 9/16 x 1	4.61	**2.76**
YAT or **YAB 6111**	.1-.1-.1	2 7/16 x 9/16 x 1 1/2	4.74	**2.84**
YAT or **YAB 6222**	.25-.25.-25	2 7/16 x 9/16 x 2 1/2	5.37	**3.22**
	1000 V.D.C. Work.			
YAT or **YAB 10005**	.05	2 7/16 x 9/16 x 1	3.34	**2.00**
YAT or **YAB 10010**	.1	2 7/16 x 9/16 x 1	3.59	**2.15**
YAT or **YAB 10025**	.25	2 7/16 x 9/16 x 1 7/8	3.66	**2.19**
YAT or **YAB 10050**	.5	2 7/16 x 9/16 x 2 1/2	3.98	**3.38**
YAT or **YAB 100055**	.05-.05	2 7/16 x 9/16 x 1 1/2	4.11	**2.46**
YAT or **YAB 10011**	.1-.1	2 7/16 x 9/16 x 1 1/2	4.42	**2.65**
YAT or **YAB 10022**	.25-.25	2 7/16 x 9/16 x 2 1/2	4.74	**2.84**
YAT or **YAB 100555**	.05-.05.-05	2 7/16 x 9/16 x 1 1/2	5.37	**3.22**
YAT or **YAB 10111**	.1-.1-.1	2 7/16 x 9/16 x 2 1/2	5.68	**3.40**


1 3/4
1"
9/16"
H
H
1 3/4"
9/16"
1"
HOLES
.144
1/2"
1/2"
2 1/8"
2 7/16"
ON DUAL UNITS THIS TERMINAL IS COMMON ON TRIPLE UNITS CAN IS COMMON

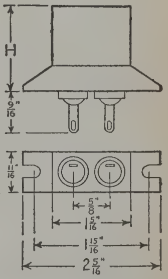
TYPE YAT



TYPE YAB



TYPE WAT

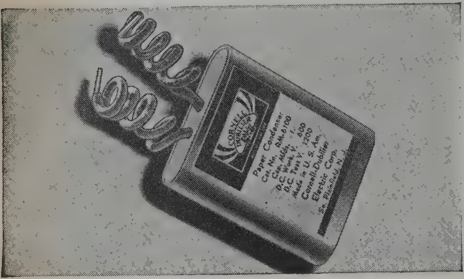


TYPE WAB

TYPES WAT AND WAB—Dykanol "G" Impregnated and Filled Units

Cat. Nos.	Cap. Mfd.	Size—Inches Lgth. x Wid. x Hgth.	List Price	Net Price
	600 V.D.C. Work.			
WAT or **WAB 6005**	.05	2 5/16 x 11/16 x 1 7/16	$3.48	**$2.08**
WAT or **WAB 6010**	.1	2 5/16 x 11/16 x 1 7/16	3.66	**2.19**
WAT or **WAB 6025**	.25	2 5/16 x 11/16 x 1 11/16	4.04	**2.42**
WAT or **WAB 6050**	.5	2 5/16 x 11/16 x 2 1/16	4.17	**2.50**
WAT or **WAB 6100**	1.0	2 5/16 x 11/16 x 2 1/2	4.61	**2.76**
	1000 V.D.C. Work.			
WAT or **WAB 10005**	.05	2 5/16 x 11/16 x 1 7/16	3.66	**2.19**
WAT or **WAB 10010**	.1	2 5/16 x 11/16 x 1 7/16	3.79	**2.27**
WAT or **WAB 10025**	.25	2 5/16 x 11/16 x 2 1/16	3.91	**2.34**
WAT or **WAB 10050**	.5	2 5/16 x 11/16 x 2 1/2	4.11	**2.46**

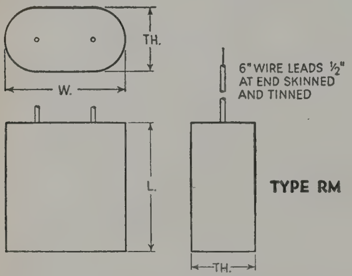
REPLACEMENT PAPER CAPACITORS



TYPE RM UNCASED PAPER CAPACITORS

Type RM uncased capacitors are made available to repair paper dielectric filter blocks which were used in the early models of A.C. operated radio sets. Also useful in the elimination of electrical interference caused by pushbuttons, bells, buzzers, and similar applications in radio, electronic and electrical devices.

Special capacitor units can be made up and potted into suitable containers by servicemen to fulfill many requirements.



Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V. D.C.		
RM 6010	.1	2 x 1 x 3/16	$0.63	$0.37
RM 6025	.25	2 x 1 x 3/8	.75	.45
RM 6050	.5	2 x 1 3/8 x 1/2	.94	.56
RM 6100	1	2 x 1 7/8 x 3/4	1.39	.83
RM 6200	2	3 3/8 x 1 7/8 x 7/8	2.08	1.24
RM 6400	4	4 1/4 x 1 7/8 x 1 3/8	4.1[illegible]	2.46

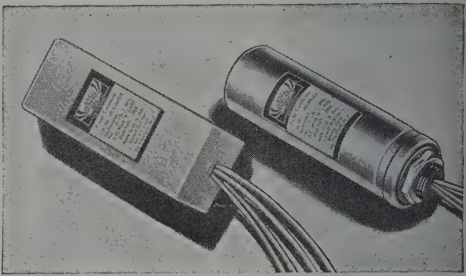
HIGH SPEED PHOTO-FLASH CAPACITOR

for

High Speed

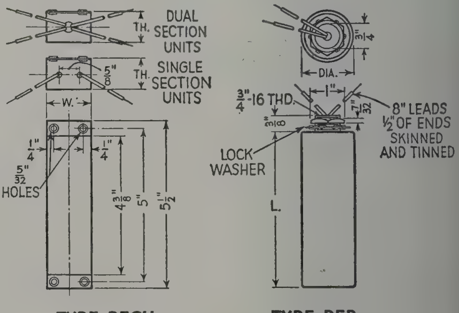
Stroboscopic

Photography



TYPE PECH AND PEB REPLACEMENT UNITS

Paper Replacement Capacitors that simulate electrolytics in appearance; these types fulfill many service requirements. Their actual capacity is from ⅓ to ½ of the usual value employed when using electrolytics. They afford a high voltage breakdown which an electrolytic does not offer. There is no polarity to observe when using these capacitors. Mounting flanges are provided on all cardboard box units. Dual section units have separate leads.



TYPE PECH TYPE PEB

TYPE PECH, 1200 V. D.C. Test, 800 V. D.C. Peak, 600 V. D.C. Working

Cat. No.	"Replacement" for Electrolytic Cap. Mfd.	Actual Capacity Approx. Mfd.	Size—Inches Length x Width x Thickness	List Price	Net Price
PECH 6004	4	2	4 3/8 x 1 3/8 x 15/16	$1.82	$1.09
PECH 6008	8	5.5	4 3/8 x 1 5/8 x 1 1/8	2.45	1.47
PECH 6808	8–8	2.7–2.7	4 3/8 x 2 x 1 1/2	4.04	2.42

TYPE PEB, 1200 V. D.C. Test, 800 V. D.C. Peak, 600 V. D.C. Working

PEB 6004	4	1.75	4 3/8 x 1 3/8	$2.08	$1.24
PEB 6008	8	2.75	4 3/8 x 1 3/8	2.65	1.59
PEB 6808	8–8	1.7–1.7	4 3/8 x 1 1/2	4.29	2.57

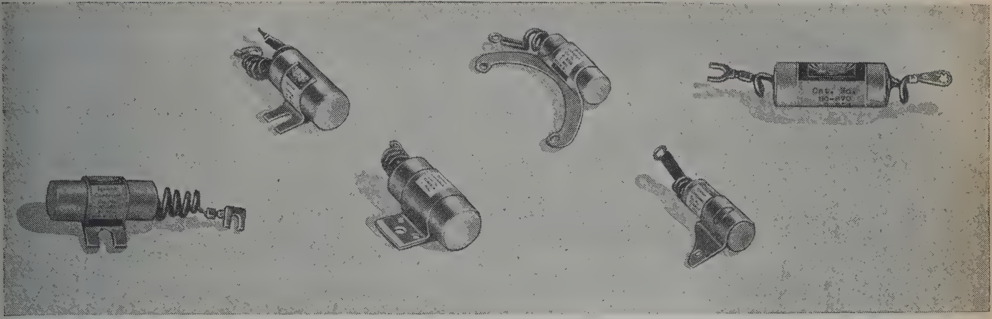
Type KGT 6250-1 Capacitor is rated for operation at 2000 V.D.C. Peak and each unit offers a capacity value of 25 microfarads. Two or more units may be used to provide any desired multiple of this value in the construction of speed flash lamps for making stroboscopic pictures. Unit comes in sealed metal case, 6⅝x4⁹⁄₁₆x3¾".

Type KGT 6250-1 25 Mfd. 660 V.A.C.-2000 V.D.C. Peak

List Price $41.01 **Net Price $24.60**

CORNELL DUBILIER

AUTO RADIO CAPACITORS



TYPES: (Top Row) IC-2P55, FC-2P5A AND HC-870E; (Bottom Row) IC-2P5V, ICH-2W1A AND FC-2P5V

The mechanical design of C-D Auto Radio Capacitors insures against damage by the high temperatures and excessive vibration existing under the hood of an auto. Special units such as these are designed for certain particular installations. Thus, for instance, Ford generator capacitor, FC-2P5V, has a special mounting bracket while others are also provided with special mountings and terminals. Vibrator capacitors are oil-treated to withstand high peak and surge voltages.

GENERATOR UNITS

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wth. x Thick.	List Price	Net Price
ICS 2S5A	.05	7/16 x 1 1/4	$0.75	$0.45
IC 2P5C	.5	1 7/8 x 1 1/4	.75	.45
FC 2P5A	.5	1 7/8 x 1 1/4	.75	.45
FC 2P5V	.5	1 7/8 x 1 1/4	.75	.45
IC 2P55	.5–.5	7/8 x 2	1.13	.67
ICH 2W1A	1.0	1 x 2 3/16	1.06	.63
ICV 2P25A	.25	11/16 x 1 7/8	.75	.45
ICV 2P5A	.5	11/16 x 1 7/8	.75	.45
ICV 2W1A	1.0	1 x 2 3/16	1.06	.63

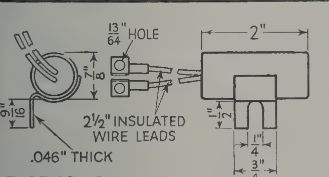
AMMETER UNIT

HC 870E	.5	3/4 x 2	$0.69	$0.41

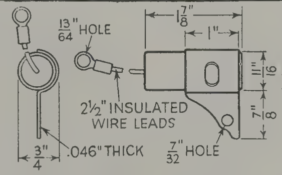
VIBRATOR BUFFER UNITS

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Lgth.	List Price	Net Price
Metal cased oil-impregnated and processed tubular paper capacitors with cardboard insulating sleeve and mounting strap 2000 V.D.C. Peak.				
TVC 16D5-6	005	5/8 x 1 5/8	$0.69	**$0.41**
TVC 16D7-6	007	5/8 x 1 5/8	.75	**.45**
TVC 16S1-6	01	5/8 x 1 5/8	.88	**.52**
TVC 16S2-6	02	11/16 x 2 1/8	.94	**.56**

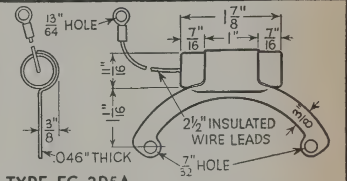
For oil-impregnated and processed paper tubular capacitors, see Type MD listed on page P-37.


13/64" HOLE
2"
7/8"
9/16"
1/2"
2½" INSULATED WIRE LEADS
.046" THICK
1/4"
3/4"

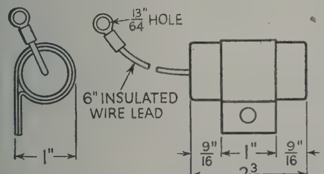
TYPE IC-2P55


13/64 HOLE
1 7/8"
1"
11/16"
7/8"
2½" INSULATED WIRE LEADS
3/4"
.046" THICK
7/32" HOLE

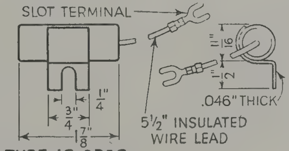
TYPE FC-2P5V


13/64" HOLE
1 7/8"
7/16"
1"
7/16"
11/16"
11/16"
3/8"
3/16
.046" THICK
2½" INSULATED WIRE LEADS
7/32" HOLE

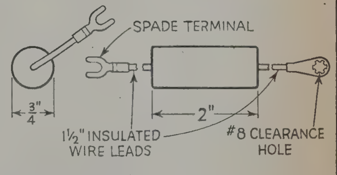
TYPE FC-2P5A


13/64" HOLE
6" INSULATED WIRE LEAD
1"
9/16"
1"
9/16"
2 3/16

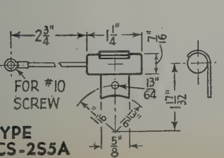
TYPE ICH-2W1A


SLOT TERMINAL
11/16
1/2
.046" THICK
1/4"
3/4"
1 7/8"
5½" INSULATED WIRE LEAD

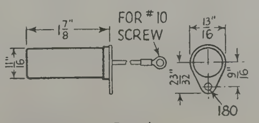
TYPE IC-2P5C
TYPE ICH-2P5C (HOLE INSTEAD OF SLOTS IN MOUNTING CLAMP)


SPADE TERMINAL
3/4"
2"
1½" INSULATED WIRE LEADS
#8 CLEARANCE HOLE

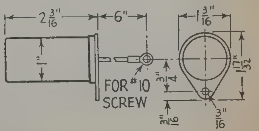
TYPE HC-870E


2 3/4"
1 1/4"
7/16"
FOR #10 SCREW
13/64
17/32
1/16
5/8"

TYPE ICS-2S5A

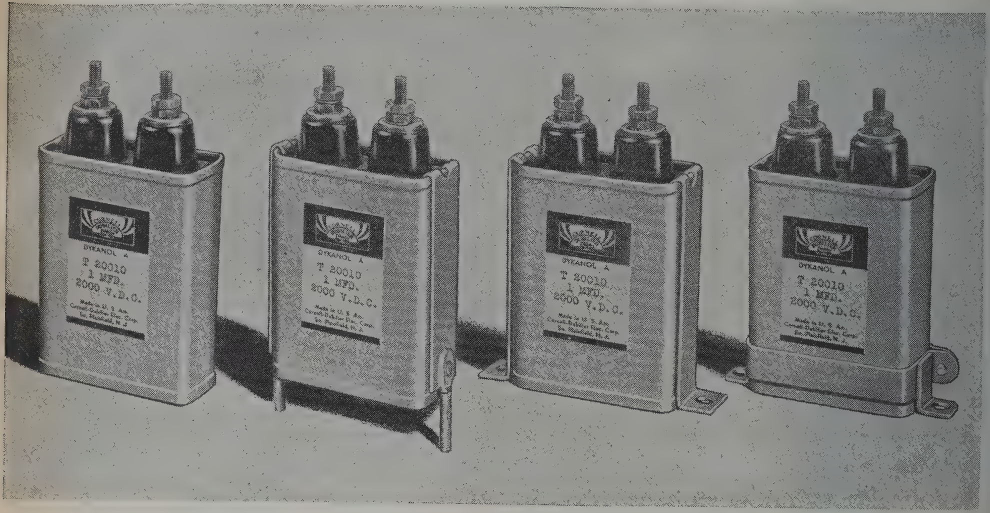

1 7/8"
FOR #10 SCREW
13/16"
11/16
23/32
9/16
180

TYPE ICV-2P25A
TYPE ICV-2P5A


2 3/16"
6"
1 3/16"
1"
FOR #10 SCREW
3/4
17/32
3/16
3/16

TYPE ICV-2W1A

DYKANOL TRANSMITTING CAPACITORS



TYPES T, TJH, TJL AND TJU DYKANOL CAPACITORS

Type T-series Dykanol transmitting capacitors are the finest and most dependable units obtainable for use in all amateur, broadcast and commercial equipment. Units are provided with well insulated terminals, and mountings desired as shown in the accompanying illustrations. These units are standard in thousands of broadcast and government stations all over the world, and also employed in all types of sound equipment, television receivers and transmitters, and other electronic apparatus.

Type T capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life at high temperatures.

In the past, organic oils, resins, and waxes were used as paper impregnants in electrical insulation. Because of the variation of these natural materials, uniformity of results could be desired only and not attained. The concentrated attention of chemists and electrical engineers was turned toward the development of non-organic, synthetic substitutes and new substances, the properties of which could be controlled and modified as desired. The chlorinated diphenyls were recognized as outstanding among the rapidly increasing number of synthetics available. Of these compounds, continued research pointed to one narrow group, that known as Dykanol "G," the characteristics of which were particularly suited to the capacitor art. This material, having the lowest power factor compatible with the highest dielectric constant, is used as the impregnant in Type T capacitors.

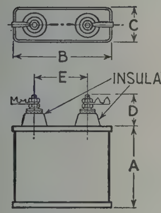
For the dielectric separator in Type T capacitors, only the highest grade of kraft paper is used, ranging in thickness from .0003 to .001 of an inch for a single sheet. Three or more layers of paper dielectric as a separator between foil members are always used. The higher voltage units use as many as six or more layers. This multiple lamination builds a high safety factor into Type T capacitors.

All paper is manufactured to meet rigid specifications and is subjected to a series of tests at the C-D laboratories before acceptance for use in these capacitors. The paper must be of exceptionally high quality to pass the tests. In order to determine its many characteristics, tests are made for porosity, tensile strength, effect of heating, conducting particles, dielectric strength, ash content and ash analysis, acidity or alkalinity, soluble impurities, general appearance, and mechanical considerations such as yield, thickness, width, etc.

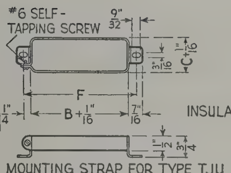
Due to the use of Dykanol "G" and multi-layer kraft capacitor tissue in these units, many outstanding advantages are thus gained, i.e., small size, light weight, low dielectric stress and long life at higher operating temperatures. The size is reduced due to the high dielectric constant of Dykanol "G" which also affords reduction in weight. A low dielectric stress is obtained as the result of efficient use of container volume, and the high specific inductive capacity of the impregnant. And since the dielectric stress is low, the life of the unit in operation is greatly increased. The synthetic liquid impregnant employed in these capacitors does not oxidize or deteriorate like commonly used organic oils.

For higher voltage units, ranging from 6000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

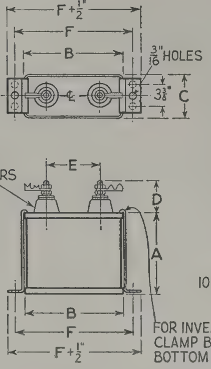
DYKANOL TRANSMITTING CAPACITORS



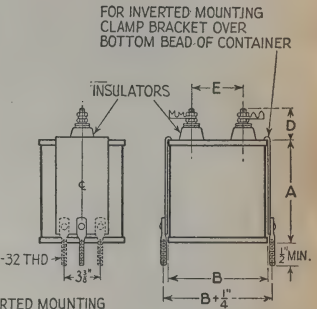
TYPE T
(WITHOUT MOUNTINGS)



TYPE TJU
(WITH MOUNTING STRAP)


F+1/2"
F
B
3/16" HOLES
3 3/8"
C
INSULATORS
E
D
A
B
F
F+1/2"
FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER

TYPE TJL


FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER
INSULATORS
E
D
A
10-32 THD
3 3/8"
1/2" MIN.
B
B+1/4"

TYPE TJH

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows

TYPE T—(Basic unit) without mountings.
TYPE TJH—With screw spade-lug brackets.
TYPE TJL—With mounting foot brackets.
TYPE TJU—With universal mounting strap.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	E	F	List Price	Net Price
		600 V.D.C. Working							
T 6005	.5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$4.17	$2.50
T 6010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.30	3.18
T 6020	2	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.44	3.86
T 6030	3	3 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	7.59	4.55
T 6040	4	3 3/8	2 1/2	1 3/16	7/8	1 1/8	3	8.35	5.01
T 6050	5	4 3/4	1 13/16	1 1/16	7/8	13/16	2 1/4	9.49	5.69
T 6060	6	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	10.24	6.14
T 6080	8	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	12.14	7.28
T 6100	10	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	13.67	8.20
		1,000 V.D.C. Working							
T 10001	1	2	1 13/16	1 1/16	7/8	13/16	2 1/4	3.79	2.27
T 100025	.25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.17	2.50
T 10005	5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.55	2.73
T 10010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.68	3.40
T 10020	2	4	1 13/16	1 1/16	7/8	13/16	2 1/4	7.59	4.55
T 10030	3	3 1/2	2 1/2	1 3/16	7/8	1 1/8	3	8.73	5.23
T 10040	4	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	9.49	5.69
T 10050	5	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	11.38	6.82
T 10060	6	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	12.65	7.59
T 10080	8	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	13.67	8.20
T 10100	10	4 5/8	3 3/4	1 3/4	7/8	2	4 3/8	15.18	9.10
T 10120	12	3 13/16	3 3/4	2 1/4	7/8	2	4 3/8	16.45	9.87
T 10150	15	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	18.34	11.00
		1,500 V.D.C. Working							
T 15005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.68	3.40
T 15010	1	4	1 13/16	1 1/16	7/8	13/16	2 1/4	6.83	4.09
T 15020	2	4 1/8	2 1/2	1 3/16	7/8	1 1/8	3	9.49	5.69
T 15030	3	4 3/4	2 1/2	1 3/16	7/8	1 1/8	3	11.38	6.82
T 15040	4	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	12.65	7.59
T 15050	5	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	13.67	8.20
T 15060	6	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	15.49	9.29
T 15080	8	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	18.98	11.38
T 15100	10*	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	22.78	13.66
T 15120	12*	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	24.67	14.80
T 15150	+15*	4 3/4	3 3/4	4 9/16	7/8	2	4 3/8	27.21	16.32
		2,000 V.D.C. Working							
T 20001	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$6.06	$3.63
T 200025	25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.44	3.86
T 20005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.83	4.09
T 20010	1	3 3/8	2 1/2	1 3/16	1 1/4	1 1/8	3	8.35	5.01
T 20020	2	4	3 3/4	1 1/4	1 1/4	2	4 3/8	9.86	5.91
T 20030	3	4 3/4	3 3/4	1 1/4	1 1/4	2	4 3/8	12.14	7.28
T 20040	4	3 13/16	3 3/4	2 1/4	1 1/4	2	4 3/8	13.67	8.20
T 20050	5	4 3/4	3 3/4	2 1/4	1 1/4	2	4 3/8	15.18	9.10
T 20060	6*	4 3/4	3 3/4	3 3/16	1 1/4	2	4 3/8	18.34	11.00
T 20080	8*	4 3/4	3 3/4	3 3/16	1 1/4	2	4 3/8	22.78	13.66
T 20100	+10*	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	27.84	16.70
T 20120	+12*	5 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	30.37	18.22
		2,500 V.D.C. Working							
T 25005	5	3 1/2	3 3/4	1 1/4	1 1/4	2	4 3/8	10.62	6.37
T 25010	1	3 1/4	3 3/4	1 3/4	1 1/4	2	4 3/8	12.14	7.28
T 25020	2	4 3/4	3 3/4	1 3/4	1 1/4	2	4 3/8	19.62	11.77
T 25040	+ 4*	4	3 3/4	4 9/16	1 1/4	2	4 3/8	27.21	16.32
T 25100A	+10*	6 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	68.35	41.01
		3,000 V.D.C. Working							
T 30001	.1	2	2 1/2	1 3/16	1 1/4	1 1/8	1	12.65	7.59
T 300025	.25	2 1/2	2 1/2	1 3/16	1 1/4	1 1/8	3	13.67	8.20
T 30005	.5	3 7/8	2 1/2	1 9/16	1 1/4	1 1/8	3	15.18	9.10
T 30010	1	3 13/16	3 3/4	2 1/4	1 1/4	2	4 3/8	18.34	11.00
T 30020	2*	4 1/8	3 3/4	3 3/16	1 1/4	2	4 3/8	22.78	13.66
T 30040	+ 4*	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	33.54	20.12
		4,000 V.D.C. Working							
T 40001	.1	2 3/4	3 3/4	2 1/4	2	2	4 3/8	22.78	13.66
T 400025	.25	2 3/4	3 3/4	2 1/4	2	2	4 3/8	24.04	14.42
T 40005	.5	4	3 3/4	2 1/4	2	2	4 3/8	27.21	16.32
T 40010	1	5	3 3/4	2 1/4	2		4 3/8	33.54	20.12
T 40020	+ 2*	5	3 3/4	4 9/16	2	2	4 3/8	42.40	25.44
T 40040B	+ 4*	8	3 3/4	4 9/16	2	1 3/4	4 3/8	60.76	36.45
		5,000 V.D.C. Working							
T 50005	.5	4 1/4	3 3/4	2 1/4	2	2	4 3/8	30.37	18.22
T 50010	+ 1*	4 1/4	3 3/4	4 9/16	2	2	4 3/8	37.97	22.78
T 50020	+ 2*	6	3 3/4	4 9/16	2	2	4 3/8	48.73	29.23
		6,000 V.D.C. Working							
T 60010A	+ 1*	8	3 3/4	4 9/16	2	1 3/4	4 3/8	75.95	45.57

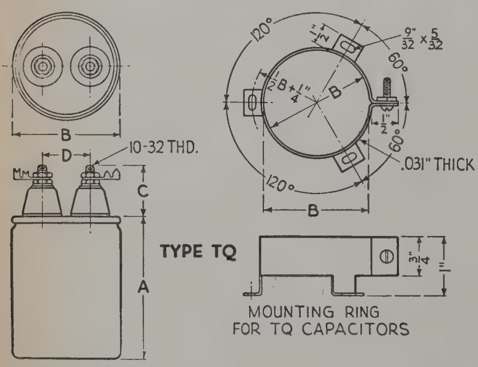
NOTES—* Type TJU units are not furnished in these larger sizes.
+ TYPES TJL and TJH units furnished with two mounting holes or spade-lugs 3 3/8" apart. All other units furnished with a single mounting hole or spade-lug centered on each bracket.

DYKANOL TRANSMITTING CAPACITORS

DYKANOL A
TQ 15020
2 MFD
1500VDC HS
Mfd. Under U. S. Pat. Nos.
1,931,373; 2,041,594
1,850,702
Made in U. S. Am.

TYPE TQ DYKANOL CAPACITORS

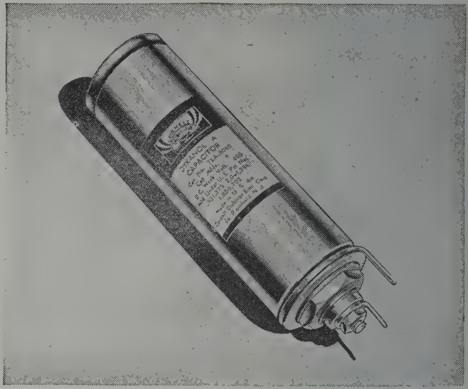
Cornell-Dubilier, Type TQ Dykanol Capacitors, in cylindrical aluminum containers are provided with two insulated terminals and universal mounting rings for mounting the unit in any position with terminals either above or below a subpanel assembly. These units are designed primarily for filter circuits in amateur, low-power broadcast and commercial transmitters. They are also adapted for high-power, high-fidelity public address systems and portable power amplifiers.


B
10-32 THD.
D
C
A
120°
1/2"
9/32" x 5/32"
60°
B+1/4"
B
1/2"
60°
.031" THICK
120°
B
3/4"
1"

TYPE TQ

MOUNTING RING FOR TQ CAPACITORS

Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	List Price	Net Price
		600 Volts D.C. Working					
TQ 6020	2	2⅛	2	1	13/16	$5.05	$3.03
TQ 6040	4	2¾	2	1	13/16	6.83	4.09
		1000 Volts D.C. Working					
TQ 10010	1	1⅞	2	1	13/16	4.17	2.50
TQ 10020	2	2½	2	1	13/16	5.68	3.40
TQ 10040	4	3⅞	2	1	13/16	7.21	4.32
		1500 Volts D.C. Working					
TQ 15010	1	2⅜	2	1	13/16	5.30	3.18
TQ 15020	2	3⅝	2	1	13/16	7.21	4.32
		2000 Volts D.C. Working					
TQ 20010	1	3⅛	2	1	13/16	6.83	4.09
TQ 20020	2	4⅞	2	1	13/16	7.59	4.55
TQ 20040	4	4⅜	3	1¼	1¼	10.62	6.37
		3000 Volts D.C. Working					
TQ 30010	1	3¼	3	1¼	1¼	13.67	8.20
TQ 30020	2	5¼	3	1¼	1¼	16.45	9.87

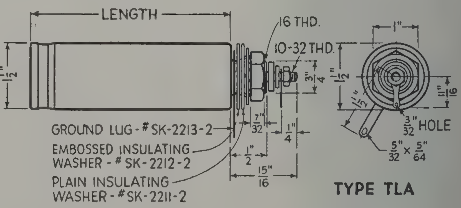


TYPE TLA DYKANOL CAPACITORS

For compact high-voltage filter applications in high-fidelity P.A. amplifiers, power supplies for short-wave portable transmitters and transceivers, type TLA Dykanol filter units in cylindrical aluminum containers are ideal in every respect. One terminal is well insulated, the other being the metal can itself. Insulating washers, as well as a large spade lug, are provided so that the metal container may be insulated from the chassis.

Type TLA capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life at high temperatures.

Type TLAD Capacitors are similar in construction except that the capacitor section is insulated from the metal container and furnished with two soldering lug terminals instead of one.


LENGTH
1½"
16 THD.
10-32 THD.
3/4"
1½"
1"
1½"
11/16"
GROUND LUG - # SK-2213-2
EMBOSSED INSULATING WASHER - # SK-2212-2
PLAIN INSULATING WASHER - # SK-2211-2
7/32"
1/4"
1/2"
15/16"
3/32" HOLE
5/32" x 5/64"

TYPE TLA

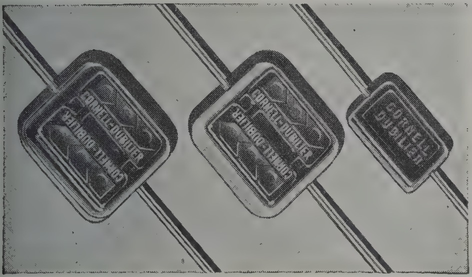
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lth. x Diam.	List Price	Net Price
TLA 6020	2	600	2⅞ x 1½	$4.17	$2.50
TLA 6040	4	600	4½ x 1½	5.68	3.40
TLA 10010	1	1000	2⅞ x 1½	3.79	2.27
TLA 10020	2	1000	4½ x 1½	5.05	3.03
TLA 15005	.5	1500	2⅞ x 1½	4.55	2.73
TLA 15010	1	1500	4½ x 1½	5.05	3.03

TYPE TLAD—Units Insulated from Container

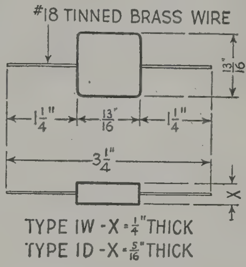
TLAD 6020	2	600	2⅞ x 1½	$5.18	$3.10
TLAD 6040	4	600	4½ x 1½	6.64	3.98
TLAD 10010	1	1000	2⅞ x 1½	4.74	2.84
TLAD 10020	2	1000	4½ x 1½	6.00	3.60
TLAD 15005	.5	1500	2⅞ x 1½	5.50	3.30
TLAD 15010	1	1500	4½ x 1½	6.00	3.60

CORNELL DUBILIER

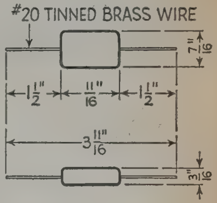
MOULDED MICA RECEIVING CAPACITORS



Moulded Bakelite Capacitors, Types 1W, 1D, and 5W are suitable for numerous electronic uses and are specially adapted to serve many important functions in low-voltage radio circuits. Standard units are furnished in brown bakelite and also available in low-loss yellow bakelite on special order. They are individually tested for accuracy of capacity and voltage breakdown and designed to give dependable service where small size units are required.


#18 TINNED BRASS WIRE
$1\frac{1}{4}$"
$\frac{13}{16}$"
$1\frac{1}{4}$"
$\frac{13}{16}$"
$3\frac{1}{4}$"
X
TYPE 1W - X = $\frac{1}{4}$" THICK
TYPE 1D - X = $\frac{5}{16}$" THICK

TYPE 1W & 1D


#20 TINNED BRASS WIRE
$1\frac{1}{2}$"
$\frac{11}{16}$"
$1\frac{1}{2}$"
$\frac{7}{16}$"
$3\frac{11}{16}$"
$\frac{3}{16}$"

TYPE 5W

TYPES 1W, 1D & 5W MICA CAPACITORS

Cap. Mfd.	1000 V.D.C. Test—500 V.D.C. Work.			List Price	Net Price
	Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.		
.000005	**5W 5V5**			$0.25	**$0.15**
.00001	**5W 5Q1**			.25	**.15**
.00002	**5W 5Q2**			.25	**.15**
.000025	**5W 5Q25**			.25	**.15**
.00003	**5W 5Q3**			.25	**.15**
.00004	**5W 5Q4**			.20	**.12**
.00005	**5W 5Q5**			.20	**.12**
.00007	**5W 5Q7**			.20	**.12**
.0001	**5W 5T1**			.20	**.12**
.00015	**5W 5T15**			.20	**.12**
.0002	**5W 5T2**			.20	**.12**
.00025	**5W 5T25**			.25	**.15**
.0003	**5W 5T3**			.25	**.15**
.0004	**5W 5T4**			.25	**.15**
.0005	**5W 5T5**			.25	**.15**
.0006		**1W 5T6**		.25	**.15**
.0007		**1W 5T7**		.25	**.15**
.0008		**1W 5T8**		.25	**.15**
.0009		**1W 5T9**		.25	**.15**
.001		**1W 5D1**		.30	**.18**
.0015		**1W 5D15**		.30	**.18**
.002		**1W 5D2**		.40	**.24**
.0025		**1W 5D25**		.45	**.27**
.003		**1W 5D3**		.50	**.30**
.004			**1D 5D4**	.55	**.33**
.005			**1D 5D5**	.60	**.36**
.006			**1D 5D6**	.75	**.45**
			600 V.D.C. Test 300 V.D.C. Working		
.007			**1D 3D7**	.80	**.48**
.008			**1D 3D8**	.80	**.48**
.009			**1D 3D9**	.85	**.51**
.01			**1D 3S1**	.90	**.54**

Notes on Ordering Special Capacitors

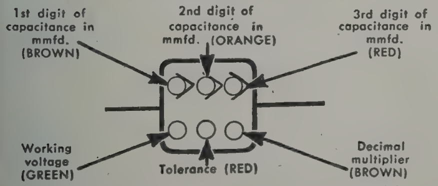
The listing at the left gives the range of capacities available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

STANDARD CAPACITY TOLERANCE is plus or minus 20%. Also available, on order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.

"L" MOULDED IN LOW-LOSS BAKELITE available on order—add "L" to Cat. No. (examples: 5WL; 1DL; 1WL). For types 1WL, 1DL and 5WL add 10c to list prices.

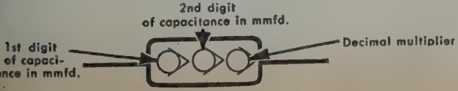
RMA Standard Color Code

Six Dot RMA Color Code


1st digit of capacitance in mmfd. (BROWN)
2nd digit of capacitance in mmfd. (ORANGE)
3rd digit of capacitance in mmfd. (RED)
Working voltage (GREEN)
Tolerance (RED)
Decimal multiplier (BROWN)

Example Shown Above – 1320 mmfd. ±2%, 500 V.W.

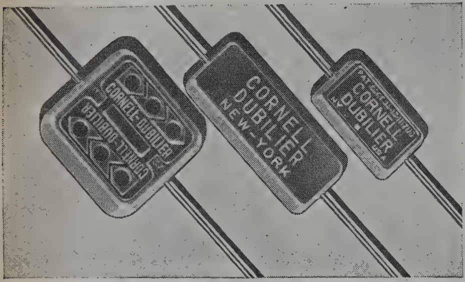
Three Dot RMA Color Code


2nd digit of capacitance in mmfd.
1st digit of capaci- tance in mmfd.
Decimal multiplier

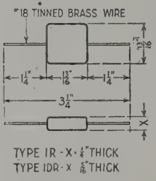
COLOR	DIGIT NUMERAL	DECIMAL MULTIPLIER	TOLERANCE	VOLTS WORKING
BLACK	0	1	20%	–
BROWN	1	10	1 %	100
RED	2	100	2 %	200
ORANGE	3	1000	3 %	300
YELLOW	4	10000	4 %	400
GREEN	5	–	5%	500
BLUE	6	–	6%	600
VIOLET	7	–	7 %	700
GRAY	8	–	8 %	800
WHITE	9	–	9 %	900
GOLD	–	.1	–	1000
SILVER	–	.01	10%	

CORNELL DUBILIER

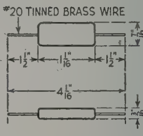
HIGH-STABILITY SILVERED MICA CAPACITORS



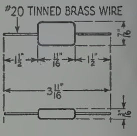
Types 1R, 1DR, 2R and 5R "Silver-Mike" Silvered Mica Capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. They are ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, push-button tuning circuits and other similar applications. Standard units are moulded in low-loss red bakelite and furnished with tinned brass wire leads. All units are rated at 500 volts D.C. working and tested at 1000 volts D.C.


#18 TINNED BRASS WIRE
$\frac{13}{16}$"
$1\frac{1}{4}$"
$\frac{13}{16}$"
$1\frac{1}{4}$"
$3\frac{1}{4}$"
X
TYPE 1R - X - $\frac{1}{4}$" THICK
TYPE 1DR - X $\frac{5}{16}$" THICK

TYPE 1R & 1DR


#20 TINNED BRASS WIRE
$\frac{7}{16}$"
$1\frac{1}{2}$"
$1\frac{1}{16}$"
$1\frac{1}{2}$"
$4\frac{1}{16}$"
$\frac{3}{16}$"

TYPE 2R


#20 TINNED BRASS WIRE
$\frac{7}{16}$"
$1\frac{1}{2}$"
$\frac{11}{16}$"
$1\frac{1}{2}$"
$3\frac{11}{16}$"
$\frac{3}{16}$"

TYPE 5R

TYPES 1R & 1DR, 2R, AND 5R MICA CAPACITORS

Cap. Mfd.	1000 V.D.C. Test—500 V.D C. Work.			List Price	Net Price
	Type 5R Cat. No.	Type 2R Cat. No.	Type 1R & 1DR Cat. No.		
000005	**5R 5V5**			$0.60	**$0.36**
.00001	**5R 5Q1**			.50	**.30**
.00002	**5R 5Q2**			.50	**.30**
.000025	**5R 5Q25**			.50	**.30**
.00003	**5R 5Q3**			.50	**.30**
.00004	**5R 5Q4**			.50	**.30**
.00005	**5R 5Q5**			.50	**.30**
.00007	**5R 5Q7**			.50	**.30**
.0001	**5R 5T1**	**2R 5T1**		.50	**.30**
.00015	**5R 5T15**	**2R 5T15**		.60	**.36**
.0002	**5R 5T2**	**2R 5T2**		.60	**.36**
.00025	**5R 5T25**	**2R 5T25**		.60	**.36**
.0003	**5R 5T3**	**2R 5T3**		.90	**.54**
.0004	**5R 5T4**	**2R 5T4**		.90	**.54**
.0005	**5R 5T5**	**2R 5T5**		.90	**.54**
.0007		**2R 5T7**		1.20	**.72**
.0008		**2R 5T8**		1.35	**.81**
.0009		**2R 5T9**		1.35	**.81**
.001		**2R 5D1**	**1R 5D1**	1.50	**.90**
.0015			**1R 5D15**	1.80	**1.08**
.002			**1R 5D2**	1.80	**1.08**
.0025			**1R 5D25**	2.40	**1.44**
.003			**1R 5D3**	2.70	**1.62**
.004			**1DR 5D4**	2.85	**1.71**
.005			**1DR 5D5**	3.00	**1.80**

Notes on Ordering Special Capacitors

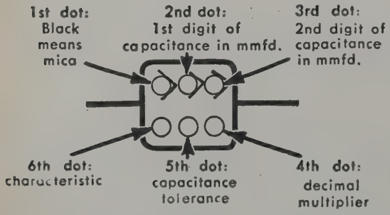
The listing at the left gives range of capacities which are available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

STANDARD CAPACITY TOLERANCE is 5%. Also available, on special order, in tolerance ratings of plus or minus 3%, 2% and 1% (or within 1 mmfd.—whichever is greater). All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

TEST VOLTAGE—All Types 1R, 1DR, 2R and 5R are tested at 1000 volts D.C.—500 volts D C. working. Higher capacities in the latter are tested at 600 volts D.C.—300 volts D.C. working.

Joint Army-Navy Standard Color Code

Specification Jan-C-5 "Capacitors, Mica Dielectric, Fixed"


1st dot: Black means mica
2nd dot: 1st digit of capacitance in mmfd.
3rd dot: 2nd digit of capacitance in mmfd.
6th dot: characteristic
5th dot: capacitance tolerance
4th dot: decimal multiplier

1st dot: black • 2nd dot: green • 3rd dot: brown • 4th dot: brown • 5th dot: gold • 6th dot: red = 510 mmfd. ± 5% Characteristic "C"

JAN TYPE	C-D TYPE
CM 20	5
CM 25	2
CM 30	1
CM 35	1D
CM 40	3D

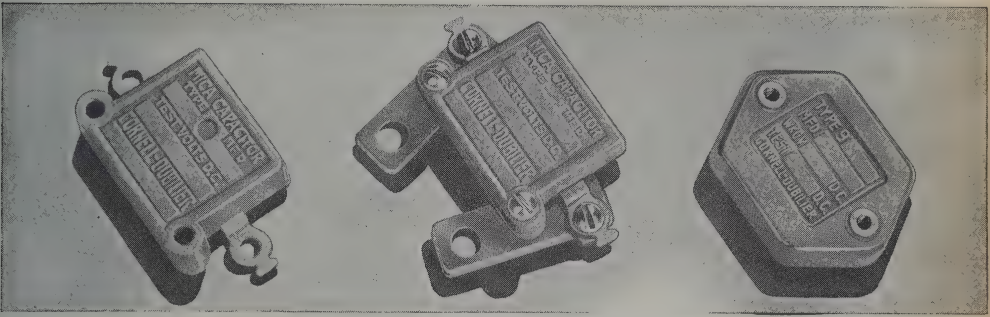
COLOR	DIGIT NUMERAL	*CHARACTERISTIC	DECIMAL MULTIPLIER	TOLERANCE
BLACK	0	A	1	20% (M)
BROWN	1	B	10	
RED	2	C	100	2% (G)
ORANGE	3	D	1000	
YELLOW	4	E		
GREEN	5	F		
BLUE	6	G		
VIOLET	7			
GRAY	8			
WHITE	9			
GOLD			.1	5% (J)
SILVER			.01	10% (K)

*DESCRIPTION OF CHARACTERISTIC

characteristic	temperature coefficient parts/million degrees C	capacitance drift
A	not specified	not specified
B	not specified	not specified
C	—200 to +200	±0.5 percent
D	—100 to +100	±0.3 percent
E	—20 to +100	±(0.1 percent +0.1 mmf.)
F	0 to +70	±(0.05 percent +0.1 mmf.)
G	0 to —50	±(0.05 percent +0.1 mmf.)

CORNELL DUBILIER

MOULDED MICA TRANSMITTING CAPACITORS



TYPES 4, 4E AND 9 MICA CAPACITORS

C-D Mica Capacitors Types 4 and 9 are designed to meet the requirements of power amplifiers and low-power transmitters. They are principally employed for grid and plate blocking purposes and for r. f. by-pass functions.

TYPE 4

1000 V. D. C. Test—600 V. D. C. Working

Cat. No.	Cap. Mfd.	List Price	Net Price
4-14050	.00005	$0.56	$0.34
4-13010	.0001	.56	.34
4-13020	.0002	.56	.34
4-13025	.00025	.56	.34
4-13030	.0003	.56	.34
4-13040	.0004	.56	.34
4-13050	.0005	.56	.34
4-12010	.001	.61	.37
4-12015	.0015	.61	.37
4-12020	.002	.65	.39
4-12025	.0025	.75	.45
4-12030	.003	.80	.48
4-12040	.004	.80	.48
4-12050	.005	.80	.48
4-12060	.006	.98	.59
4-12070	.007	1.08	.65
4-12080	.008	1.13	.68
4-11010	.01	1.31	.79
4-11015	.015	1.55	.93
4-11020	.02	1.78	1.07
4-11025	.025	2.16	1.30
4-11030	.03	2.40	1.44

2500 V. D. C. Test—1200 V. D. C. Working

Cat. No.	Cap. Mfd.	List Price	Net Price
4-24050	.00005	$0.80	$0.48
4-23010	.0001	.80	.48
4-23020	.0002	.80	.48
4-23025	.00025	.80	.48
4-23030	.0003	.80	.48
4-23050	.0005	.80	.48
4-22010	.001	1.03	.62
4-22015	.0015	1.31	.79
4-22020	.002	1.55	.93
4-22025	.0025	1.64	.98
4-22030	.003	1.78	1.07
4-22040	.004	1.78	1.07
4-22050	.005	1.97	1.18
4-22060	.006	1.97	1.18
4-22080	.008	2.54	1.52
4-21010	.01	3.20	1.92

5000 V. D. C. Test—2500 V. D. C. Working

Cat. No.	Cap. Mfd.	List Price	Net Price
4-54050	.00005	$1.03	$0.62
4-53010	.0001	1.03	.62
4-53020	.0002	1.22	.73
4-53025	.00025	1.22	.73
4-53030	.0003	1.27	.76
4-53050	.0005	1.46	.88
4-52010	.001	1.69	1.01
4-52015	.0015	2.21	1.33
4-52020	.002	2.54	1.52
4-52025	.0025	2.82	1.69
4-52030	.003	3.10	1.86
4-52040	.004	3.57	2.14
4-52050	.005	3.86	2.32

TYPE 9

1000 V. D. C. Test—600 V. D. C. Working

Cat. No.	Cap. Mfd.	List Price	Net Price
9-14050	.00005	$0.70	$0.42
9-13010	.0001	.70	.42
9-13025	.00025	.70	.42
9-13050	.0005	.70	.42
9-12010	.001	.70	.42
9-12020	.002	.75	.45
9-12025	.0025	.84	.50
9-12030	.003	.98	.59
9-12040	.004	.98	.59
9-12050	.005	.98	.59
9-12060	.006	1.13	.68
9-12080	.008	1.36	.82
9-11010	.01	1.60	.96
9-11015	.015	1.83	1.10
9-11020	.02	2.11	1.27
9-11025	.025	2.63	1.58
9-11030	.03	2.82	1.69
9-11040	.04	3.67	2.20
9-11050	.05	4.38	2.63
9-11060	.06	5.08	3.05

2500 V. D. C. Test—1200 V. D. C. Working

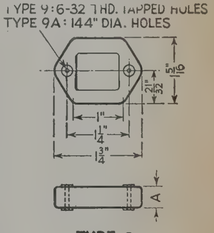
Cat. No.	Cap. Mfd.	List Price	Net Price
9-24050	.00005	$0.80	$0.48
9-23010	.0001	.80	.48
9-23025	.00025	.80	.48
9-23050	.0005	.80	.48
9-22010	.001	1.03	.62
9-22020	.002	1.55	.93
9-22025	.0025	1.64	.98
9-22030	.003	1.78	1.07
9-22040	.004	1.78	1.07
9-22050	.005	1.97	1.18
9-22060	.006	1.97	1.18
9-22080	.008	2.54	1.52
9-21010	.01	3.20	1.92
9-21015	.015	3.81	2.29
9-21020	.02	4.47	2.68
9-21025	.025	4.99	2.99
9-21030	.03	5.22	3.13

5000 V. D. C. Test—2500 V. D. C. Working

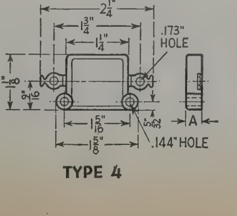
Cat. No.	Cap. Mfd.	List Price	Net Price
9-54050	.00005	$1.03	$0.62
9-53010	.0001	1.03	.62
9-53025	.00025	1.22	.73
9-53050	.0005	1.41	.85
9-52010	.001	1.69	1.01
9-52020	.002	2.54	1.52
9-52025	.0025	2.82	1.69
9-52030	.003	3.10	1.86
9-52040	.004	3.57	2.14
9-52050	.005	3.86	2.32
9-52060	.006	3.95	2.37
9-52080	.008	4.33	2.60
9-51010	.01	4.66	2.80
9-51015	.015	5.08	3.05

Notes on Ordering Special Capacitors

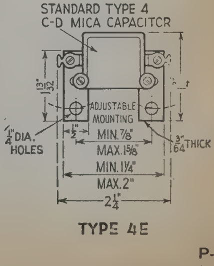
Type No. Suffix	
	STANDARD TOLERANCE is plus or minus 10%. Also available on order in plus or minus 5% and 2%. For capacity tolerance of: 5% add 15c to list prices; 2% add 40c to list prices.
"L"	MOULDED IN LOW-LOSS BAKELITE available on order Add "L" to Cat. No. (example: 4L-22060; 9L-11010). Add 25c to list prices.
"S"	SPECIAL SALT WATER IMMERSION SEAL AGAINST HUMIDITY. To order, add "S" to Cat. No. (example: 4S-53010; 9S-12050). Add 10c to list prices.
"T"	HEAT AGEING TREATMENT for stabilizing capacity over extremely wide temperature changes, minus 40° C. to plus 70° C., furnished on special order. Add "T" to Cat. No. (example: 4T-12010; 9T-21020). Add 15c to list prices.
"LST"	TO ORDER A COMBINATION OF ABOVE FEATURES, add letters specified to Cat. No. (example: 4LST-12040; 9LST-13020). Add 50c to list prices.
	INSULATION RESISTANCE—Brown Bakelite, 20,000 megohms per unit—Low-Loss Bakelite. 40,000 megohms per unit. Low-Loss Bakelite provides higher Q and lowers the power factor.
"4E"	SMALL METER BRACKETS adapted for Weston Model 301 meters, add "E" to Cat. No. (example: 4E-22050). Add 20c to list prices.
"9A"	UNTAPPED MOUNTING HOLES. Standard units are tapped for 6-32 and furnished with round head screws. For untapped mounting hole, .144" diameter (No. 6 clearance), add "A" to Cat. No. (example: 9A-11030).
"9F"	HIGHER VOLTAGE CONSTRUCTION, rated 6,000 v.d.c. test, 3,000 v.d.c.—1500 v.a.c. operating. Capacity range limited. Moulded in low-loss Bakelite, BM 262. The thickness of these units, or "A" dimension, is 7/16" for capacities up to .002 mfd. and 3/4" for capacities from .0022 to .005 mfd. max. To order, add "F" to Cat. No. (example: 9F-63050, the numeral "6" designating 6,000 volts test). Prices of "9F" units are double the list prices shown.
"9R"	HIGH STABILITY UNITS—Special high stability units, comprising low-loss Bakelite, BM 262, temperature aged and sealed construction for use as low power master oscillator tank capacitors or accessory positions. These units are fixed and permanent in characteristics, having a capacity-temperature coefficient of approximately plus .003% (30 parts per million) per degree C. To order, add "R" to Cat. No. (example: 9R-52020). Prices of 9R units are double the list prices shown.



TYPE 9

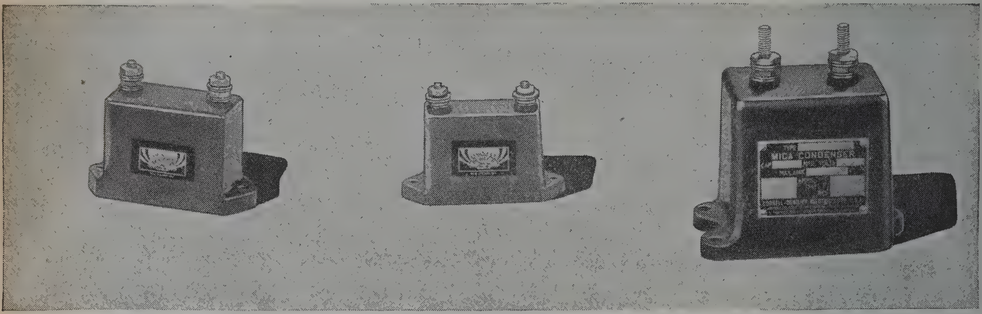


TYPE 4

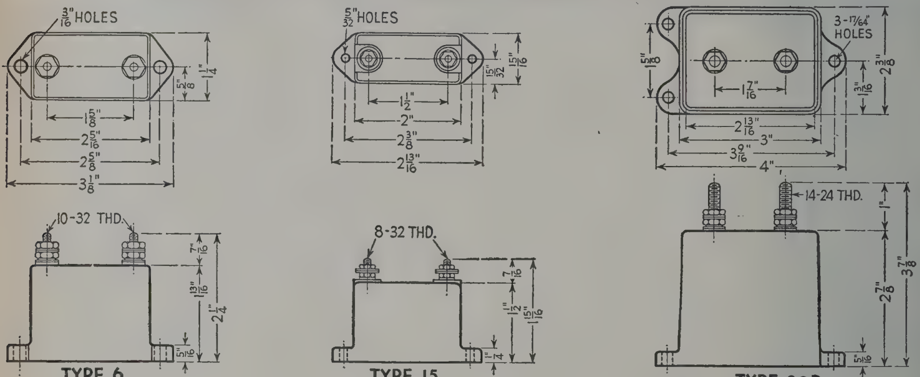


TYPE 4E

BAKELITE CASED MICA TRANSMITTING CAPACITORS



TYPES 6, 15L AND 30B BAKELITE CASED MICA CAPACITORS



Types 6, 15L and 30B Mica Capacitors in moulded bakelite cases are designed for a wide variety of radio frequency applications where size and weight are at a premium, such as in aircraft, portable equipment, low-power transmitters and the earlier stages of high-power transmitters. They are specially suited for use as grid, plate, coupling, tank and by-pass functions. These units are among the smallest types employing the patented series-stack construction permitting their use on higher r.f. voltages.

Notes on Ordering Special Capacitors

Type 15L units are available only in low-loss Bakelite (BM-262 or equivalent) cases. Types 6 and 30B may be had in either standard (brown) or low-loss (yellow) Bakelite cases. When ordering low-loss units, add "L" to Cat. No. (example: 217-6L; 604 30BL). Add $1.00 to list price for Type 6. Add $1.50 to list price for Type 30B.

STANDARD CAPACITY TOLERANCES— Plus or minus 5%. Tolerance of 2% can be furnished on special order Add $1.50 to list price for Types 6 and 15L. Add $2.00 to list price for Type 30B.

OPERATING AMBIENT TEMPERATURE— Up to 60° C. maximum.

SALT WATER IMMERSION SEAL— To order, add "S" to Cat. No. (example: 246-6S; 726-15LS; 113-30BS). Add to list: $.30 for Types 6 and 15L. Add to list: $.50 for Type 30B.

"H" TYPE—These units have been developed for use where excellent retrace and low temperature coefficient are required. Over a range of − 40° C. to + 70° C the capacity temperature coefficient is approximately + .003% per degree C. A limited range of capacity and voltage ratings is available. Made only in low-loss Bakelite and sealed for immersion test. To order, add "H" to Cat. No (example: 6H, 15H, 30BH). Add to list: $4.00 for Type 6. Add to list: $2.00 for Type 15L. Add to list: $5.00 for Type 30B.

TYPE 6K—This unit is a still further refinement being a compensated unit which can be made with a positive, zero or negative coefficient within the limits of + .003% to − .005% per degree C over a temperature range of from − 40° C. to + 70° C. Type 6K is available in a limited range of low capacities and voltage ratings. "K" Type includes low-loss Bakelite and immersion seal. When ordering Type 6K, temperature coefficient must be specified. (Type 6 only) Add to list Price: for plus or minus 5%—$12.00; for plus or minus 3%—$13.00; for plus or minus 2%—$14.00; for plus or minus 1%—$18.00.

TYPE 6 BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
390-6	00005	5,000	1.5	.8	.2	.07	$13.56	**$8.14**
362-6	.0000625	5,000	1.8	.8	.2	.07	13.56	**8.14**
321.6	.0001	5,000	2	1	.3	.1	13.56	**8.14**
395-6	00015	5,000	3	1.5	.5	.16	13.56	**8.14**
307-6	0002	5,000	3.5	1.7	.7	.18	13.56	**8.14**
364-6	.00025	5,000	5	2.5	1	.3	13.56	**8.14**
294A-6	.0003	5,000	3.5	2	.8	.4	13.56	**8.14**
283-6	0004	5,000	4	2.5	1	.5	13.56	**8.14**
272-6	.0005	5,000	4	2	1.4	.8	13.56	**8.14**
266-6	.0006	5,000	5	3	1.6	.8	13.56	**8.14**
654-6	.00075	5,000	5	3.5	2	1	13.56	**8.14**
599-6	0008	5,000	6	4	2	1	13.56	**8.14**
246-6	001	5,000	7	4	2	1	13.56	**8.14**
234-6	.0015	5,000	9	5	3	1.5	13.56	**8.14**
215-6	.002	3,000	6	3	1.5	.8	10.83	**6.50**
217-6	.002	6,000	9	6	4	2	13.56	**8.14**
473-6	0025	5,000	9	6	4	2	13.56	**8.14**
197-6	.003	3,000	8	6	4	2	13.56	**8.14**
184-6	004	3,000	8	6	5	2	13.56	**8.14**
173-6	.005	2,000	8	5	3	1.5	13.56	**8.14**
474-6	.005	3,000	9	6.5	4	2	13.56	**8.14**
565-6	0075	2,000	10	8	5	3	13.56	**8.14**
476-6	008	2,000	11	9	7	3	13.56	**8.14**
162-6	.008	3,000	10	8	5	3	13.56	**8.14**
151-6	.01	2,000	10	8	5	3.5	13.56	**8.14**
140-6	015	1,500	12	10	7	4	12.24	**7.34**
784-6	015	2,000	12	12	8	4	13.56	**8.14**
131-6	02	2,000	12	11	10	7	15.07	**9.04**
479-6	.03	2,000	14	20	15	7	15.07	**9.04**
480-6	.04	1,500	12	13	11	6	13.56	**8.14**
118-6	05	1,500	13	15	12	7	13.65	**8.19**
111-6	.1	500	17	20	15	8	15.54	**9.32**
406-6	1	1,000	18	20	15	8	17.89	**10.73**
110-6	1— 1	250	20	20	15	10	19.78	**11.87**
105-6	2	250	18	20	16	12	20.72	**12.43**
885-6	.25	250	18	20	16	12	22.60	**13.56**

CORNELL DUBILIER

BAKELITE CASED MICA TRANSMITTING CAPACITORS

TYPE 15L BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.		
639-15L	.00005	3,000	1.2	.6	.15	.05	$10.17	**$6.10**
533-15L	.0001	3,000	2.2	.8	.3	.1	10.17	**6.10**
637-15L	.00015	3,000	2.3	1	.45	.15	10.17	**6.10**
532-15L	.0002	3,000	3	1.2	.6	.2	10.17	**6.10**
805-15L	.00025	3,000	3	2.5	1	.4	10.17	**6.10**
640-15L	.0003	3,000	3.5	2	.8	.4	10.17	**6.10**
641-15L	.0004	3,000	4	2	.9	.45	10.17	**6.10**
642-15L	.0005	3,000	4	2	1	.55	10.17	**6.10**
643-15L	.0006	3,000	4.5	2	1.2	.6	10.17	**6.10**
727-15L	.0008	3,000	4.5	2.5	1.5	.7	10.17	**6.10**
531-15L	.001	3,000	5	3	1.6	.8	10.17	**6.10**
679-15L	.0015	3,000	6	3.5	2	1	10.17	**6.10**
726-15L	.002	3,000	6.5	4	2.5	1.5	10.17	**6.10**
645-15L	.003	2,000	7.5	5	3	1.5	10.17	**6.10**
609-15L	.004	2,000	8	6	3.5	1.6	10.17	**6.10**
725-15L	.005	2,000	8.5	6.5	4	2	10.17	**6.10**
530-15L	.006	2,000	9	7.5	4.5	2.2	10.17	**6.10**
724-15L	.008	1,500	10	8	5	2.3	10.17	**6.10**
677-15L	.01	1,000	10	8	5	2.5	10.17	**6.10**
723-15L	.02	1,000	11	10	7	3	10.83	**6.50**
722-15L	.05	500	11	10	8	5	10.83	**6.50**
721-15L	.1	250	11	12	10	6	11.30	**6.78**

TYPE 30B BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.		
533-30B	.0001	4,000	(20 Amps. at 60 mc.)		(3 Amps. at 4 mc.)		$20.72	**$12.43**
958-30B	.00025	8,000	7	4.5	1.5	.5	28.26	**16.96**
959-30B	.0005	8,000	8.5	6	3	1	28.26	**16.96**
960-30B	.001	8,000	10	8.5	4.5	1.5	32.02	**19.21**
961-30B	.002	8,000	11	11	7.5	2.5	32.02	**19.21**
759-30B	.003	8,000	12	14	10	5	33.91	**20.35**
757-30B	.004	8,000	12	14	10	6	35.79	**21.47**
758-30B	.005	8,000	13	15	11	6	39.56	**23.74**
756-30B	.006	6,000	15	15	11	6	39.56	**23.74**
962-30B	.01	5,000	16	20	15	8	33.91	**20.35**
915-30B	.01	8,000	16	20	15	8	45.21	**27.13**
963-30B	.02	5,000	18	20	17	10	45.21	**27.13**
741-30B	.03	4,000	20	20	18	12	45.21	**27.13**
771-30B	.05	2,000	18	25	22	12	50.86	**30.52**
964-30B	.05	4,000	18	25	22	12	50.86	**30.52**
113-30B	.1	2,000	18	25	22	12	39.56	**23.74**
603-30B	.2	600	18	25	22	12	32.02	**19.21**
750-30B	.25	600	18	25	22	12	35.79	**21.47**
933-30B	.3	600	18	25	22	12	35.79	**21.47**
604-30B	.5	600	18	25	22	12	43.33	**26.00**
898-30B	1.0	600	18	25	22	12	67.82	**40.69**

ELECTROLYTIC MOTOR STARTING CAPACITORS

TYPES JDS, ETN AND ETNCB MOTOR STARTING CAPACITOR REPLACEMENTS

Types ETN and JDS Electrolytic Motor-Starting Capacitors are universal replacement units for use in standard makes of oil-burners, refrigerators and other motor driven equipment. The list of units below simplifies the selection of the capacitor required when the capacity, voltage rating, and size are known.

In many cases where a round can-type unit is to be replaced a smaller size capacitor of the same capacity and voltage rating may be selected as a replacement. The smaller size unit may be wrapped tightly with ordinary corrugated paper and fitted into the capacitor housing on the motor. While only the most widely used range of capacities are listed below, Type ETN 110 V.A.C. capacitors can be supplied in intermediate capacities from 10 mfds. to 498 mfds.

TYPE JDS—110 VOLTS A.C. 50-60 CYCLES

Cat. No.	Cap. Mfd.	Dimensions—Ins. L. x W. x T.	List Price	Net Price
JDS-10	10	3½ x 3½ x 2	$2.90	**$2.03**
JDS-20	20	3½ x 3½ x 2	2.90	**2.03**
JDS-25	25	3½ x 3½ x 2	2.90	**2.03**
JDS-30	30	3½ x 3½ x 2	3.03	**2.12**
JDS-40	40	3½ x 3½ x 2	3.03	**2.12**
JDS-50	50	3½ x 3½ x 2	3.16	**2.21**
JDS-60	60	3½ x 3½ x 2	3.16	**2.21**
JDS-65	65	3½ x 3½ x 2	3.16	**2.21**
JDS-70	70	3½ x 3½ x 2	3.21	**2.24**
JDS-80	80	3½ x 3½ x 2	3.21	**2.24**
JDS-90	90	3½ x 3½ x 2	3.34	**2.33**
JDS-100	100	3½ x 3½ x 2	3.34	**2.33**
JDS-115	115	3½ x 3½ x 2	3.79	**2.65**

All units are furnished with tightly fitted insulating cardboard tube or paper box casings with screw terminals on Type ETN or with terminal board on Type JDS capacitors. Type ETN units are available with black lacquered steel end caps, designated as Type ETNC, or with both end caps and black lacquered steel mounting bracket designated as Type ETNCB (see illustration above). Units must be designated accordingly upon ordering. (See note below.)

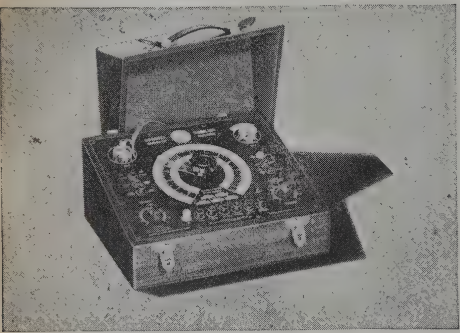
TYPE ETN—110 VOLTS A.C. 50-60 CYCLES

Cat. No.	Cap. Mfd. Min.–Max.	Dimensions—Ins. Dia. x Lgth.	List Price	Net Price
ETN-20	20–24	1⅜ x 2½	$1.70	**$1.19**
ETN-35	32–36	1⅜ x 2½	1.82	**1.27**
ETN-40	38–46	1⅜ x 2½	1.82	**1.27**
ETN-45	43–48	1⅜ x 2½	1.82	**1.27**
ETN-55	53–60	1⅜ x 2½	1.89	**1.32**
ETN-70	64–72	1⅜ x 2¾	1.89	**1.32**
ETN-80	75–84	1⅜ x 3¼	2.02	**1.41**
ETN-90	86–96	1⅜ x 3¼	2.08	**1.45**
ETN-100	97–107	1⅜ x 3¼	2.14	**1.49**
ETN-110	107–129	1⅜ x 3¼	2.14	**1.49**
ETN-115	108–120	1⅜ x 3¼	2.14	**1.49**
ETN-130	124–138	1⅜ x 3¼	2.27	**1.58**
ETN-145	130–157	1⅜ x 4⅛	4.29	**3.00**
ETN-155	145–162	1⅜ x 4⅛	2.78	**1.94**
ETN-175	161–180	1⅜ x 4⅛	3.03	**2.12**
ETN-200	189–210	1½ x 4⅛	3.59	**2.51**
ETN-225	216–240	1¾ x 4⅛	4.11	**2.87**
ETN-340	324–360	2 x 4⅛	6.06	**4.24**
ETN-400	378–420	2 x 4⅛	6.83	**4.78**
ETN-450	432–480	2½ x 4⅛	7.59	**5.31**

NOTE—For units with metal end caps, Type ETNC, add 60c to list price. For units with metal end caps and mounting bracket, Type ETNCB, add $1.00 to list price.

CORNELL DUBILIER

CAPACITOR TEST INSTRUMENTS



C-D CAPACITOR ANALYZER

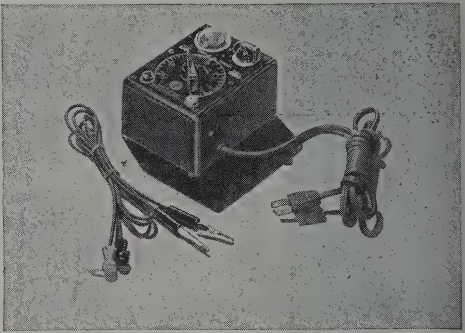
The Model BF-50 Capacitor Analyzer quickly and accurately measures all important characteristics of all types of capacitors. It offers the most accurate and thorough capacitor test of any instrument of its type, and may be operated on any 110-volt, 50-60 cycle power line.

The analyzer will determine the true condition of all paper, mica and electrolytic capacitors, including A.C. motor starting types. It is the only instrument of its type which provides a complete test for all capacitors, with amplifier for adequate sensitivity, easy reading linear scales, push-button switches for simplicity of adjustments, D.C. voltage supply and visual eye leakage indicator.

Features of C-D Analyzer

1. Measures Capacity—Accurately measures capacity of paper, mica, air, electrolytic and motor-starting capacitors from .00001 to 240. mfd.
2. Measures Power Factor—Measurements of power factor from zero to 50 percent on all types of electrolytic capacitors including motor-starting types.
3. Employs Wien bridge—Assures permanent accuracy of capacity and power factor measurements. Readings not affected by line voltage variations.
4. Indicates Insulation Resistance—Insulation resistance measurements of paper and mica capacitors up to 1500 megohms. Also measures many types of insulation.
5. Indicates Leakage—Measurements of leakage of electrolytic capacitors by means of built-in direct current power supply.
6. Visual Eye Leakage Indicator—Provides simplified and reliable leakage tests on all types of capacitors. Enables measurements to be made rapidly.
7. Detects Defective Capacitors—Character measurements, such as leaky, shorted, open, high and low capacity, and high power factor on all capacitors.
8. High Sensitivity on All Measurements—Amplifier for capacity, power factor and leakage tests provides sharp and accurate readings. Amplifier built in Analyzer.
9. Balance Sensitivity Control—Provides sharp or broad balances for quick and accurate readings. All readings are made simply and directly.
10. Direct Reading Linear Scale Calibration—Provides simplified measurements. All scales on panel uniformly spaced, easy to read, thus avoiding possible errors in using multipliers or charts.
11. Push-Button Switching—For convenient and simplified adjustments, all tests and circuit changes are made by means of modern push-button switches.
12. Visual Eye Bridge Balance—Visual detector gives positive indication of bridge balance for convenient, simplified and accurate capacity and power factor measurements.
13. Six Color-Coded Scales—Accurately calibrated, six color-coded scales. Uniformly spaced over total spacing of sixty inches. Easy to read. No "blind" spots.
14. General Purpose Instrument—May be used to check continuity capacity between circuits, insulation of transformer windings and other types of coils, etc.
15. Self-Contained—Portable—An instrument complete in itself, requiring no external standard, headphones, meters or accessories. A portable unit, for 110 volt, 50-60 cycle operation, supplied in walnut cabinet, removable cover, with carrying handle. Size, 3½ x 12 x 9¾ inches. Weight, 9 pounds.

MODEL BF-50 CAPACITOR ANALYZER
List Price, less tubes, $57.96
Net Price.. **$34.78**
For Operation on 110 volts, 50-60 cycles.

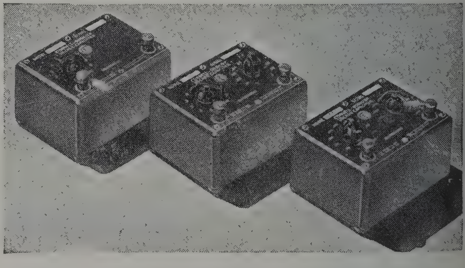


C-D CAPACITOR BRIDGE

Features of C-D Capacitor Bridge

1. Measures Capacity—Accurately measures capacity of paper mica electrolytic and air capacitors from .00001 mfd. to 50 mfds.
2. Indicates Power Factor—Power factor of electrolytic capacitor indicated by means of visual eye detector tube.
3. Detects Defective Capacitors—Detects many types of defective capacitors, open and short circuited, high and low capacity, and high power factor.
4. Checks Circuit Continuity—May be used on continuity meter. A handy instrument for checking circuits, coils, transformers and many other uses.
5. Employs Wien Bridge—Employs Wien Bridge circuit for all measurements. Accuracy independent of line voltage variations.
6. Visual Eye Bridge Balance—Dual type visual bridge balance for accurate measurements facilitates quick tests on service jobs.
7. Direct Reading Scale—Direct reading ranges with all scale markings directly in microfarads. Clear reading dial scale. All capacity calibrations marked on panel. No charts or multipliers required.
8. Self-Contained—The Capacitor Bridge is complete in itself and requires no headphones, standards, external meters or similar accessories.
9. Extremely Compact—The unusually small size of this bridge makes it particularly handy for portable use—3⅝" x 5" x 3" weight 2 pounds.
10. Attractive—Supplied in attractive walnut Bakelite case complete with detachable test leads and useful instruction booklet.

MODEL BN CAPACITOR BRIDGE
List Price, less tubes, $23.04
For operation on 110 volts, 60 cycles. Net Price....... **$13.82**



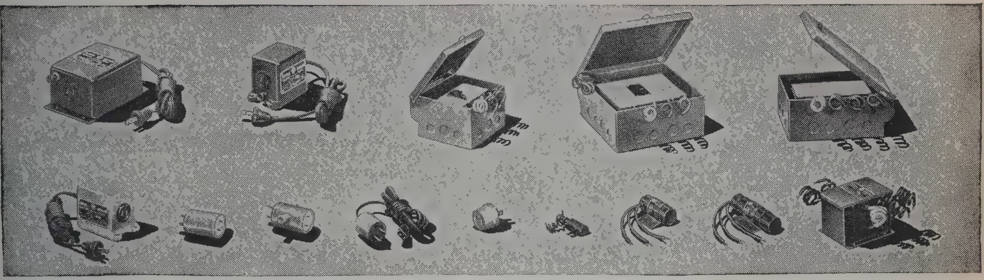
C-D CAPACITOR DECADES

C-D Capacitor Decades provide accurate standards over a wide range of capacity. May be used in groups of the three decades, shown above, or used individually for maximum flexibility. Each decade is furnished with calibration chart giving exact capacity values for all scale markings, extending use to more precise measurements.

Rated Voltage—600 D. C.—220 A. C.

Model	Capacity	+ or — Tol.	Dielectric	List Price	Net Price
CDA-5	.011 mfd. in .0001 mfd. steps	5%	Mica	$12.57	**$7.54**
CDB-5	1.1 mfd. in .01 mfd. steps	5%	Oil Paper	12.57	**7.54**
CDB-3	1.1 mfd. in .01 mfd. steps	3%	Oil-Paper	16.06	**9.64**
CDC-5	10.0 mfd. in 1.0 mfd. steps	5%	Oil-Paper	22.34	**13.40**
CDC-3	10.0 mfd. in 1.0 mfd. steps	3%	Oil-Paper	25.84	**15.50**

QUIETONE INTERFERENCE FILTERS



Top row—Types IF-18; IF-21; IF-11 & 12; IF-7A, 15 & 16, and IF-14

Bottom row—Types IF-19; IF-4 & 5; IF-6; IF-22; IF-20; IF-24; IF-25; IF-26; IF-27, 28 & 29

RADIO AND APPLIANCE QUIETONES

Most satisfactory results are obtained when Quietones are installed at the source of the interference. A Quietone installed in connection with an offending appliance corrects the noise caused by that appliance.

Where source of interference cannot be located a Quietone connected in the electric supply line of the radio receiver will alleviate, if not fully correct, the condition. When a Quietone is installed, interference will be greatly reduced. Remaining interference usually enters receiver through the antenna system.

Quietones for Use at the Radio Receiver

TYPE IF-4—For use on small radio receivers, such as A.C.-D.C. midget sets, etc., where noise level is not too severe. Connects in power line between the radio receiver plug and wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut, or green finish. List Price $1.13 **Net Price $0.67**

TYPE IF-18—For use in connection with all radio receivers where noise level is severe. Furnished in Bakelite case (see colors). Employs highly effective all-wave capacitive-inductive type filter. Ratings: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory or walnut Bakelite. List Price $7.59 **Net Price $4.55**

Quietones for Use at Appliances

TYPE IF-5—For small electrical appliances such as food mixers, hair dryers, etc., where radio interference is of low intensity. Plug type filter. Convenient to install. Rating 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish. List Price $1.13 **Net Price $0.67**

TYPE IF-6—For all types of home electrical appliances where interference is of moderately low intensity Installed between appliance and power supply line with short return lead which reduces radiation. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish. List Price $1.89 **Net Price $1.13**

TYPE IF-18—An efficient all-wave capacitive-inductive sectional band type filter for use in connection with all types of electrical appliances where interference conditions are severe. Provided with frame connection for reduction of radiation. Furnished in Bakelite case (see colors). Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case, walnut finished. List Price $7.59 **Net Price $4.55**

TYPE IF-19—Capacitive-inducted type filter for use where interference is severe. Frame connection provided. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $6.06 **Net Price $3.63**

TYPE IF-20—For use on small electrical appliances where interference is very low. Simply connected to cord plug of appliance and plugged into wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $0.75 **Net Price $0.45**

TYPE IF-21—All-wave capacitive-inductive type filter for use on appliances where return lead to the frame of appliance cannot be made, such as shaver, barber clippers, etc. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 1.6 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $3.79 **Net Price $2.27**

TYPE IF-22—For use in connection with electric shavers of all standard types. Line cord and plug provided with Schick and Packard type adapters which fit practically all type shavers. (Specify type desired when ordering.) Type IF-22A for Schick, Knapp Monarch, and similar type shavers. Type IF-22B for Packard, Zephyr, Remington-Rand and Ronson type shavers. Rating: 110 V.A.C. 5 amps. Colors—Bakelite case. Ivory or black finish. List Price $2.70 **Net Price $1.62**

INDUSTRIAL QUIETONES

The development of radio receiving and broadcasting equipment has been perfected to a degree where complete enjoyment of programs is within the reach of all. However, only too frequently is radio reception marred by disturbing noises commonly referred to as "man-made static." This condition does not have to be endured. It is unnecessary to tolerate the majority of these offending noises. Quietone Filters enable you to enjoy quiet, noise-free reception.

Although atmospheric disturbances in many instances cause radio noises, this condition is not chronically annoying. With the average radio receiver, noise is generally caused by the operation of electrical appliances or apparatus which create high frequency oscillations. Many types of equipment cause minute sparks as a result of a change in electrical conditions within the device, which are essential to its operation. In effect these appliances act as miniature radio transmitters, setting up a disturbance which may affect radio receivers at a considerable distance.

It is highly desirable to correct noise conditions at the source as one filter properly installed at this point may eliminate the noise in a number of radio receivers. Where it is impossible to locate the equipment which is causing the interference a Quietone installed at the receiver will correct the noise in that receiver.

The Quietones listed below will correct radio noise conditions caused by motors, generators, elevators, stokers and many other types of industrial electrical apparatus. They are designed for convenient mounting, and contain highest quality capacitors, with lowest possible impedance internal connections. There are no current limitations for (CP) Capacitive Quietones.

Capacitive (CP) Quietones

Type	Volts A.C.—D.C.	Connections	Housing	List Price	Net Price
IF-24*	110	Flex-Leads	Metal	$1.13	**$0.67**
IF-25	110–220	Flex-Leads	Metal	4.55	**2.73**
IF-26	110–220	Flex-Leads	Metal	7.59	**4.55**
IF-11	110	BX	Cutout Box	10.62	**6.37**
IF-12	220	BX	Cutout Box	15.18	**9.10**
IF-14**	110–220	BX	Cutout Box	21.26	**12.75**

** All Quietones listed above with exception of IF-14 are for single phase circuits. IF-14 is for 2 or 3 phase or 3-wire circuits.

* Dual unit for use on fluorescent lighting fixtures.

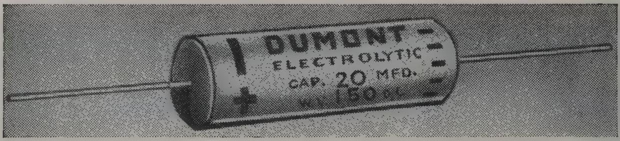
The Quietones listed below are for the more severe radio noise conditions caused by motors, generators, elevators, diathermy, oil burners, etc. They are designed for convenient mounting and quick connection to these machines. They consist of low-loss coils and highest quality capacitors with correct noise conditions in both broadcast and short wave receivers. They are the most efficient filters available for heavy duty application. All capacitive-inductive (CI) Quietones are for single phase circuits.

Capacitive-Inductive (CI) Quietones

Type	Volts A.C.—D.C.	Max Amps	Connections	Housing	List Price	Net Price
IF-7A*	110–220	5	BX	Cutout Box	$11.38	**$6.82**
IF-15	110–220	10	BX	Cutout Box	22.78	**13.66**
IF-16	110–220	20	BX	Cutout Box	33.41	**20.04**
IF-27	110	5	Flex-Leads	Steel Box	6.83	**4.09**
IF-28	110	10	Flex-Leads	Steel Box	12.14	**7.28**
IF-29	110	20	Flex-Leads	Steel Box	21.26	**12.75**

***For use on oil burners.**

DUMONT MIDGET PAPER CAPACITORS



NEW DUMONT *Electrolytics*

The DUMONT CO. were first to make and produce the long life DRY ELECTROLYTIC condensers now standard in the industry.

FEATURES:

1. LONG LIFE ASSURED
2. MOISTUREPROOF
3. COMPACT

Cat. No.	Volt. W.	Cap. M.F.D.	Sizes	List Prices	Cat. No.	Volt. W.	Cap. M.F.D.	Sizes	List Prices
E1- 0	25	10	⅜ x 1½	$0.58	E1-15	150	40	¾ x 2¼	$0.95
E1-22	25	25	½ x 1½	.69	E1-16	150	50	¾ x 2¼	1.25
E1- 3	25	50	¾ x 1½	.85	E1-17	150	20–20	¾ x 2¼	1.50
E1- 4	25	100	⅝ x 2¼	1.25	E1-18	150	30–30	⅞ x 2¼	1.75
E1- 5	50	10	½ x 1½	.64	E1-19	150	40–40	1 x 2¼	2.00
E1- 6	50	25	½ x 1½	.80	E1-20	150	50–50	1⅛ x 2¼	2.25
E1- 7	50	50	½ x 2¼	1.00	E1-21	250	8	½ x 2¼	.75
E1- 8	50	100	⅝ x 2¼	1.40	E1-22	250	16	½ x 2¼	1.20
E1- 9	150	4	½ x 1½	.55	E1-23	450	4	⅜ x 2¼	.80
E1-10	150	8	½ x 1½	.65	E1-24	450	8	¾ x 2¼	.87
E1-11	150	10	½ x 1½	.69	E1-25	450	10	¾ x 2¼	.95
E1-12	150	16	¾ x 1½	.80	E1-26	450	12	1 x 2¼	1.00
E1-13	150	20	¾ x 1½	.87	E1-27	450	16	1⅛ x 2¼	1.28
E1-14	150	30	⅝ x 2¼	.90	E1-28	450	20	1¼ x 2¼	1.40

M'F'G BY **DUMONT ELECTRIC CORP.** 34-54 HUBERT ST.
NEW YORK, N. Y.

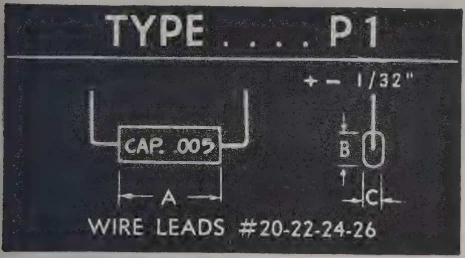
DUMONT MIDGET PAPER CAPACITORS

FEATURES:

ENDS SEALED IN BAKELITE RESINOID
P1-P2 for USE AT 95 R.N.
PIN–P2N for USE UP TO 100 R.N.
NON-INDUCTIVE—BRASS OR COPPER WIRE

WILL NOT MELT AT 100 C.
GOOD LEAKAGE RESISTANCE
LEADS WILL NOT PULL OUT WHEN HOT

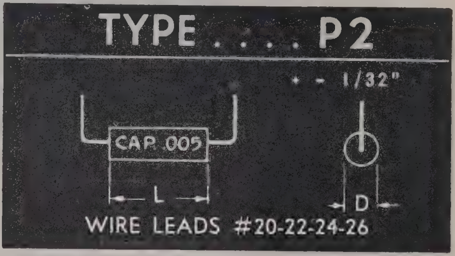
TYPE P1



Cat. No.	Cap. M.F.D.	Voltage	Dimensions A	B	C	List Price
P1-5	.005	300	5/8	3/8	3/16	$ .50
P1-5A	.005	600	3/4	3/8	3/16	.50
P1-6	.006	300	5/8	3/8	3/16	.50
P1-6A	.006	600	3/4	3/8	3/16	.50
P1-7	.01	150	5/8	5/16	1/8	.50
P1-7A	.01	400	5/8	3/8	3/16	.50
P1-7B	.01	600	3/4	3/8	3/16	.50
P1-8	.02	150	5/8	3/8	1/8	.50
P1-8A	.02	400	5/8	3/8	3/16	.50
P1-8B	.02	600	3/4	3/8	3/16	.60
P1-8½	.03	150	3/4	3/8	1/8	.60
P1-8½A	.03	400	3/4	3/8	3/16	.70
P1-9	.05	150	3/4	3/8	3/16	.70
P1-9A	.05	400*	3/4	3/8	3/16	.80
P1-10	.1	150	3/4	1/2	3/16	.90
P1-10A	.1	400*	3/4	1/2	1/4	.90
P1-11	.25	150*	3/4	5/8	3/8	1.70
P1-12	.5	150*	5/8	3/8	1 5/8	1.80
P1-13	1.	150	3/4	5/8	1 5/8	1.95
P1-14	2.	150	1	1	1 5/8	2.50

*Also in 200-400-600 Volts.

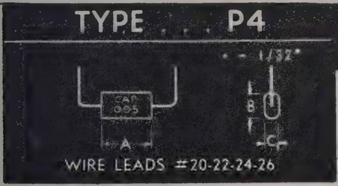
TYPE P2



Cat. No.	Cap. M.F.D.	Voltage	Dimensions L	O	List Price
P2-3	.001	150	5/8	3/16	$ .40
P2-3A	.001	300	5/8	1/4	.40
P2-4	.002	150	3/4	3/16	.40
P2-4A	.002	300	3/4	1/4	.40
P2-5	.005	150	3/4	3/16	.40
P2-5A	.005	300	3/4	1/4	.40
P2-6	.006	150	3/4	1/8	.40
P2-6A	.006	300	3/4	5/16	.40
P2-7	.01	150	3/4	1/4	.40
P2-7A	.02	300	3/4	3/8	.40
P2-8	.02	150	3/4	5/16	.40
P2-8A	.02	300	3/4	3/8	.40
P2-9	.05	150	3/4	3/8	.50
P2-10	.1	150	3/4	1/2	.60
P2-11	.25	150	1 5/8	3/8	.70

Some sizes available in voltages of 600–1000–1600 —10% —5% —2% —1% at additional increases.

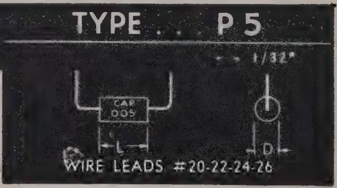
TYPE . . . P4



TINYMITE

1 % - 2 % - 5 % - 10 %
at additional prices.

TYPE . . . P 5



TYPE P4-P4N

TYPE P4–90 HUMIDITY APPLICATIONS
TYPE P4N–100 HUMIDITY APPLICATIONS

Cat. No.	Cap. M.F.D.	Voltage	Dimensions A	B	C	Price List
P4-1	.00005	600	1/2	3/16	1/8	$ .50
P4-2	.0001	600	1/2	3/16	1/8	.50
P4-3	.00025	600	1/2	3/16	1/8	.50
P4-4	.0005	600	1/2	3/16	1/8	.50
P4-5	.001	600	1/2	3/16	1/8	.50
P4-6	.002	600	1/2	3/16	1/8	.50
P4-7	.004*	150	1/2	1/4	1/8	.50
P4-8	.005*	150	1/2	1/4	1/8	.50
P4-9	.006*	150	1/2	1/4	1/8	.50
P4-10	.01*	150	1/2	1/4	1/8	.60
P4-11	.02*	150	1/2	3/8	1/8	.65
P4-12	.03*	150	1/2	3/8	1/8	.70
P4-13	.05*	150	1/2	3/8	3/8	.80

* Also in 200 - 300 - 400 - 600 Volts.

TYPE P5-P5N

TYPE P5–90 HUMIDITY APPLICATIONS
TYPE P5N-100 HUMIDITY APPLICATIONS

Cat. No.	Cap. M.F.D.	Voltage	Dimensions L	D	List Price
P5-1	.00005	600	1/2	3/16	$ .40
P5-2	.0001	600	1/2	3/16	.40
P5-3	.00025	600	1/2	3/16	.40
P5-4	.0005	400	1/2	3/16	.40
P5-5	.001	200*	1/2	3/16	.40
P5-6	.002	200*	1/2	3/16	.40
P5-7	.003	150*	1/2	3/16	.40
P5-8	.004	150*	1/2	1/4	.40
P5-9	.005	150*	1/2	1/4	.40
P5-10	.006	150*	1/2	5/16	.40
P5-11	.0075	150*	1/2	5/16	.40
P5-12	.01	150*	5/8	3/8	.50
P5-13	.02	150*	5/8	1/2	.60

* Also in 200-400-600 Volts.

M'F'G BY **DUMONT ELECTRIC CORP.** 34-54 HUBERT ST.
NEW YORK, N. Y.

DUMONT MIDGET PAPER CAPACITORS

At Last . . .

A WAR TIME DEVELOPMENT NOW RELEASED FOR PUBLIC USE

FEATURES:

1. HEAT–PROOF . . . CANNOT MELT OUT.
2. MOISTURE–PROOF . . . 100 R.H.
3. ANCHORED LEAD WIRES.
4. MUCH LONGER LIFE.
5. SMALLER . . . LESS ROOM.
6. NOT AFFECTED BY MOISTURE.
7. VACUUM SEALED.

BAKELITE RESINOID
CANNOT MELT.

DUMONT
DURASEALED
CAP .05 W.V. 600

BAKELIZED
TUBES

Pats. Pending

TYPE . . . . P 6

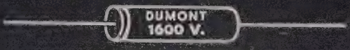
Cat. No.	Cap. M.F.D.	150 V D X L	List Price	200 V D X L	List Price	400 V D X L	List Price	600 V D X L	List Price	1000 V D X L	List Price	1500 V D X L	List Price	2000 V L
P6-D	.00005	......	......	......	......	......	......	¼ x ⅝	$0.30	¾ x ⅞	$0.50	⅜ x ⅞	$0.60	½ x 1
P6-C	.0001	......	......	......	......	......	......	¼ x ⅝	.30	⅜ x ⅞	.50	⅜ x ⅞	.60	½ x 1
P6-B	.00025	......	......	......	......	......	......	¼ x ⅝	.30	⅜ x ⅞	.50	⅜ x ⅞	.60	½ x 1
P6-A	.0005	......	......	......	......	......	......	¼ x ⅝	.30	⅜ x ⅞	.50	⅜ x ⅞	.60	½ x 1
P6-1	.001	¼ x ⅝	$.50	......	......	......	......	¼ x ⅞	.30	⅜ x ⅞	.50	½ x 1	.60	⅝ x 1
P6-2	.002	¼ x ⅝	.50	......	......	......	......	5/16 x ⅞	.30	½ x ⅞	.50	½ x 1	.60	⅝ x 1
P6-2A	.0025	¼ x ⅝	.50	......	......	......	......	5/16 x ⅞	.30	½ x ⅞	.50	½ x 1	.60	⅝ x 1
P6-3	.003	¼ x ⅝	.50	......	......	......	......	5/16 x ⅞	.30	½ x ⅞	.50	½ x 1	.60	⅝ x 1
P6-4	.004	¼ x ⅝	.50	......	......	......	......	5/16 x ⅞	.30	½ x ⅞	.50	⅝ x 1	.60	⅝ x 1¼
P6-5	.005	¼ x ⅝	.50	......	......	5/16 x ⅞	$.30	5/16 x ⅞	.30	⅝ x ⅞	.50	⅝ x 1	.60	⅝ x 1¼
P6-6	.006	¼ x ⅝	.50	......	......	5/16 x ⅞	.30	5/16 x ⅞	.30	⅝ x ⅞	.50	⅝ x 1	.60	⅝ x 1¼
P6-7	.008	5/16 x ⅝	.50	......	......	5/16 x ⅞	.30	5/16 x ⅞	.30	⅝ x ⅞	.50	⅝ x 1¼	.60	⅝ x 1¼
P6-8	.01	5/16 x ⅝	.50	5/16 x ⅞	$.30	⅜ x ⅞	.30	⅜ x ⅞	.30	½ x 1¼	.50	⅝ x 1¼	.60	⅝ x 1¼
P6-9	.02	⅜ x ⅝	.50	⅜ x ⅞	.30	7/16 x ⅞	.30	½ x ⅞	.30	⅝ x 1¼	.50	⅝ x 1¼	.70	¾ x 1¼
P6-10	.03	⅜ x ⅞	.50	7/16 x ⅞	.30	7/16 x 1¼	.30	½ x 1¼	.35	⅝ x 1¼	.70	⅝ x 1¼	.80	¾ x 1¼
P6-10A	.04	⅜ x ⅞	.50	7/16 x ⅞	.30	7/16 x 1¼	.30	½ x 1¼	.35	⅝ x 1¼	.80	¾ x 1½	.95	¾ x 2
P6-11	.05	⅜ x ⅞	.50	7/16 x ⅞	.30	7/16 x 1¼	.35	½ x 1¼	.35	¾ x 1¼	.90	......	......	......
P6-12	.01	½ x ⅞	.50	⅜ x 1⅜	.30	7/16 x 1¼	.40	½ x 1¼	.40	½ z 1¼	.40	......	......	......
P6-13	.25	⅜ x 1⅜	.60	½ x 1½	.40	¾ x 2	.50	¾ x 2⅛	.60	......	......	......	......	......
P6-14	.5	½ x 1⅜	.70	⅝ x 1½	.50	1 x 2	.60	1 x 2⅛	.80	......	......	......	......	......

All OD 1/32″—All length 1/16″.
Available in 1-2-5% additional costs.

M'F'G BY DUMONT ELECTRIC CORP. 34-54 HUBERT ST. NEW YORK, N. Y.

DUMONT OIL PAPER CAPACITORS

TYPE . . . . P 7



- **OIL IMPREGNATED UNITS**
- **BAKELITE TREATED TUBES**
- **BAKELITE RESINOID END SEALED**
- **OPERATES—60°c TO 125°c**

Pats. Pending

Suitable for
AC and DC
Operation

IMPORTANT

Will not leak oil at
100 C. Continuous.

Cat. No.	CAP. M.F.D.	200 V Size	400 V Size	600 V Size	800 V Size	1000 V Size	1000 V Size	2000 V Size
P7-1	.00005	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-2	.0001	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-3	.00025	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-4	.0005	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-5	.001	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-6	.002	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-7	.005	....		⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-8	.01	⅜ x 1	⅜ x 1	⅜ x 1	⅜ x 1	⅜ x 1⅛	⅜ x 1⅛	⅜ x 1½
P7-9	.02	⅜ x 1	⅜ x 1	7⁄16 x 1⅛	⅜ x 2	⅜ x 2	⅜ x 2	⅜ x 2
P7-10	.03	⅜ x 1	⅜ x 1	7⁄16 x 1⅛	⅜ x 2	⅜ x 2	7⁄16 x 2	½ x 2
P7-11	.05	½ x 11	½ x 1⅛	½ x 1⅝	⅜ x 2	½ x 2	½ x 2	½ x 2
P7-12	.1	⅝ x 1	⅝ x 1⅝	⅝ x 1⅝	⅝ x 2	½ x 2	9⁄16 x 2	½ x 2
P7-13	.25	¾ x 1	¾ x 1¼	¾ x 2	⅝ x 2	¾ x 2	¾ x 2	1 x 2½
P7-14	.5	1 x 1½	1 x 2	1 x 2	1 x 2	1 x 2	1 x 2	1 x 2½

All Sizes: ± 1⁄16 Special sizes up to 10000 Volts can be had on application.

M'F'G BY **DUMONT ELECTRIC CORP.** 34-54 HUBERT ST.
NEW YORK, N. Y.

Hi-Q ELECTRICAL REACTANCE CORP.

★ FRANKLINVILLE, N. Y. ★

Hi-Q COMPONENTS INSURE 3 BIG JOBS IN A LITTLE SPACE

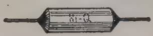
STAND-OFF CONDENSERS

DUREZ COATED CAPACITORS

CERAMIC CAPACITORS

WIRE WOUND RESISTORS

CHOKE COILS



CERAMIC CAPACITORS CI TYPE

HI-Q Type Temp. Coef. 10^{-6} MMF/MMF/°C	J.A.N. Temp. Coef. Designations	Temp. Coef. Tol.	CI-1 = CC21 — .437 x .218 Max. Cap in MMF	CI-2 = CC26 — .687 x .218 Max. Cap in MMF
P-100	A	H thru K	10	18
NPO	C	F thru K	16	30
N-030	H	F thru K	17	30
N-080	L	G thru K	22	46
N-150	P	G thru K	25	51
N-220	R	H thru K	26	53
N-330	S	H thru L	30	63
N-470	T	H thru K	35	75
N-750	U	J thru K	51	110

CERAMIC CAPACITORS CN TYPE

HI-Q Type Temp. Coef. 10^{-6} MMF/MMF/°C	JAN Designations Temp. Coef.	Temp. Coef. Tolerance.	CN1 = CC-20 .121 x .375 MMF Max.Cap.	CN13 = CC-30 .121 x .437 MMF Max.Cap.	CN2 = CC-25 .121 x .625 MMF Max.Cap.	CN7 = Special .156 x .812 MMF Max.Cap.	CN19 = Special .187 x .850 MMF Max.Cap.	CN4 = CC-35 .265 x 1.062 MMF Max.Cap.	CN3 = CC-35 .187 x 1.078 MMF Max.Cap.	CN5 = CC-45 .265 x 1.5 MMF Max.Cap.	CN6 = CC-50 .265 x 1.875 MMF Max.Cap.
-P-	A	H thru K	10	12	20	35	38	42	31	52	62
ZERO	C	F thru K	19	52	43	100	100	290	140	420	520
N-030	H	F thru K	19	52	47	110	110	310	150	450	550
N-080	L	G thru K	23	62	53	110	115	350	155	520	600
N-150	P	G thru K	23	65	52	120	120	350	160	530	600
N-220	R	H thru K	24	77	55	125	130	370	165	550	630
N-330	S	H thru L	28	91	63	150	150	420	200	630	820
N-470	T	H thru K	32	110	75	170	180	490	230	730	950
N-750	U	J thru K	60	160	120	250	270	700	370	1000	1400

For special temp. coef. and tolerances consult our engineering department.

Hi-Q WIRE WOUND RESISTORS

Designations HI-Q Type	Vitreous Type Wattage	Organic Type Wattage	Tube Size O.D.	Tube Size I.D.	Tube Size Lgth.	Maximum Ohms Vitreous Standard	Maximum Ohms Organic Standard	Minimum Ohms	Minimum Terminals
REA	5	2	5/16	3/16	1	2000	9000	1.0	B, C, D
REB	10	4	5/16	3/16	1 3/4	10000	25000	1.0	B, C, D
REC	20	8	1/2	1/4	2	15000	35000	1.0	A, B, C, D
RED	25	10	5/8	3/8	2	18000	40000	1.0	A, B, C, D
REE	40	16	3/4	1/2	3 1/2	40000	100000	1.0	A, B, C, D
REF	50	20	3/4	1/2	4 1/2	50000	110000	1.0	A, B, C, D
REG	80	32	3/4	1/2	6 1/2	75000	125000	2.0	A, B, C, D
REH	100	40	1 1/8	3/4	6 1/2	100000	150000	5.0	A, B, C, D
REI	160	64	1 1/8	3/4	8 1/2	100000	200000	5.0	A, B, C, D
REJ	200	80	1 1/8	3/4	10 1/2	100000	250000	5.0	A, B, C, D

Order above by HI-Q Type Number.

JAN-R-26						JAN-R-26	JAN-R-26		
RW30	5	2	7/16	5/16	1	1000	1000	1.0	B, C, D
RW31	8	3	7/16	5/16	1 1/2	2000	2000	1.0	B, C, D
RW32	16	5	7/16	5/16	2	4000	4000	1.0	A, B, C, D
RW33	24	8	7/16	5/16	3	16000	16000	1.0	A, B, C, D
RW34	30	9	3/4	1/2	3	16000	16000	1.0	A, B, C, D
RW35	38	12	3/4	1/2	4	20000	20000	1.0	A, B, C, D
RW36	60	18	1 1/8	3/4	4	40000	40000	1.0	A, B, C, D
RW37	78	22	1 1/8	3/4	6	50000	50000	1.0	A, B, C, D
RW38	100	30	1 1/8	3/4	8	80000	80000	1.0	A, B, C, D
RW39	155	43	1 1/8	3/4	12	100000	100000	1.0	A, B, C, D

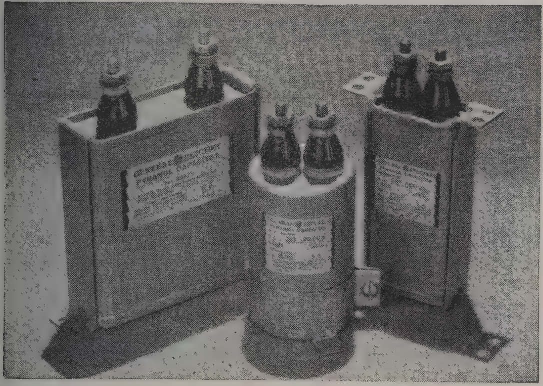
Order by JAN-C-26 Designations.

For Special Physical Sizes or Resistances Please Write Franklinville Office or Contact Sales Representative.

Copyrigh by U. C. P., Inc.

PYRANOL* CAPACITORS

For Amateur Radio Equipment



A COMPLETE LINE

Outstanding Characteristics

Continuous operation at 10 per cent above rating

Long life, for low cost per service-year

Small size—means easy portability

Upright or inverted mounting

Round or rectangular cases

Hermetically sealed for permanence

G-E Pyranol capacitors for d-c communications equipment are filled and treated with Pyranol, a non-inflammable dielectric developed and patented by General Electric. Pyranol has extraordinary dielectric qualities, and its use makes possible an unusually small and compact unit for all transmitter-capacitor ratings. Compare the size with that of a capacitor of conventional design.

The cases are hermetically sealed, assuring permanence of the characteristics of the capacitors, as contamination from air and moisture is impossible. Long life and ability to withstand temperatures as high as 75 C make these capacitors outstanding in their field.

The high quality of General Electric Pyranol transmitter capacitors is the result not only of extensive research into the design and manufacture of capacitors, but also of wide application experience. Thousands of units are in service in broadcasting stations, in commercial transmitters on shipboard, on airplanes—all over the world. Materials closely controlled as to quality, manufacturing processes under careful engineering and laboratory supervision, years of tested application experience—all these combine to give the amateur an unexcelled capacitor—the same high-quality capacitor as those used in the largest General Electric transmitters.

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*Trade-mark reg. U. S. Pat. Off.

RECTANGULAR-CASE DESIGNS

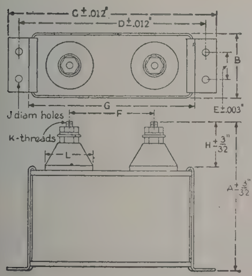
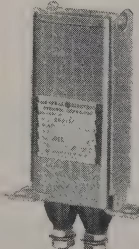


Fig. 1—Base-mounting assembly. See table on opposite page for specifications.



1000-volt, 2-microfarad G-E Pyranol transmitter capacitor for inverted mounting

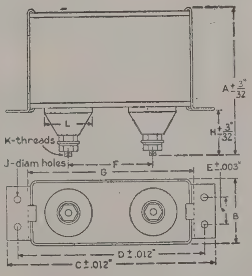


Fig. 2—Inverted-mounting assembly. See table on opposite page for specifications

2000-volt, 5-microfarad G-E Pyranol transmitter capacitor for base mounting

PYRANOL CAPACITORS

RECTANGULAR-CASE DESIGNS

With Mounting Bracket for Base Mounting or Inverted Mounting

PRICES AND SPECIFICATIONS

Mu f	Base Mtg. Fig. 1 Cat. No.	Inverted Mtg. Fig. 2 Cat. No.	List Price	Dimensions in Inches												Net Weight in Lb.
				A	B	C	D	E	F	G	H	J	K	L		
600 VOLTS D-C																
1	23F1	26F172	$4.39	3 9/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4		3/8
2	23F2	26F167	5.34	4 1/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4		3/8
4	23F4	26F106	6.91	4 17/32	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4		5/8
10	23F8	26F105	11.30	5 7/8	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4		1 1/2
1000 VOLTS D-C																
1	23F10	26F156	$4.72	3 17/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4		7/16
2	23F11	26F157	6.29	5 5/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4		1/2
4	23F13	26F93	7.85	5 7/8	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4		1
5	23F14	26F176	9.45	5 5/32	1 1/4+3	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4		1 1/4
10	23F17	26F95	12.49	5 7/8	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4		2
15	23F19	26F180	15.10	5 13/32	3 3/16+1/8	5	4 1/2	1 15/16	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		3 1/8
1500 VOLTS D-C																
1	23F20	26F181	$5.64	5 5/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4		1/2
2	23F21	26F182	7.85	5 13/32	1 3/32+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4		7/8
4	23F23	26F184	10.70	5 7/8	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4		1 1/2
5	23F24	26F185	11.30	5 13/32	1 3/4+3/32	4 3/4	4 3/8	7/8	2	3 7/8	1 3/32	.213	#12-28	3/4		1 7/8
10	23F27	26F187	18.89	5 7/8	3 3/16+1/8	5	4 1/2	1 13/32	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		3 1/2
15	23F29	26F189	22.69	5 7/8	4 9/16+1/8	5	4 1/2	3 7/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		5 1/2
2000 VOLTS D-C																
1	23F30	26F190	$6.91	4 17/32	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4		3/4
2	23F31	26F191	8.17	5 5/32	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4		1 5/8
4	23F33	26F193	11.30	5 3/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 3/32	9/32	#12-28	3/4		2 1/8
5	23F34	26F194	12.49	5 7/8	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 3/32	9/32	#12-28	3/4		2 1/2
10	23F37	26F197	23.21	5 7/8	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		5
12	23F38	26F198	25.20	6 7/8	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		6
2500 VOLTS D-C																
1	23F39	26F199	$10.00	4 13/32	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4		1 1/3
2	23F40	26F200	16.30	5 7/8	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4		2
4	23F41	26F201	22.69	5 5/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8		4
3000 VOLTS D-C																
1	23F42	26F202	$15.10	5 27/32	2 1/2+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		2 3/4
2	23F43	26F203	18.89	6 3/32	3 3/16+1/8	5	4 1/2	1 15/16	2	3 7/8	1 35/32	9/32	5/16-18	1 3/8		3 1/2
4	23F44	26F204	27.80	6 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		5 1/2
4000 VOLTS D-C																
.5	23F45	26F205	$22.69	5 27/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		2 5/8
1	23F46	26F206	27.80	6 27/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		3 1/2
2	23F47	26F207	35.40	6 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		5 1/2
5000 VOLTS D-C																
.5	23F48	26F208	$25.20	6 3/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		2 3/4
1	23F49	26F209	31.50	6 3/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		4 3/4
2	23F50	26F210	40.40	7 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8		6 3/4

Price and other data subject to change without notice.
Prices are in accordance with OPA regulations applicable to General Electric Company. Dealers or distributors, however, should not use any list price suggested if it exceeds their ceiling price.

The rectangular-case-design Pyranol transmitter capacitors listed above and illustrated on opposite page, are hermetically solder-sealed and provided with ceramic insulators and mounting bracket as shown. The mounting bracket is rigidly attached to the capacitor, before shipment, by mechanical means and cannot loosen. All ratings are furnished with a durable silver-gray finish.

These capacitors may be operated continuously at voltage up to 10 per cent above the rated value.

PYRANOL CAPACITORS

CYLINDRICAL-CASE AND SMALL-RECTANGULAR-CASE DESIGNS

PRICES AND SPECIFICATIONS

CYLINDRICAL-CASE DESIGNS

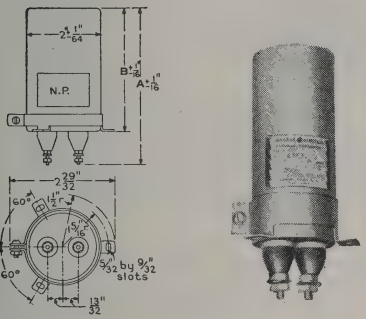


Fig. 3

G-E cylindrical-case Pyranol capacitors are her-
etically solder-sealed and provided with ceramic
sulators and an adjustable clamp-type mounting
racket, as illustrated. They may be mounted in any
osition. All ratings are furnished with a durable
ray lacquer finish.

These capacitors are built to the same high stand-
rd of quality that has gained such great favor with
adio amateurs for the rectangular-case Pyranol
esign. They may be operated continuously at volt-
ges up to 10 per cent above the rated value.

Mu f	Cat. No.	List Price	Dimensions in Inches A	Dimensions in Inches B	Net Weight in Oz
600 VOLTS D-C					
2	23F60	$4.08	3 1/16	1 11/16	10
3	23F61	4.72	3 7/16	2 1/16	10
4	23F62	5.64	4 9/16	3 3/16	14
1000 VOLTS D-C					
1	23F63	$3.45	3 1/16	1 11/16	10
2	23F64	4.72	3 7/16	2 1/16	10
3	23F65	5.34	4 9/16	3 3/16	14
4	23F66	5.96	4 15/16	3 9/16	16
1500 VOLTS D-C					
0.5	23F67	$3.77	3 1/16	1 11/16	10
1.0	23F68	4.40	3 1/16	1 11/16	10
2.0	23F69	5.96	4 5/16	2 15/16	14
2000 VOLTS D-C					
1.0	23F70	$5.64	3 13/16	2 7/16	14
2.0	23F71	6.30	4 15/16	3 9/16	16

SMALL-RECTANGULAR-CASE DESIGNS

RATED 500 VOLTS D-C — 1 MU F

1000 VOLTS D-C — 0.01, 0.05, 0.10, 0.25, AND 0.5 MU F

These G-E Pyranol capacitors, of very small size, are her-
etically sealed in metal containers and are furnished with
gray lacquer finish. The capacitors may be operated continu-
usly at voltages up to 10 per cent above the rated value.

Rating		Cat. No.	List Price	Net Wt in Oz	Dimensions in Inches See Diagram	
Volts D-c	Mu f				B	A
500	1.0	23F154	$3.80	3	2 25/32	1 15/16
1000	0.01	23F155	2.50	2	2 5/32	1 5/16
1000	0.05	23F156	2.82	2	2 5/32	1 5/16
1000	0.1	23F157	3.15	2	2 5/32	1 5/16
1000	0.25	23F158	3.45	2½	2 13/32	1 9/16
1000	0.5	23F159	3.77	3	2 25/32	1 15/16

Prices and Other Data Subject to Change without Notice.

ices are in accordance with OPA regulations applicable to General Electric
mpany. Dealers or distributors should not, however, use any list price sug-
sted if it exceeds their ceiling prce.

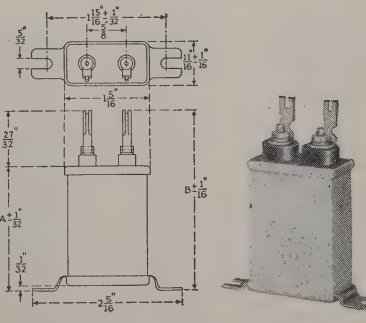
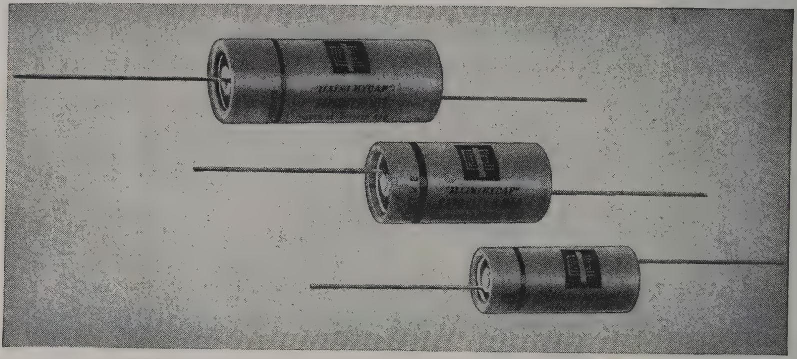


Fig. 4

FOR AMATEUR RADIO EQUIPMENT

ILLINOIS CONDENSERS

TIME TESTED QUALITY



"ILLINI HYCAPS" are now manufactured in a new and modern plant designed especially for the manufacture of capacitors. Our thorough engineering, plus old manufacturing skills and a rigid policy of quality control enables us to produce a product that is of unexcelled quality.

"ILLINI HYCAPS" are again available, and you will agree after using them that they meet every requirement a superior condenser should have for long life and dependable service.

"ILLINI HYCAPS" are guaranteed unconditionally for a period of one year, from date of purchase.

1. Short proof—ample separation of foils by hig est purity cellulose separator plus tough anod film—will withstand the highest surge voltages.
2. Condenser hermetically sealed and anchored an aluminum shell. Completely resistant to chang due to temperature and humidity. Built to withstan all kinds of vibrations and shocks.
3. Attractive kraft tube spun over condenser en . . . prevents shorting of pig tail leads to condens or other components. Aluminum lock-washers hol leads securely in place, will not loosen or break o
4. Low power factor, low leakage, excellent she life.
5. Extremely longer life—due to our use of C. chemicals and highest purity foils and insulatio materials available. A balanced non-corrosiv electrolyte contributes to quiet stable operation.

TYPE IHT

TUBULAR ELECTROLYTIC CONDENSERS IN ALUMINUM CAN SELF SUPPORTING WITH WIRE PIGTAILS

LOW-VOLTAGE

Part No.	Cap. MFD	W. V.	SIZE		LIST PRICE
			Dia.	Length	
IHT-1025	10	25 WVDC	11/16"-	1¼"	$0.63
IHT-2525	25	25 WVDC	11/16"-	1¼"	.75
IHT-10025	100	25 WVDC	11/16"-	1¾"	1.39
IHT-2550	25	50 WVDC	11/16"-	1¾"	.88
IHT-8150	8	150 WVDC	11/16"-	1¼"	.69
IHT-1215	12	150 WVDC	11/16"-	1¾"	.76
IHT-1615	16	150 WVDC	11/16"-	1¾"	.88
IHT-2015	20	150 WVDC	11/16"-	1¾"	.94
IHT-2415	24	150 WVDC	11/16"-	1¾"	.94
IHT-3015	30	150 WVDC	13/16"-	1¾"	1.01
IHT-4015	40	150 WVDC	13/16"-	1¾"	1.06
IHT-5015	50	150 WVDC	13/16"-	1¾"	1.39

HIGH-VOLTAGE

Part No.	Cap. MFD	W. V.	Dia.	Length	LIST PRICE
IHT-4450	4	450 W. V.	11/16"-	1¾"	.88
IHT-8450	8	450 W. V.	13/16"-	1¾"	.94
IHT-10450	10	450 W. V.	13/16"-	1¾"	1.06
IHT-12450	12	450 W. V.	13/16"-	2-3/16"	1.13
IHT-16450	16	450 W. V.	13/16"-	2-3/16"	1.39

ILLINOIS CONDENSERS
TIME TESTED QUALITY

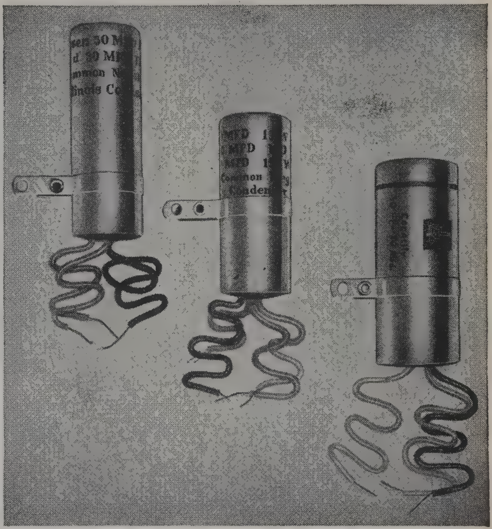
Clamp Mounting Tubulars
"ILLINI-HYCAPS"

Through careful selection of high temperature sealing compounds and superior engineering design, these completely hermetically sealed, compact tubular electrolytic condensers are the acme of dependability. They operate efficiently under high temperatures and will give long life under all climatic conditions.

The small size and convenient mounting features of our type IHC "ILLINI-HYCAPS" make them popular in both manufacturing and replacement work.

Leads are color coded and securely anchored in the hard wax seal. Dual units have four leads for universal replacement work and are completely insulated.

Clamp may be moved to any position on tube for rapid mounting.



TYPE IHC — LOW VOLTAGE
WAX IMPREGNATED CARDBOARD TUBULARS
POTTED WAXED ENDS—FLEXIBLE WIRE LEADS—CLAMP MOUNTING

			SIZE		
Part No.	Cap. MFD	W. V.	Dia.	Length	LIST PRICE
IHC-161615	16-16	150 Common Negative	¾"	2⅜"	$1.45
IHC-2215	20-20	150 Common Negative	¾"	2⅜"	1.64
IHC-d 2215	20-20	150 Separate Negative) 4 Leads	15/16"	2⅜"	2.09
IHC-3315	30-30	150 Common Negative	15/16"	2¾"	1.76
IHC-4215	40-20	150 Common Negative	15/16"	2¾"	1.76
IHC-4415	40-40	150 Common Negative	15/16"	2¾"	1.89
IHC-5315	50-30	150 Common Negative	15/16"	2¾"	1.89
IHC-6215	60-20	150 Common Negative	15/16"	2¾"	1.89
IHC-22215	20-20-20	150 Common Negative	1"	2¾"	2.50
HIGH VOLTAGE					
IHC-1245	12	450	⅞"	2¾"	1.13
IHC-1645	16	450	15/16"	2¾"	1.39
IHC-2045	20	450	1"	2¾"	1.51
IHC-3045	30	450	1⅛"	2¾"	1.82
IHC-4045	40	450	1-3/16"	2¾"	2.21
HIGH VOLTAGE—MULTIPLE UNITS					
IHC-8845	8-8	450 Common Negative	1⅛"	2¾"	1.64
IHC-d 8845	8-8	450 Separate Negative) 4 Leads	1-3/16"	2¾"	2.09
IHC-101045	10-10	450 Common Negative	1⅛"	2¾"	1.76
IHC-16845	16-8	450 Common Negative	1⅜"	3"	2.09
IHC-161645	16-16	450 Common Negative	1½"	3"	3.03
IHC-88845	8-8-8	450 Common Negative	1½"	3"	2.84

ILLINOIS CONDENSERS
TIME TESTED QUALITY

ILLINOIS
CONDEN
CO.
CHICAGO : : U. S. A.
ELECTROLYTIC
CHICAGO
ELECTROLYTIC

TYPE LN
Inverted Screw Mounting
AMERICAN CAN CONDENSERS

Type LN aluminum can condensers are manufactured to operate satisfactorily under the severest conditions. Units are completely sealed in an inner impregnated tube then resealed. Correct design has allowed for maximum heat dissipation with resultant ability of the condensers to operate at higher temperatures and higher voltage surges.

Separate negative and positive leads for each section for universal replacement work. Pal Nut furnished with each condenser. Individually packaged in attractive, varnished outer box. These units are ideal for long life and continuous service.

LOCKNUT METAL CANS—STUD SCREW BASE MOUNTING

HIGH VOLTAGE

Part No.	Cap. MFD	W. V.	SIZE Dia.	SIZE Length	LIST PRICE
LN-80	8	450	1⅜"	3⅜"	$1.64
LN-120	12	450	1⅜"	3⅜"	2.14
LN-160	16	450	1⅜"	3⅜"	2.40
LN-200	20	450	1⅜"	3⅜"	2.65
LN-250	25	450	1½"	3⅜"	3.00
LN-300	30	450	1½"	3⅜"	3.16
LN-400	40	450	1½"	3⅜"	3.48

HIGH VOLTAGE MULTIPLE UNITS

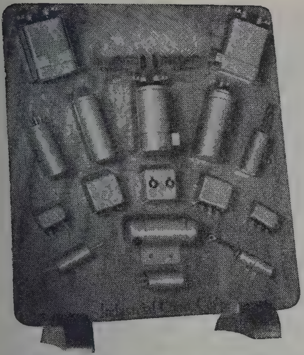
Part No.	Cap. MFD	W. V.	SIZE Dia.	SIZE Length	LIST PRICE
LN-d 88	8-8	450 Separate Negatve) 4 Leads	1⅜"	3⅜"	2.46
LN-1010	10-10	450 Common Negative	1⅜"	3⅜"	2.97
LN-168	16-8	450 Common Negative	1½"	3⅜"	2.90
LN-3888	8-8-8	450 Common Negative	1½"	3⅜"	3.54
LN-216	16-16	450 Common Negative	1½"	3⅜"	3.54

600 VOLT WORKING

Part No.	Cap. MFD	W. V.	SIZE Dia.	SIZE Length	LIST PRICE
LN-460	4	600 WVDC	1⅜"	3⅜"	2.83
LN-860	8	600 WVDC	1½"	3⅜"	3.98
LN-126	12	600 WVDC	1½"	3⅜"	4.62

INDUSTRIAL CONDENSER

INDUSTRIAL CONDENSER CORPORATION

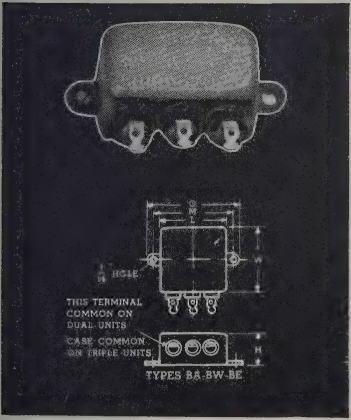


THE INDUSTRIAL CONDENSER CORP. was formed in 1940 in order to answer a definite need for a midwestern manufacturer of oil, wax, electrolytic and motor starting capacitors. Since this time INDUSTRIAL has grown to a leading place in the industry.

In addition to the standard types of paper and electrolytic capacitors covered in these pages (see Bulletin 1031A for complete line) and carried in distributors' stocks throughout the country, a wide variety of other types are available on special order.

The display shown at the left is on the counter of every INDUSTRIAL distributor. Reference to this will be of assistance in selecting the proper unit for each application.

Built to U. S. Signal Corps and Navy Specifications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THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
H
TYPES BA-BW-BE

DRY ELECTROLYTICS

Type "BE" electrolytic capacitor is the first commercially available unit of this type with the reliability of the total submersion type, oil filled capacitors.

Wound with the highest purity aluminum foil and cellulose separators available; impregnated in electrolyte having excellent temperature characteristics, these units will outlive their associated equipment.

Cat. No.	Cap. in Mfds.	Volts	Dimen. in In. L	W	H	M	List Price
25BE10	10	25	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	$2.25
25BE25	25	25	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2.40
50BE10	10	50	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2.30
50BE25	25	50	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2.50

TYPE "BA" OIL FILLED

1. INCCO OIL "A" permits efficient operation of these compact units over the widest range of temperature.
2. The use of the HIGHEST GRADE CONDENSER TISSUE insures greater safety factor and longer life.
3. Specially PROCESSED RIVETED TERMINALS are designed to withstand total submersion in salt water and changes in temperature from 50° below zero Centigrade to 90° above zero Centigrade without loosening or losing their integrity.
4. CONDENSER MOUNTINGS form an integral part of these drawn shell containers insuring permanent and rigid fastenings.
5. All units are NON-INDUCTIVELY WOUND providing efficient operation over the widest range of frequencies.
6. HERMETICALLY SEALED, they are unaffected by time, temperature or humidity.
7. CONSERVATIVELY RATED for safe and continuous uninterrupted operation at 10% above rated voltage for the lifetime of associated equipment.
8. Tested at twice the rated voltage between terminals and twice the rated voltage plus 1000 from each terminal to case.

Cat. No.	Cap. in MFDS.	Dimensions in Inches L	W	H	M	O	List Price
		600 V. D. C. WORKING					
6BA05	.05	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	$2.20
6BA10	.1	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.25
6BA25	.25	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.30
6BA50	.5	1$\frac{13}{16}$	1	⅞	2⅛	2½	2.50
6BA100	1.0	2	1¾	⅞	2⅜	2¾	2.85
6BA0505	.05-.05	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.75
6BA11	.1-.1	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.80
6BA22	.25-.25	2	1¾	⅞	2⅜	2¾	2.85
6BA55	.5-.5	2	1¾	⅞	2⅜	2¾	3.25
6BA111	.1-.1-.1	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	3.20
6BA222	.25-.25-.25	2	1¾	⅞	2⅜	2¾	3.60
6BA200	2	2	2	1⅛	2⅜	2$\frac{13}{16}$	3.85
		1000 V. D. C. WORKING					
10BA05	.05	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.25
10BA10	.1	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.35
10BA25	.25	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.40
10BA50	.5	2	1¾	⅞	2⅜	2¾	2.65
10BA100	1.0	2	2	1⅛	2⅜	2$\frac{13}{16}$	3.55
10BA0505	.05-.05	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	2.75
10BA11	.1-.1	1$\frac{13}{16}$	1	$\frac{13}{16}$	2⅛	2½	3.00
10BA22	.25-.25	2	1¾	⅞	2⅜	2¾	3.20

Above units also available in 200 V. D. C., 400 V. D. C. and 1500 V. D. C. on request.

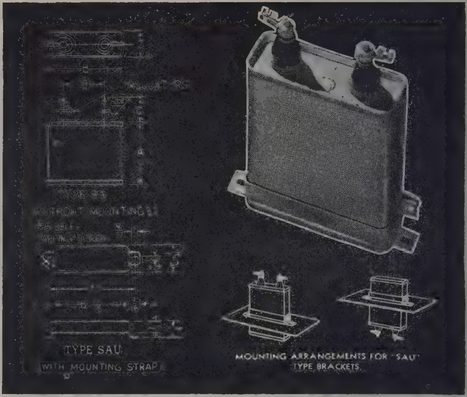
NOTICE—Most units are available with TERMINALS ON TOP, BOTTOM, OR ENDS. When ordering, add "T" for top terminals, "B" for terminals on bottom, or "E" for end terminals, i.e., 6BAT100 for terminals on top. Type "B" also available in WAX FILLED. When ordering, change catalog number A to W, i.e., 6BW100. If terminal position is not designated, side terminals are furnished. STANDARD CAPACITY tolerance of plus 20 per cent minus 10 per cent furnished on oil filled and wax filled units unless otherwise specified when ordering. Can be furnished in plus or minus 1 per cent capacity tolerance on special request.

INDUSTRIAL CONDENSER

INDUSTRIAL
CONDENSER CORPORATION

TYPE "SA" OIL FILLED

1. INCCO OIL "A" IMPREGNATED AND FILLED—permitting efficient operation over widest range of temperatures.
2. HERMETICALLY SEALED CASE—is unaffected by time, humidity, or operating temperatures.
3. Use of HIGHEST GRADE CONDENSER TISSUES insures a long uninterrupted life.
4. HIGH-GLAZE PORCELAIN INSULATORS—insure low moisture absorption and high terminal to case flash over.
5. CONSERVATIVELY RATED—SAFE FOR CONTINUOUS OPERATION AT 10 PER CENT OVERLOAD.
6. Use of "SPACE SAVER" UNIVERSAL MOUNTING BRACKET provides adjustable capacitor heights.
7. LEAD COATED STEEL CASE—IS NON-CORROSIVE and lacquer finished.
8. TESTED FOUR TIMES BEFORE SHIPMENT—guarantees a 100 per cent perfect product electrically and mechanically.



If riveted terminal construction is wanted in place of porcelain stand-off insulators add "R" to catalog number. For example, 6SA50 changes to 6SAR50. Submersion proof terminal construction to meet Army and Navy specifications is optional; specify on order. Standard capacity tolerance plus or minus 10 per cent. Mounting brackets supplied in accordance with following catalog designations: **TYPE SA**—No mounting brackets. **TYPE SAU**—"Space Saver" universal bracket. **TYPE SAJ**—Soldered vertical mounting bracket. **Type SAL**—Reversible mounting foot bracket. **TYPE SAH**—Reversible spade bolt bracket.

For example: The 8mfd. 600V. type with "Space Saver" bracket has catalog number 6SAU800.

NOTE: To facilitate delivery we have standardized on container heights. In many cases units can be supplied in shorter containers if required.

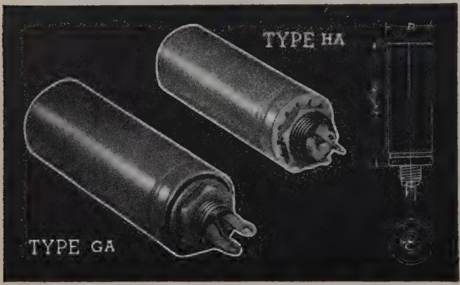
	Cap.	Dimensions in Inches								List
Cat. No.	Mfd.	A	B	C	D	E	F	*G	H	Price
600 V.D.C. WORKING										
6SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	$3.55
6SA100	1.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	4.45
6SA200	2.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.45
6SA400	4.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	7.05
6SA600	6.0	4¾	2½	1 3/16	⅞	1⅛	3		3	8.65
6SA800	8.0	4	3¾	1¼	⅞	2	4⅜		4⅜	10.25
6SA1000	10.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	11.55
1000 V.D.C. WORKING										
10SA10	.1	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.20
10SA25	.25	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.55
10SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.85
10SA100	1.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	4.80
10SA200	2.0	4	1 13/16	1 1/16	⅞	¾	2¼		2¼	6.40
10SA400	4.0	4¾	2½	1 3/16	⅞	1⅛	3		3	8.05
10SA600	6.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	10.60
10SA800	8.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	11.55
10SA1000	10.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	12.85
1500 V.D.C. WORKING										
15SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.10
15SA100	1.0	4	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.80
15SA200	2.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	8.05
15SA400	4.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	10.90
15SA600	6.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	13.15
2000 V.D.C. WORKING										
20SA10	.1	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.10
20SA25	.25	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.45
20SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	$5.80
20SA100	1.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	7.05
20SA200	2.0	4	3¾	1¼	⅞	2	4⅜		4⅜	8.30
20SA400	4.0	4¼	3¾	2¼	⅞	2	4⅜		4⅜	11.55
20SA600	6.0	4¾	3¾	3 3/16	⅞	2	4⅜	2	4⅜	15.10
2500 V.D.C. WORKING										
25SA50	.5	4	3¾	1¼	1¾	2	4⅜		4⅜	9.00
25SA100	1.0	3¼	3¾	1¾	1¼	2	4⅜		4⅜	10.25
25SA200	2.0	4¾	3¾	1¾	1¼	2	4⅜		4⅜	16.70
25SA400	4.0	4¼	3¾	4 9/16	1¼	2	4⅜	3⅜	4	23.10
3000 V.D.C. WORKING										
30SA10	.1	2⅝	2½	1 3/16	1¼	1⅛	3		3	10.90
30SA25	.25	3⅜	2½	1 3/16	1¼	1⅛	3		3	11.55
30SA50	.5	4⅛	2½	1 3/16	1¼	1⅛	3		3	12.85
30SA100	1.0	4¼	3¾	2¼	1¼	2	4⅜		4⅜	15.35
30SA200	2.0	4¾	3¾	3 3/16	1¼	2	4⅜	2	4⅜	19.25
4000 V.D.C. WORKING										
40SA10	.1	2¾	3¾	2¼	1¼	2	4⅜		4⅜	19.25
40SA25	.25	2¾	3¾	2¼	1¼	2	4⅜		4⅜	20.50
40SA50	.5	4¼	3¾	2¼	1¼	2	4⅜		4⅜	23.10
40SA100	1.0	5	3¾	2¼	1¼	2	4⅜		4⅜	28.20
5000 V.D.C. WORKING										
50SA50	.5	4¼	3¾	2¼	1¼	2	4⅜		4⅜	25.70
50SA100	1.0	4¼	3¾	4 9/16	1¼	2	4⅜	3⅜	4⅜	32.05
6000 V.D.C. WORKING										
60SA50	.5	7	3¾	3 3/16	2 5/16	1⅞	4⅜	2	4⅜	57.75
60SA100	1.0	6½	3¾	4 9/16	2 5/16	2	4⅜	3⅜	4⅜	64.15

* Where G dimension is given, two spade lugs or mountings holes are supplied on each bracket.

TYPES "GA" and "HA" OIL FILLED

These inverted mounting capacitors fill a definite need where chassis space is the prime factor.

Types "GA" and "HA" are INCCO Oil "A" impregnated and filled.



The case is a one-piece metal extrusion with a "locked-in" molded neck. This construction meets and surpasses the Army and Navy requirements for a submersion-proof capacitor.

Type "GA" is available in the seven standard rating listed below, but can also be supplied in other capacities and/or voltages to manufacturers' specifications.

In the standard "GA" and "HA" types the container is insulated. A grounding lug can be supplied for connecting one terminal to the case. Fiber washer for insulating container from chassis, when case is grounded, and insulating cover for insulating the container from adjacent equipment, can also be supplied on special order.

Type "HA" differs from "GA" in container and mounting neck size, and also in the fact that it has three insulated terminals. Primarily, type "HA" is supplied to manufacturers specifications, to meet special requirements of multiple-section and multiple-terminal capacitors, with either insulated or grounded container.

Type	Case Diameter	Size of Mounting Neck
GA — GE — GW	1½"	¾" x 16 thread
HA — HE — HW	1⅜"	⅞" x 16 thread

Cat. No.	Cap. Mfds.	Working Voltage D.C.	Height	List Price
6GA200	2	600	3"	$4.25
6GA300	3	600	4¼"	5.10
6GA400	4	600	4¼"	5.80
10GA100	1	1000	3"	3.85
10GA200	2	1000	4¼"	5.10
15GA50	.5	1500	3"	4.65
15GA100	1	1500	4¼"	5.10

INDUSTRIAL CONDENSER

INDUSTRIAL CONDENSER CORPORATION

CAPACITORS TO 250,000 V.D.C.W.

INCCO OIL "A" IMPREGNATED AND FILLED assures smaller size, low power factor, and widest range of operating temperatures.

ELECTRIC ARC WELDED HEAVY GAUGE HOT TINNED STEEL CASES are non-corrosive—finished in durable lacquer.

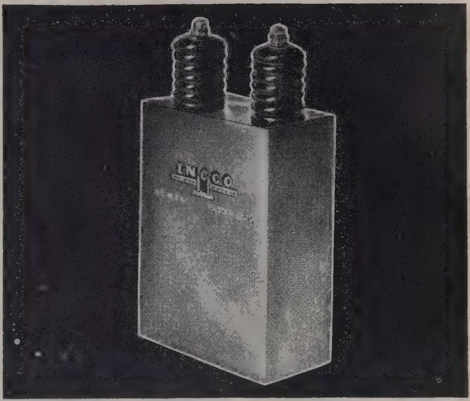
GLAZED WET-PROCESS PORCELAIN INSULATORS—low moisture absorption and high terminal to case flash over.

WOUND WITH HIGHEST GRADE CONDENSER TISSUES—insures a long, uninterrupted life.

CONSERVATIVELY RATED—Safe for continuous operation at 10 per cent overload.

HERMETICALLY SEALED STEEL CASE — unaffected by time, humidity or operating temperatures.

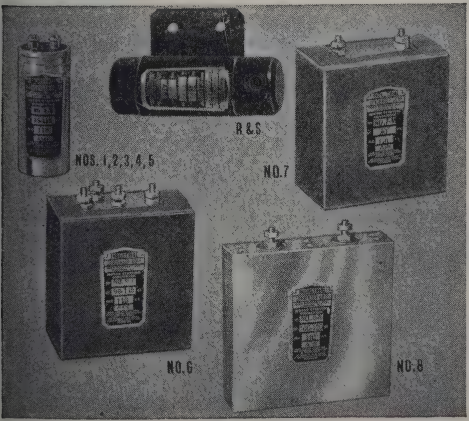
AVAILABLE TO MEET U. S. SIGNAL CORPS AND NAVY SALT WATER SUBMERSION REQUIREMENTS.



TYPE "WA" — HIGH VOLTAGE OIL FILLED CAPACITORS

Cat. No.	Cap. Mfd.	Case Dimensions in Inches Width	Length	Height	List Price
		6,000 V. D. C. WORKING			
60WA200	2.	4	8	11	$108.00
60WA400	4.	4	12	11	132.00
60WA500	5.	4	12	11	150.00
60WA600	6.	4	12	13	168.00
60WA1000	10.	6	12	13	210.00
		7,500 V. D. C. WORKING			
75WA50	.5	4	8	11	60.00
75WA100	1.	4	8	11	78.00
75WA200	2.	4	8	11	120.00
75WA400	4.	4	12	13	180.00
75WA600	6.	6	12	13	216.00
		10,000 V. D. C. WORKING			
100WA100	1.	4	8	11	156.00
100WA200	2.	4	8	13	198.00
100WA400	4.	6	12	13	240.00
100WA500	5.	6	12	13	264.00
		12,500 W. D. C. WORKING			
125WA50	.5	4	8	11	132.00
125WA100	1.	4	12	11	168.00
125WA200	2.	6	12	13	210.00
125WA500	5.	9½	12	15	396.00
		15,000 V. D. C. WORKING			
150WA25	.25	4	8	11	126.00
150WA50	.5	4	12	11	150.00
150WA100	1.	4	12	13	210.00
150WA200	2.	9½	12	15	276.00
150WA300	3.	9½	12	15	378.00
		20,000 V. D. C. WORKING			
200WA25	.25	4	8	11	150.00
200WA50	.5	4	12	11	192.00
200WA100	1.	6	12	13	258.00
200WA150	1.5	9½	12	15	348.00
200WA200	2.0	9½	12	15	414.00
		25,000 V. D. C. WORKING			
250WA20	.2	4	12	11	156.00
250WA25	.25	4	12	11	210.00
250WA50	.5	6	12	13	228.00
250WA100	1.	9½	12	15	342.00
		50,000 V. D. C. WORKING			
500WA25	.25	6	13½	16¾	*
500WA50	.5	7¼	18	20	*
		80,000 V. D. C. WORKING			
800WA25	.25	7¼	18	20	*
		100,000 V. D. C. WORKING			
1000WA20	.2	7¼	18	20	*

* Prices on application.



MOTOR STARTING CONDENSERS

These motor starting condensers are all heavy duty three second start. Built of the finest materials obtainable, these capacitors are engineered to the Nth degree of perfection. They are used by all the leading manufacturers of high quality motors.

The listings shown will take care of 90% of all your replacement requirements.

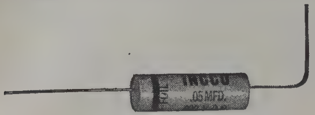
Number	Size, Inches	Capacity	List Price
MS145	1⅜ Dia. x 3¼	45 - 70	$1.65
MS185	1⅜ Dia. x 3¼	85 - 115	1.80
MS1108	1⅜ Dia. x 3¼	108 - 120	1.85
MS1120	1⅜ Dia. x 3¼	120 - 150	1.90
MS1145	1⅜ Dia. x 3¼	145 - 162	2.35
MS285	1½ Dia. x 3¾	85 - 115	1.85
MS2120	1½ Dia. x 3¾	120 - 150	2.00
MS390	2 Dia. x 4⅛	90 - 115	3.05
MS3120	2 Dia. x 4⅛	120 - 150	3.20
MS3245	2 Dia. x 4⅛	245 - 300	4.20
MS3161	2 Dia. x 4⅛	161 - 190	3.50
MS3191	2 Dia. x 4⅛	191 - 240	3.85
MS485	2½ Dia. x 4⅛	85 - 115	3.05
MS4120	2½ Dia. x 4⅛	120 - 150	3.20
MS5100	3 Dia. x 4⅛	100 - 115	3.10
MS690	3½ x 4 x 2	90 - 115	3.05
MS6124	3½ x 4 x 2	124 - 138	3.20
MS6145	3½ x 4 x 2	145 - 162	3.40
MS780	3½ x 4 x 2	80	2.70
MS750	3½ x 4 x 2	50 - 65	2.35
MS8100	4½ x 4½ x 1¼	100 - 120	3.20
MS870	4½ x 4½ x 1¼	70 - 90	3.05
R	Mounting Bracket for 1⅜ x 3¼		.75
S	Mounting Bracket for 2 x 4⅛		.95

SEND FOR BULLETIN No. 1075 WHICH LISTS OUR OIL FILLED MOTOR RUNNING CAPACITORS

INDUSTRIAL CONDENSER

INDUSTRIAL CONDENSER CORPORATION

TUBULAR PAPER CONDENSERS



TYPE PT

INDUSTRIAL By-Pass Condensers are non-inductively wound and designed for maximum efficiency up to the highest radio frequencies. The units themselves are completely impregnated and sealed with a special non-hydroscopic sealing compound, thus preventing moisture penetration under the most humid conditions. The lead connected to the outside foil of the condenser is indicated by a black stripe around the end of the tube.

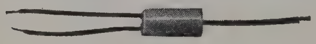
TESTED AT 3 TIMES RATED VOLTAGE

Catalog Number	Capacity Mfd.	Working Voltage	List Price
PT100	.0001	1000	$0.30
PT101	.00025	1000	.30
PT102	.0005	1000	.30
PT103	.001	1000	.35
PT104	.002	1000	.35
PT105	.005	1000	.35
PT106	.006	1000	.35
PT107	.01	1000	.45
PT135	.01	600	.30
PT136	.02	600	.30
PT137	.03	600	.35
PT138	.05	600	.35
PT139	.1	600	.40
PT140	.25	600	.50
PT141	.5	600	.75
PT142	1.0	600	1.20
PT170	.01	400	.30
PT171	.02	400	.30
PT172	.05	400	.30
PT173	.1	400	.35
PT174	.25	400	.40
PT175	.5	400	.50
PT176	1.0	400	.75
PT200	.02	200	.30
PT201	.05	200	.30
PT202	.1	200	.40
PT203	.25	200	.40
PT204	.5	200	.50
PT205	1.0	200	.75

VIBRATOR REPLACEMENTS

PT260	.005	2000	$0.50
PT261	.0075	2000	.50
PT262	.01	2000	.50
PT263	.02	2000	.50

INTERFERENCE ELIMINATOR



No. 7249

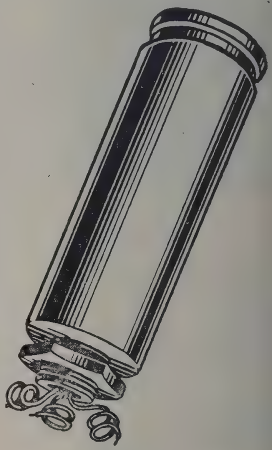
Designed for eliminating radio interference caused by fluorescent lights. By installing this unit directly in the fluorescent fixture, it eliminates all interference from the fixture. It is small enough to fit in any corner and is light enough so as not to require any special mounting. **List Price** ....$1.55 ea.

DIRECT REPLACEMENT

For Either Dry or Wet Types

No Drilling — No Changes

The "IL" type capacitor is a dry electrolytic assembled in an aluminum container having a threaded mounting neck which is an integral part of the container.



Our "IL" type capacitors may be used as replacements for the old type wet or dry electrolytic capacitors and will mount in the same mounting hole as the part replaced, eliminating the use of adaptors or auxiliary workmanship.

Electrically and mechanically this condenser is designed for heavy duty service. It incorporates the exclusive INDUSTRIAL etched foil process of construction.

Although these capacitors are not hermetically sealed, they are highly superior to the paper type units generally used for this kind of replacement.

These units are supplied with Underwriters Approved 75° C rubber covered leads.

Individually boxed in attractive carton with instructions.

To replace 1⅜" diameter screw neck type

Cat. No.	Cap. Mfd.	Work Volt	Peak Volt	Dimensions	Mtg. Neck	List Price
IL649	8	600	725	1⅜" x 4"	¾"	$3.95
IL650	8	475	600	1⅜" x 4"	¾"	1.55
IL651	12	475	600	1⅜" x 4"	¾"	2.10
IL652	16	475	600	1⅜" x 4"	¾"	2.35
IL653 4 leads	8-8	475	600	1⅜" x 4"	¾"	2.40
IL646	20	475	600	1⅜" x 4"	¾"	2.60
IL647	30	475	600	1⅜" x 4"	¾"	2.80
IL648	40	475	600	1⅜" x 4"	¾"	3.60

AUTO GENERATOR CONDENSER

ALSO AVAILABLE IN HERMETICALLY SEALED SUBMERSION-PROOF CONSTRUCTION

INCCO
F330 .5 MFD 200 VDC

TYPE F

TYPE G

Completely enclosed in a metal container to overcome severe operating conditions of temperature and humidity. Sturdily built to withstand constant vibration.

Cat. No.	Cap. Mfd.	List Price	Cat. No.	Cap. Mfd.	List Price
G325	.25	$0.55	G328	1.0	$1.15
G326	.5	.75	F330	.5	.75

DRY ELECTROLYTIC CONDENSERS

MIGHTY MIDGET METAL TUBULAR TYPE "MM"

Cat. No	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
MM406	100	10	25	$\frac{11}{16}$ x 1$\frac{11}{16}$	$1.55
MM400	5	25	35	$\frac{11}{16}$ x 1$\frac{11}{16}$	.50
MM401	10	25	35	$\frac{11}{16}$ x 1$\frac{11}{16}$	.55
MM402	25	25	35	$\frac{11}{16}$ x 1$\frac{11}{16}$	.75
MT403*†	10-10	25	35	$\frac{11}{16}$ x 2⅜	.90
MM404	10	50	75	$\frac{11}{16}$ x 1$\frac{11}{16}$	.65
MM405	25	50	75	$\frac{11}{16}$ x 1$\frac{11}{16}$	.85
MM360	8	150	200	$\frac{11}{16}$ x 1$\frac{11}{16}$	.65
MM368	12	150	200	$\frac{11}{16}$ x 1$\frac{11}{16}$	.75
MM361	16	150	200	$\frac{11}{16}$ x 1$\frac{11}{16}$	.85
MM362	20	150	200	$\frac{11}{16}$ x 2$\frac{3}{16}$	.90
MM369	30	150	200	$\frac{13}{16}$ x 2$\frac{3}{16}$	.95
MM363	40	150	200	$\frac{13}{16}$ x 2$\frac{3}{16}$	1.05
MM370†	20-20	150	200	$\frac{15}{16}$ x 2$\frac{3}{16}$	1.60
MM364	4	475	600	$\frac{11}{16}$ x 1$\frac{11}{16}$	.85
MM365	8	475	600	$\frac{13}{16}$ x 2$\frac{3}{16}$	.90
MM366	16	475	600	$\frac{15}{16}$ x 2$\frac{3}{16}$	1.30
MM367†	8-8	475	600	$\frac{15}{16}$ x 2$\frac{3}{16}$	1.60

* In cardboard tube with wax filled ends. † 3 leads.

MIGHTY MIDGET CARTON TYPE "MC"

Cat. No.	Cap. Mfd.	W.V.	Peak Volts	Dimensions W. T. L.	List Price
MC450†	16-16	150	200	$\frac{13}{16}$x1¼x2½	$2.05
MC451†	20-20	150	200	$\frac{13}{16}$x1¼x2½	2.15
MC452	8	475	600	¾x1$\frac{1}{16}$x2½	1.45
MC453†	4-4	475	600	$\frac{13}{16}$x1¼x2½	1.75
MC454†	8-8	475	600	1 x1¼x3	2.30

† 4 leads.

LARGE CARTON TYPE"C"

C500	8	150	200	$\frac{13}{16}$x1¼x2½	$1.20
C501†	16-16	150	200	1 x1¼x3	2.50
C502*	16-12	150	200	1 x1¼x3½	3.25
	10-10	25	35		
C503‡	16-16-8	150	200	1½x1⅛x3½	3.70
	10-10	25	35		
C504	4	475	600	$\frac{13}{16}$x1¼x2½	1.15
C505	8	475	600	1 x1¼x3	1.45
C506†	4-4	475	600	1 x1¼x3½	1.80
C507†	8-8	475	600	1½x1⅛x3½	2.30

C501, C506, C507—4 leads.
C502—6 leads. ‡C503—7 leads.

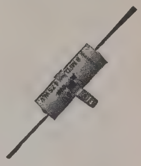
Cat. No	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
SB550†	16-12	150	200	1⅜ x 3¾	$2.30
SB551‡	16-12	150	200	1⅜ x 3¾	3.10
	10-10	25	35		
SB552†	8-8	475	600	1⅜ x 3¾	2.30
SM600*	30-10	150	200	$\frac{13}{16}$ x 3	2.80
SM601*	30-30	150	200	$\frac{15}{16}$ x 3	2.90
SM607*	50-30	150	200	1 x 3	3.10
SM602‡	16-12	150	200	1¼ x 3	3.10
	10-10	25	35		
SM605*	20-20	150	200	$\frac{15}{16}$ x 2½	2.80
SM606†	20-20	150	200	1 x 2½	2.90
SM603	8	475	600	$\frac{13}{16}$ x 3	1.45
SM604*	8-8	475	600	1 x 3	2.30

SM600, SM601, SM607, SM605, SM604—3 leads.
SB550, SB552, SB606—4 leads.
SB551, SM602—6 leads.

An extremely popular type of condenser due to its exceptional high quality and midget size. Hermetically sealed in a small metal case and scientifically vented, to protect against adverse operating conditions of voltage, temperature and humidity. Container is insulated by a high grade tube which is spun over the ends of the can to eliminate shorts when wires are bent close to container. Easily mounted by their rigid wire leads.

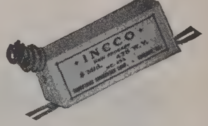
Type MM

All Type "MM" units are available with mounting strap. Recommended in cases of extreme vibration or when advisable to have unit solidly anchored. When ordering add the letter S before the catalog number.



Type MMS

Each unit is completely embedded in a high grade wax and then sealed in an impregnated carton to insure efficient operation under the most adverse conditions. New, high voltage formation, gives complete protection against surges and high peak voltages. Supplied with color coded, Underwriters' Approved, rubber covered leads. Universal lugs permit easy mounting in any position.

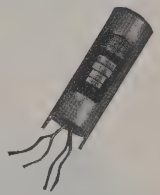


Type MC

Type "C" is similar to type "MC" above. It is designated, however, for older type sets where space is not limited.

Type C

Spade bolt type "SB" of mounting has been very popular due to its wide use in many radio sets. Each unit is embedded in a high temperature wax and then sealed in a thoroughly impregnated cardboard tube, affording complete immunity to moisture penetration. New high voltage formation gives complete protection against surges and high peak voltages.



Type SB

Type "SM" has identical characteristics as "SB". The addition of the strap mounting bracket has proved favorable in its use due to its wide application in AC-DC and portable sets in the replacement field. The strap can be moved to the best mounting position and then bolted or soldered.

Supplied with color-coded, Underwriters' Approved, rubber covered leads.

Type SM

Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

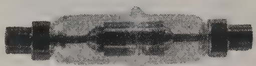
FIXED HIGH VOLTAGE VACUUM CAPACITORS

CHARACTERISTICS

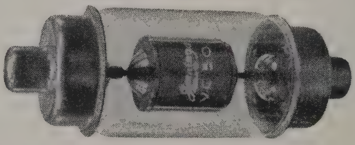
1. Small physical size and light weight.
2. High current carrying capacity.
3. Low power factor.
4. Low distributed capacity.
5. High voltage characteristics.
6. Rugged mechanical construction.
7. No ceramic or internal insulator.
8. Highly efficient vacuum dielectric employed.

Special characteristics on a to-order basis

WRITE FOR BULLETIN "RM"

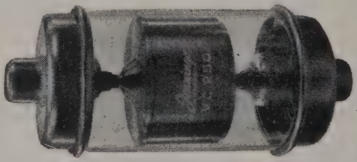


TYPE Y—PINENUT, 1-5 mmfd.,
17,000 Peak Volts, 10 Amps.
Length 3¼" ± 1/16", Diameter 13/16" ± 1/16"

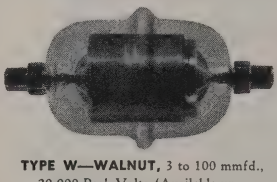


TYPE VC 50, 6-50 mmfd., 20,000 Peak Volts,
(available up to 32,000 Peak Volts), 20 Amps.
Length 6½", Diameter 2¼"

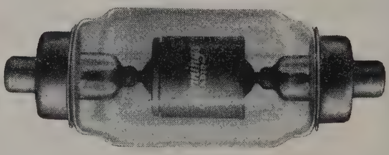
TYPE X—PEANUT, 5-25 mmfd.,
17,000 Peak Volts, 20 Amps.
Length 3¼" ± 1/16", Diameter 1¼" ± 1/16"



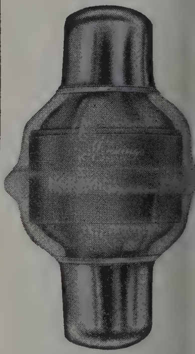
TYPE VC 250, 50-250 mmfd., 20,000 Peak Volts,
60 Amps. Length 6½", Diameter 2½"



TYPE W—WALNUT, 3 to 100 mmfd.,
20,000 Peak Volts (Available up
to 32,000 Peak Volts), 20 Amps.
Length 4-3/16" ± 1/16", Diameter 2¼" ± 1/16"



TYPE K, 50 mmfd.,
50,000 Peak Volts, 60 Amps.
Length 8½", Diameter 3"



TYPE M—COCONUT,
500 mmfd., 750 mmfd.,
1,000 mmfd., 10,000 peak volts;
Length 7⅞", Diameter 4⅜"

TYPE N—COCONUT,
up to 200 mmfd.
35,000 Peak Volts,
Dimension same as Type M

WATCH JENNINGS FOR NEW DEVELOPMENTS IN THE FIELD OF SPECIALIZED VACUUM ELECTRONIC COMPONENTS

JENNINGS RADIO MANUFACTURING COMPANY
1098 EAST WILLIAM STREET, SAN JOSE 12, CALIFORNIA

VARIABLE HIGH VOLTAGE VACUUM

Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

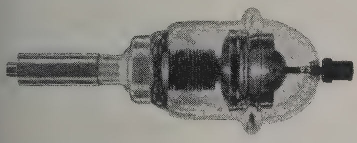
CAPACITORS

CHARACTERISTICS

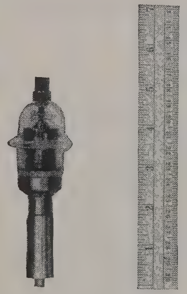
9. Electrical characteristics independent of atmospheric pressure and humidity.
10. Built-in external insulators.
11. Wide frequency operating range.
12. Self-healing after overloading.
13. Stainless steel working parts with ball bearing action.
14. Uniform capacitance change.

Special characteristics on a to-order basis

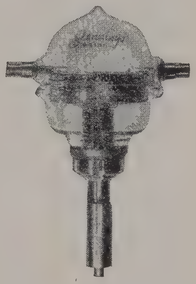
WRITE FOR BULLETIN "RM"



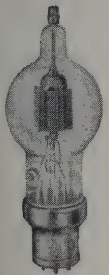
TYPE T—VACUUM VARIABLE CAPACITOR
Peak Volts 10,000 and 20,000.
Ranges of 5-25 mmfd.



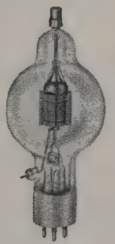
TYPE R—VARIABLE CAPACITOR
10,000 Peak Volts.
Capacity range, 3-8 mmfds.



TYPE S—SPLIT STATOR VARIABLE CAPACITOR
15,000 and 30,000 Peak Volts.
Capacity range, 7-15 mmfds.

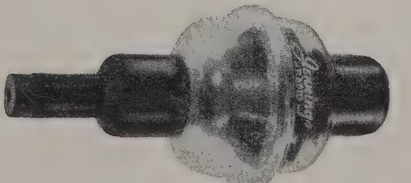


TYPE 250th



TYPE 100th

Other special types on request
TRANSMITTING and INDUSTRIAL TUBES



TYPE U—VACUUM VARIABLE CAPACITOR
10,000 Peak Volts
Length 11¾", Diameter 4⅜"

WATCH JENNINGS FOR NEW DEVELOPMENTS IN THE FIELD OF SPECIALIZED VACUUM ELECTRONIC COMPONENTS

JENNINGS RADIO MANUFACTURING COMPANY
1098 EAST WILLIAM STREET, SAN JOSE 12, CALIFORNIA

MALLORY DRY ELECTROLYTIC CAPACITORS

MALLORY
MALLORY
TCS

TC SINGLE TUBULAR CAPACITORS

(Aluminum Encased)

● These compact hermetically sealed tubulars are ideal for under-chassis mounting and all applications where space is at a premium.

Furnished in aluminum tubes with external insulating covers, they are smaller than cardboard tubulars of equivalent rating.

Completely dependable under all climatic conditions, they assure many years of satisfactory performance.

Types TC-82 and TC-92 are especially designed for high working and surge voltage applications which may be continuously applied within the limits shown in the chart.

All TC units are supplied with 3″ bare wire leads and are available in the ratings listed below.

See page 5 for mounting hardware.

Cap. Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length	Mallory Cat. No.	List Price
1000	3	4	15/16 x 2	**TC310**	**$2.21**
500	6	10	15/16 x 1¾	**TC605**	**1.89**
1000	6	10	1 1/16 x 2⅞	**TC610**	**2.65**
500	15	20	1 1/16 x 2	**TC1505**	**2.65**
10	25	40	9/16 x 1¼	**TC22**	**.63**
25	25	40	9/16 x 1¼	**TC26**	**.75**
50	25	40	11/16 x 1½	**TC29**	**.94**
100	25	40	13/16 x 1¾	**TC2501**	**1.39**
10	50	75	9/16 x 1¼	**TC32**	**.69**
25	50	75	11/16 x 1½	**TC36**	**.88**
50	50	75	13/16 x 1½	**TC39**	**1.07**
5	150	175	9/16 x 1¼	**TC40**	**.63**
10	150	175	11/16 x 1¼	**TC42**	**.75**
15	150	175	11/16 x 1½	**TC44**	**.88**
20	150	175	13/16 x 1½	**TC45**	**.94**
30	150	175	13/16 x 1½	**TC47**	**1.01**
40	150	175	15/16 x 1¾	**TC48**	**1.07**
50	150	175	15/16 x 1¾	**TC49**	**1.39**
60	150	175	1 1/16 x 1¾	**TC50**	**1.64**
10	250	325	11/16 x 1¾	**TC52**	**.88**
20	250	325	13/16 x 1¾	**TC55**	**1.26**
10	350	425	13/16 x 1¾	**TC62**	**1.01**
20	350	425	15/16 x 1¾	**TC65**	**1.39**
5	450	525	11/16 x 1¾	**TC70**	**.88**
8	450	525	13/16 x 1¾	**TC71**	**.94**
10	450	525	13/16 x 1¾	**TC72**	**1.07**
15	450	525	15/16 x 1¾	**TC74**	**1.39**
20	450	525	1 1/16 x 1¾	**TC75**	**1.51**
30	450	525	1 1/16 x 2⅞	**TC77**	**1.83**
40	450	525	1 1/16 x 2⅞	**TC78**	**2.21**
10	500	650	1 1/16 x 2 15/16	**TC82**	**2.84**
10	600	750	1 1/16 x 2 15/16	**TC92**	**3.10**

TCD · TCS DUAL TUBULAR CAPACITOR

(Aluminum Encased)

● These are aluminum encased dual tubulars similar i construction to the type TC single units.

Type TCD tubulars are the common negative typ with three terminals.

Type TCS tubulars are the separate section type wit four terminals. They may be used to replace either com mon negative, common positive or separate sectio capacitors by proper use of the four terminals.

Both types are extremely compact, as shown by th dimensions below, and all electrical characteristics ar equal or superior to those of other types.

Cutting and stripping of covered leads has been elim inated through the use of solder lug terminals which ma also be used as convenient anchor points for other wire

A Mallory type TH mounting clip, described on pag 5, is supplied with each unit.

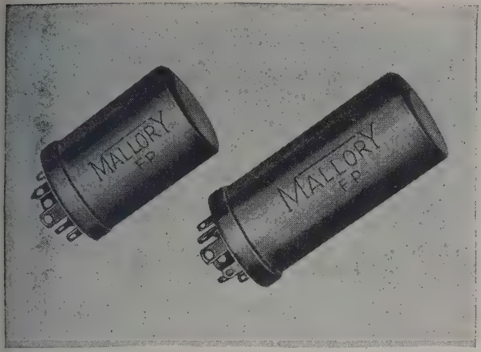
DUAL COMMON NEGATIVE TCD

Cap. Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length	Mallory Cat. No.	List Price
25-25	25	40	13/16 x 1¼	**TCD26**	**$1.32**
20-20	150	175	13/16 x 2	**TCD45**	**1.64**
30-30	150	175	15/16 x 2	**TCD47**	**1.77**
40-40	150	175	1 1/16 x 2	**TCD48**	**2.02**
10-10	250	325	15/16 x 2	**TCD52**	**1.51**
20-20	250	325	1 1/16 x 2	**TCD55**	**2.15**
10-10	350	425	15/16 x 2	**TCD62**	**1.77**
20-20	350	425	1 1/16 x 3 1/16	**TCD65**	**2.40**
8-8	450	525	15/16 x 2	**TCD71**	**1.64**
10-10	450	525	1 1/16 x 2	**TCD72**	**1.83**
15-15	450	525	1 1/16 x 3 1/16	**TCD74**	**2.40**
20-20	450	525	1 1/16 x 3 1/16	**TCD75**	**2.65**

DUAL SEPARATE-SECTION TCS

15-15	150	175	13/16 x 2⅜	**TCS44**	**1.96**
20-20	150	175	15/16 x 2⅜	**TCS45**	**2.08**
30-30	150	175	1 1/16 x 2⅜	**TCS47**	**2.27**
40-40	150	175	1 1/16 x 2⅞	**TCS48**	**2.53**
10-10	250	325	15/16 x 2⅜	**TCS52**	**2.15**
20-20	250	325	1 1/16 x 2⅜	**TCS55**	**2.78**
8-8	350	425	15/16 x 2⅜	**TCS61**	**2.15**
15-15	350	425	1 1/16 x 2⅞	**TCS64**	**2.78**
8-8	450	525	1 1/16 x 2⅜	**TCS71**	**2.27**
15-15	450	525	1 1/16 x 2⅞	**TCS74**	**3.10**
20-20	450	525	1 1/16 x 3½	**TCS75**	**3.35**

MALLORY DRY ELECTROLYTIC CAPACITORS



FP STANDARD CAPACITORS

● Accepted as the industry standard for vertical mounting, these low cost, compact capacitors are available in the ratings shown.

Originally designed to mount directly to the chassis by twisting the mounting ears provided, they may also be mounted through the use of several types of hardware described on page 5.

Available in single, dual, triple and quad arrangements, all types utilize the mounting ears as the negative terminal. A separate positive terminal is provided for each section. Since the case is grounded to the negative terminal, it is necessary to use some external means to insulate the unit from the chassis in circuits where the negative is not at chassis potential. Such cases are infrequent but may be handled by the use of the proper hardware available for this purpose.

Any 1″ or 1⅜″ diameter FP capacitor may be used as a plug-in type by employing the Mallory type PS sockets described on page 5. In such cases the blank mounting ear on the FP capacitor should be removed with diagonal cutting pliers in order to polarize the unit with respect to the socket.

In making replacements it is not necessary to use exactly the same ratings as the original capacitor. Higher capacity or voltage ratings are perfectly satisfactory and the electrical characteristics are not affected in such cases.

The wide variety of ratings originally used makes it impractical to stock all ratings for replacement. It is suggested, therefore, that the following system be considered where exact replacements are not at hand.

1. Use higher capacity or voltage ratings as explained above.
2. Use parallel connections on multiple units, (i.e., use dual 10 mfd. for 20 mfd. or triple 10 mfd. for a 20-10 mfd. etc.)
3. Leave some section unused. (i.e., use two sections of a triple 10 mfd. to replace a dual 10 mfd.)
4. Use high voltage sections to replace bypass units. (i.e., a triple 10 mfd. 150 volt unit can satisfactorily replace a unit rated 10-10-20 mfd. 150-150-25 volts. The 10 mfd. 150 volt section has approximately the same impedance as a 20 mfd. 25 volt section and impedance, not capacity, is determining factor.)

Type FP capacitors are supplied with one type BP mounting wafer. In replacement work this wafer is usually not required since the original equipment has the proper mounting facilities. This wafer may be used, however, for either insulated or grounded mounting where necessary. For grounded mounting simply connect one mounting ear to the chassis.

Note: Type FP capacitors are made with Mallory fabricated plate anodes. Type WP is made with etched plate anodes.

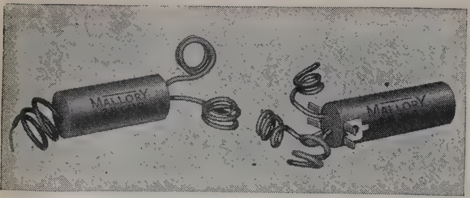
Capacity Mfd.	Wkg. Volts DC	Size	Mallory Cat. No.	List Price
3000	10	1⅜ x 3	WP032	$5.63
1000	15	1 x 3	WP039	3.98
2000	15	1⅜ x 3	WP041	5.69
100	25	1 x 2	WP055	1.64
500	25	1 x 3	WP057	3.41
1000	25	1⅜ x 3	WP059	5.31
500	50	1⅜ x 3	WP065	5.63
50	150	1 x 2	FP115	1.45
100	150	1 x 3	FP116	2.15
30	350	1 x 2	FP135	1.64
50	350	1 x 3	FP137	2.21
125	350	1⅜ x 3	FP140	3.98
10	450	¾ x 2	FP142	1.13
15	450	1 x 2	FP143	1.51
20	450	1 x 2	FP144	1.70
30	450	1 x 3	FP145	2.08
40	450	1 x 3	FP146	2.46
80	450	1⅜ x 3	FP149	3.73
1000-1000	15	1⅜ x 3	WP200	6.70
30-30	150	1 x 2	FP211	1.70
50-50	150	1 x 3	FP214	2.02
20-20	250	1 x 2	FP217	1.70
15-15	350	1 x 2	FP225	1.70
20-20	350	1 x 3	FP227	2.08
30-30	350-300	1 x 3	FP228	2.27
10-10	450	1 x 2	FP231	1.83
20-20	450	1 x 3	FP234	2.53
40-40	450	1⅜ x 3	FP238	4.05
10-80	450-400	1⅜ x 3	FP550	4.17
80-10	450	1⅜ x 3	FP245	4.17
40-40-40	25	1 x 2	WP520	1.83
15-15-1000	150-150-2	1 x 2	FP302	2.59
40-20-200	150-150-25	1 x 3	FP304	2.78
40-20-20	150-150-25	1 x 2	FP306	1.83
50-30-100	150-150-25	1 x 3	FP309	2.59
50-50-20	150-150-25	1 x 3	FP311	2.21
30-20-20	200-200-25	1 x 2	FP313	1.89
20-15-20	250-250-25	1 x 2	FP316	1.77
15-10-20	350-350-25	1 x 2	FP328	1.77
20-10-5	350-350-250	1 x 2	FP369	1.96
30-10-20	350-350-250	1 x 3	FP371	2.40
30-20-20	350-350-25	1 x 3	FP330	2.40
30-30-20	350-300-25	1 x 3	FP331	2.46
10-10-20	450-450-25	1 x 2	FP332	2.02
20-15-15	450-350-300	1 x 3	FP380	2.59
20-20-20	450-450-25	1 x 3	FP339	2.65
40-40-20	450-450-25	1⅜ x 3	FP346	4.17
20-20-20	150	1 x 2	FP354	1.83
40-40-40	150	1 x 3	FP357	2.40
15-20-20	250-150-150	1 x 2	FP360	1.83
40-20-20	250	1⅜ x 2	FP363	2.46
10-10-10	350	1 x 2	FP367	2.08
10-10-10	450	1 x 3	FP389	2.40
15-15-10	450	1 x 3	FP390	2.65
30-20-20-200	150-150-150-10	1⅜ x 2	FP407	2.84
40-40-30-20	150-150-150-25	1⅜ x 2	FP409	2.53
50-50-50-20	150-150-150-25	1⅜ x 3	FP410	2.91
40-40-20-20	350-300-300-25	1⅜ x 3	FP416	3.54
15-15-10-20	450-450-450-25	1⅜ x 2	FP424	2.91
20-15-20-20	450-450-25-25	1⅜ x 2	FP426	2.78
40-30-10-20	450-450-450-25	1⅜ x 3	FP429	4.30
10-10-10-10	450	1⅜ x 2	FP434	2.91
20-20-20-20	450	1⅜ x 3	FP444	4.17

SURGE VOLTAGE DATA

● Due to the many multiple section listings on FP capacitors, it is not practical to show surge voltage ratings without consuming considerable space in the chart. The surge voltage ratings are, therefore, given separately in the small chart.

Wkg. VDC.	Surge Volts
6	10
10	15
15	20
25	40
150	200
200	275
250	325
300	375
350	425
400-450	525

MALLORY DRY ELECTROLYTIC CAPACITORS



2N · 2S · 3N · 3S · 4S · ST · TN · UR

CARDBOARD TUBULAR CAPACITORS

● These capacitors are supplied in waxed cardboard tubes in the ratings shown in the chart. All units are furnished with an adjustable strap (type MS-1) for horizontal mounting except TN111 and UR182-193.

Those types marked (*) have leads out both ends and are intended for horizontal mounting only.

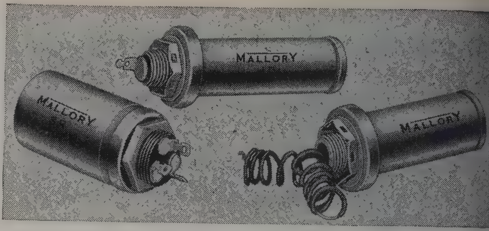
Other types have all leads out one end and are provided with mounting feet for vertical mounting in addition to the strap for horizontal mounting.

UR182-193 has 3 separate sections in one tube and replaces the former rectangular types UR182 and UR193.

Mallory type TH clips may also be used for mounting where the diameter falls within the TH clip range. See page 5 for hardware.

Mfd.	Volts DC	Size	Mallory Catalog	List Price
Single Sections				
8	450	¾ x 2½	**ST595**	**$ .94**
16	450	13/16 x 2¾	**ST597**	**1.39**
20	450	1 x 2¾	**ST598**	**1.51**
30	450	1 x 3½	**ST599**	**2.27**
Dual Common Negative				
10-10	25	⅝ x 1¾	**TN111**	**1.07**
20-20	150	⅞ x 2⅜	**2N509***	**1.64**
30-30	150	⅞ x 2⅝	**2N513***	**1.77**
40-20	150	⅞ x 2⅝	**2N514***	**1.77**
40-40	150	1 x 2⅝	**2N511***	**2.02**
50-30	150	1 x 2⅝	**2N520***	**2.02**
50-50	150	1⅛ x 2⅞	**2N521**	**2.08**
8-8	250	⅞ x 2⅜	**2N516***	**1.51**
8-8	450	15/16 x 2¾	**2N518**	**1.64**
Dual Separate Sections				
30-30	150	1⅛ x 2⅞	**2S556**	**2.21**
8-8	450	1⅛ x 2⅞	**2S567**	**2.08**
16-16	450	1¼ x 3⅝	**2S569**	**3.03**
Triple Common Negative				
20-20-20	150-25	15/16 x 2⅝	**3N527***	**2.21**
30-30-20	150-25	1 x 2⅝	**3N533***	**2.27**
20-10-10	150	⅞ x 2½	**TN125***	**2.15**
40-20-20	150	1⅛ x 2⅞	**TN129**	**2.53**
Triple Separate Section				
10-10-25	150	1 1/16 x 2½	**UR182-193**	**2.78**
8-8-20	450-25	1¼ x 2⅞	**3S579**	**2.53**
8-8-8	250	1⅜ x 2⅝	**3S582**	**2.27**
8-8-8	450	1⅜ x 2⅞	**3S584**	**2.84**
Quad Separate Sections				
16-16, 10-10	150-25	1⅜ x 2⅝	**4S715**	**2.91**
8-8, 10-10	450-25	1⅜ x 2⅝	**4S718**	**3.03**

NOTE—Triple and Quad Separate Section units have first section separate, others common negative.



RS · RM · HD · HS · SR

THREADED NECK CAPACITORS

● This type is supplied in aluminum threaded neck type containers. Type RS is single section while type RM is multiple separate section.

Type HS is for high voltage applications.

Type HD684 is now designed to replace former types HD684, SR643 and SR644 and special hardware is included to fit all original mounting means.

Type SR638 and SR645 have ⅞" threaded necks and lug terminals. SR645 has one terminal common anode, one negative terminal and the other negative to container.

All are supplied with special hardware permitting their use in replacing original units regardless of diameter.

See page 5 for hardware.

Mfd.	Volts DC	Size	Mallory Cat. No.	List Price
30	250	1 x 3½	**RS207**	**$2.27**
8	450	1⅜ x 3	**RS212**	**1.64**
8	450	1 x 2¾	**RS213**	**1.64**
12	450	1 x 2¾	**RS215**	**2.15**
12	450	1⅜ x 3	**RS214**	**2.15**
16	450	1 x 3½	**RS216**	**2.40**
16	450	1⅜ x 3	**RS217**	**2.40**
20	450	1⅜ x 3	**RS219**	**2.65**
30	450	1⅜ x 3	**RS223**	**3.03**
40	450	1⅜ x 3	**RS224**	**3.48**
10	450	1 x 3	**HD684**	**1.89**
8	600	1⅜ x 4	**HS693**	**3.98**
8-8	450	1⅜ x 3¾	**RM262**	**2.46**
8-8-8	450	1⅜ x 4¼	**RM265**	**3.54**
8-8	450	1⅜ x 2⅞	**SR638**	**2.46**
8-8	450	1⅜ x 2⅞	**SR645**	**2.46**

5th Edition
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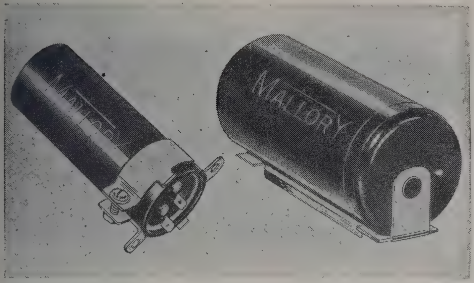
MALLORY DRY ELECTROLYTIC CAPACITORS



HC · NP HIGH CAPACITY—LOW VOLTAGE and NON-POLARIZED CAPACITORS

● Type HC capacitors are high capacity low voltage units for use in filtering dry disc rectifiers, electric fence equipment, talking picture equipment and other low voltage applications. (See page 1 for additional TC tubular types.)

Type HC1060A is a special design for electric fence controller replacement.

Type NP capacitors are non-polarized for use where polarity may be applied in either direction but are not for use on continuous AC applications. They are useful for welding and control equipment where capacitor is employed as a stored energy device. The non-polarized feature prevents loss of capacity due to reverse voltage encountered in this service.

Both HC and NP units are supplied in moisture-proof plastic containers and require no external insulation.

A type VR bracket for vertical mounting is supplied with each unit. See page 5 for description of VR and other available hardware.

Capacity Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size	Mallory Cat. No.	List Price
2000	10	15	1 7/16 x 3⅜	**HC1020**	**$ 4.93**
4000	10	15	1 13/16 x 4⅜	**HC1040**	**8.35**
6000	10	15	2 1/16 x 4⅜	**HC1060**	**12.66**
6000	10	15	1½ x 4¾	**HC1060A***	**6.50**
2000	15	20	1 13/16 x 3⅜	**HC1520**	**5.69**
4000	15	20	1 13/16 x 4⅜	**HC1540**	**12.15**
6000	15	20	2 1/16 x 4⅜	**HC1560**	**15.19**
1000	25	40	1 7/16 x 3⅜	**HC2510**	**5.31**
2000	25	40	1 13/16 x 4⅜	**HC2520**	**9.11**
4000	25	40	2 1/16 x 4⅜	**HC2540**	**12.66**
500	50	75	1 7/16 x 3⅜	**HC5005**	**4.93**
1000	50	75	1 13/16 x 4⅜	**HC5010**	**9.11**
2000	50	75	2 1/16 x 4⅜	**HC5020**	**12.66**
1000	150	175	2 1/16 x 4⅜	**HC15010**	**15.19**
500	200	275	2 1/16 x 4⅜	**HC20005**	**15.19**
2000	25	40	2 1/16 x 4⅜	**NP0340**	**12.66**
500	50	75	1 13/16 x 4⅜	**NP0555**	**6.96**
200	125	200	1 13/16 x 4⅜	**NP1225**	**6.96**
300	125	200	2 1/16 x 4⅜	**NP1235**	**8.22**
400	125	200	2 1/16 x 4⅜	**NP1245**	**10.12**
500	125	200	2 1/16 x 4⅜	**NP1255**	**12.66**
100	250	325	1 13/16 x 4⅜	**NP2514**	**6.33**
150	250	325	1 13/16 x 4⅜	**NP2520**	**8.22**
200	250	325	2 1/16 x 4⅜	**NP2525**	**10.19**
15	300	375	1 7/16 x 3⅜	**NP3003**	**3.79**
30	300	375	1 7/16 x 3⅜	**NP3006**	**4.74**
45	300	375	1 7/16 x 3⅜	**NP3008**	**5.38**
100	300	375	1 13/16 x 4⅜	**NP3014**	**8.22**
150	300	375	2 1/16 x 4⅜	**NP3020**	**10.12**
200	300	375	2 1/16 x 4⅜	**NP3025**	**12.66**

*This unit in Aluminum Case

WP · FP

SPECIAL TELEVISION CAPACITORS

MALLORY
WP 510

● The frequencies encountered in television applications require special capacitor ratings. The units listed below are similar to the standard FP or WP types except for special impedance ratings designed for television frequencies.

Type WP520 may be used for bypassing in the audio, and synchronizing amplifier stages, and also for bypassing the deflecting amplifier cathodes.

Type FP550 is suggested for filtering the low voltage power supply. Note that the 10 mfd. 450 volt section is designed as the input and the 80 mfd. 400 volt section as the output.

Type WP505 is designed for the Video amplifier cathode bypass.

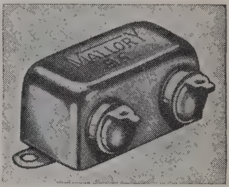
Type WP510 is for the horizontal centering control bypass.

Type WP540 is intended for bypassing the vertical centering control.

Capacity or Impedance	Wkg. Volts	Max. Surge Voltage	Size	Mallory Cat. No.	List Price
40-40-40	25 DC	40	1 x 2	**WP520**	**$1.83**
10 80	450 DC 400 DC	525 475	1⅜ x 3	**FP550**	**4.17**
10 Ƶ @ 30 cycles to 5 megacycles	3 NP	4	¾ x 2	**WP505**	**1.89**
.5 Ƶ @ 15750 cycles	3 NP	4	1 x 2	**WP510**	**2.59**
1.0 Ƶ @ 60 cycles	3 NP	4	1⅜ x 3	**WP540**	**5.63**

BS

BATH-TUB CAPACITORS



● These are ideal for marine, aircraft, geophysical and other applications where extreme operating conditions are encountered.

Type BS81 and BS91, rated 500 and 600 working volts respectively, are excellent for power amplifier and other high voltage applications.

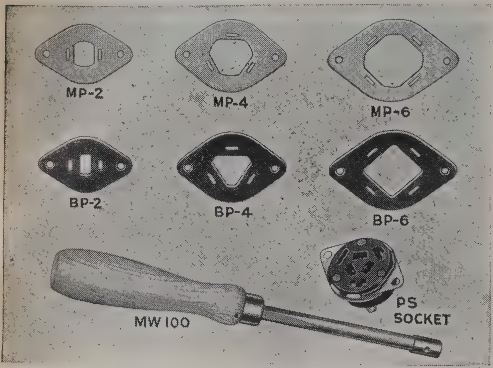
Capacitor cartridges are first sealed in aluminum tubes and then encased in sturdy corrosion-resistant hot-tinned steel cases. All units are internally insulated from case.

Cap. Mfd.	DC Wkg. Volts	Max. Surge Voltage	Size* H W L Y	Mallory Cat. No.	List Price
25	25	40	¾ x 1 x 1¾ x 2⅛	**BS26**	**$2.78**
50	25	40	¾ x 1 x 1¾ x 2⅛	**BS29**	**3.22**
25	50	75	¾ x 1 x 1¾ x 2⅛	**BS36**	**3.03**
50	50	75	⅞ x 1 x 1¾ x 2⅛	**BS39**	**3.41**
20	150	175	⅞ x 1 x 1¾ x 2⅛	**BS45**	**3.16**
40	150	175	1 x 1¼ x 1¾ x 2⅛	**BS48**	**3.48**
10	300	375	⅞ x 1 x 1¾ x 2⅛	**BS62**	**3.10**
20	300	375	1⅛ x 1¼ x 1¾ x 2⅛	**BS65**	**3.79**
8	500	650	1 x 1¾ x 2 x 2⅜	**BS81**	**5.38**
8	600	750	1 x 1¾ x 2 x 2⅜	**BS91**	**6.20**

*H—Height; W—Width; L—Length; Y—Mounting Centers.

MALLORY CAPACITOR HARDWARE

● While hardware is included in the display carton with certain capacitors, as explained, the list below covers all types currently available.



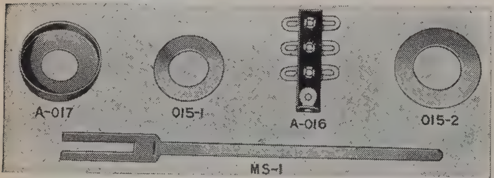
TYPE MP—Metal plates for grounded mounting of FP and WP capacitors.

TYPE BP—Bakelite plates for insulated mounting of FP and WP capacitors.

TYPE PS—Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)

TYPE MW-100—Special wrench for twisting mounting ears on FP or WP capacitors.

Cat. No.	Description	Size	List Price
MP-2	Metal mounting wafer for FP...	¾	**$0.06**
MP-4	Metal mounting wafer for FP...	1	**.06**
MP-6	Metal mounting wafer for FP...	1⅜	**.06**
BP-2	Bakelite mounting wafers for FP	¾	**.06**
BP-4	Bakelite mounting wafers for FP	1	**.06**
BP-6	Bakelite mounting wafers for FP	1⅜	**.06**
PS-4	Plug-in socket for FP..........	1	**.75**
PS-6	Plug-in socket for FP..........	1⅜	**.94**
MW-100	Mounting wrench for FP.......	Var.	**1.13**



TYPE MS-1—Adjustable metal strap for horizontal mounting tubular types up to 1⅜″ diameter.

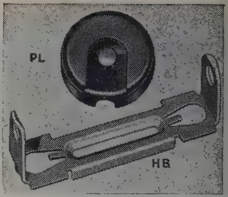
TYPE A-016—Terminal connector or anchor strap for general use where required.

TYPE 015-1—Washer for RS type ⅝″ neck when used in over-size chassis hole.

TYPE 015-2—Washer for use with RS, RM or HS units where chassis hole is too large for regular mounting. Use two washers, one above and one below chassis.

TYPE A-017—Special washer with turned over edge for ring clamp mounting 1″ RS type in 1⅜″ ring clamp.

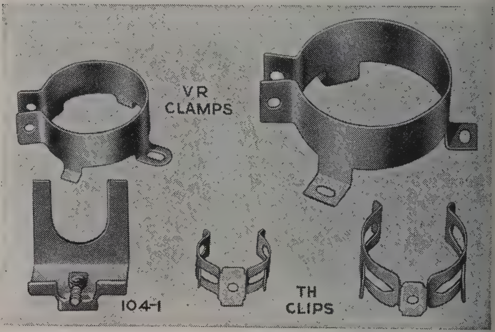
Cat. No.	Description	Size	List Price
015-1	Washer for ⅝″ neck in ⅞″ hole..	Var.	**$0.06**
015-2	Washer for ¾″ neck in 1″ hole...	Var.	**.06**
MS-1	Adjustable mounting strip.....	Var.	**.06**
A-016	Terminal connector...........	Var.	**.06**
A-017	Washer for clamp mounting neck cans.......................	Var.	**.06**



TYPE PL—Plastic end cap to protect terminals on HC or NP units when desired.

TYPE HB—Horizontal bracket for mounting HC and NP units complete with end cap type PL.

Cat. No.	Description	Size	List Price
PL-3	Plastic end cap..............	1 7/16	**$0.18**
PL-6	Plastic end cap..............	1 13/16	**.18**
PL-8	Plastic end cap..............	2 1/16	**.25**
HB-4	Horizontal bracket (Plastic Cases).....................	3⅜	**.31**
HB-8	Horizontal bracket (Plastic Cases).....................	4⅜	**.31**



TYPE TH—Special clips for horizontal mounting of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment, they may also be attached to chassis with 5-32 screw and nut in any ⅛″ hole.

TYPE VR—Brackets for vertical mounting round units.

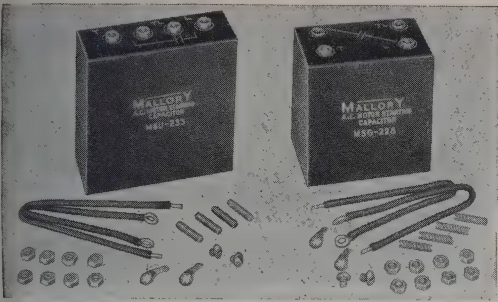
TYPE 104-1—Special bracket with spade bolt for mounting RS and RM units where spade bolt mounting was used.

Cat. No.	Description	Size	List Price
TH-13	Spring clip for TC.........	⅜ to 7/16	**$0.06**
TH-15	Spring clip for TC.........	½ to 9/16	**.06**
TH-17	Spring clip for TC.........	⅝ to 11/16	**.06**
TH-19	Spring clip for TC and FP..	¾ to 11/16	**.06**
TH-21	Spring clip for TC.........	⅞ to 13/16	**.06**
TH-23	Spring clip for TC and FP..	1 to 1 1/16	**.06**
TH-25	Spring clip for TC and FP..	1⅜ to 1 7/16	**.06**
VR-1	Clamps for vertical mounting	1 to 1 1/16	**.12**
VR-3	Clamps for vertical mounting	1⅜ to 1 7/16	**.12**
VR-4	Clamps for vertical mounting	1½ to 1 9/16	**.18**
VR-6	Clamps for vertical mounting	1¾ to 1 13/16	**.25**
VR-8	Clamps for vertical mounting	2 to 2 1/16	**.25**
104-1	Spade bolt mounting for neck type cans..........	Var.	**.18**

OE AND CE INSULATING SLEEVES

Cat. No.	Description	Size	List Price
OE-1	Open end FP insulating sleeves.	¾ x 2	**$0.06**
OE-3	Open end FP insulating sleeves.	1 x 2	**.06**
OE-4	Open end FP insulating sleeves.	1 x 3	**.06**
OE-5	Open end FP insulating sleeves.	1⅜ x 2	**.06**
OE-6	Open end FP insulating sleeves.	1⅜ x 3	**.06**
CE-1	Closed end FP insulating sleeve.	¾ x 2	**.12**
CE-3	Closed end FP insulating sleeve.	1 x 2	**.12**
CE-4	Closed end FP insulating sleeve.	1 x 3	**.12**
CE-5	Closed end FP insulating sleeve.	1⅜ x 2	**.12**
CE-6	Closed end FP insulating sleeve.	1⅜ x 3	**.12**

MALLORY AC MOTOR STARTING CAPACITORS



MSF · MSG RECTANGULAR CASED AC CAPACITORS

- Although the rectangular cased electrolytic motor-starting capacitor is seldom used in new motor production, there is sufficient demand for replacement to continue listing this type.

Original rectangular units were supplied in three styles, i.e., flexible leads, solder lugs and stud type. All Mallory units listed are of the universal type and can be used to replace all three types. This is possible due to the complete set of hardware included, as pictured, with each capacitor.

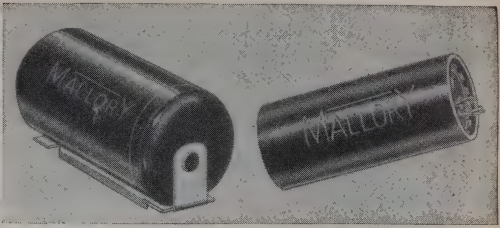
Complete instructions are supplied with each capacitor regarding the use of this special hardware.

All units are equipped with four terminals. The unmarked and L terminal are the capacitor terminals, the two others being dummies for additional connections where required. Terminal T is for the thermostat lead and is usually used as an anchor point for one side of the starting and running windings. TL is the anchor point for the other thermostat lead and one side of the line. The other line and running winding are connected to L. The unmarked terminal goes to the starting switch. If the original capacitor had only two terminals, then do not use T and TL. The relative location of these terminals to the original is unimportant.

Note that the minimum capacity will be used rather than the minimum-maximum capacity rating formerly employed.

Mfd. New	Rating Old	Volts AC	Size* W L H	Mallory Cat. No.	List Price
32	32-36	110	2 x 3½ x 3½	**MSG220**	**$3.03**
53	53-60	110	2 x 3½ x 3½	**MSG221**	**3.03**
64	64-72	110	2 x 3½ x 3½	**MSG222**	**3.22**
78	78-85	110	2 x 3½ x 3½	**MSG223**	**3.22**
86	86-96	110	1¼ x 4½ x 4½	**MSF224**	**3.22**
97	97-107	110	2 x 3½ x 3½	**MSG225**	**3.35**
108	108-120	110	2 x 3½ x 3½	**MSG226**	**3.35**
108	108-120	110	1¼ x 4½ x 4½	**MSF227**	**3.35**
124	124-138	110	2 x 3½ x 3½	**MSG228**	**3.79**
124	124-138	110	1¼ x 4½ x 4½	**MSF229**	**3.79**
145	145-162	110	2 x 3½ x 3½	**MSG230**	**4.30**
161	161-180	110	2 x 3½ x 3½	**MSG231**	**4.55**
161	161-180	110	1½ x 4½ x 4½	**MSF232**	**4.55**
189	189-210	110	1½ x 4¼ x 4¼	**MSF233**	**5.19**
270	270-300	110	2 x 3½ x 3½	**MSG234**	**6.83**
26	26-30	220	2 x 3½ x 3½	**MSG250**	**4.55**
32	32-36	220	2 x 3½ x 3½	**MSG251**	**5.31**
32	32-36	220	1¼ x 4½ x 4½	**MSF252**	**5.31**
43	43-48	220	2 x 3½ x 3½	**MSG253**	**6.83**

***W—Width; L—Length; H—Height.**



P · MSU ROUND CASED AC CAPACITORS

- Type P capacitors are furnished in the new Mallory perfected plastic case. These are interchangeable with former types of same size and are superior from a moisture resistant standpoint.

Type P may also be used with the new end cap and bracket shown, where required.

Type MSU's are the same as type P but furnished in aluminum containers with insulating covers.

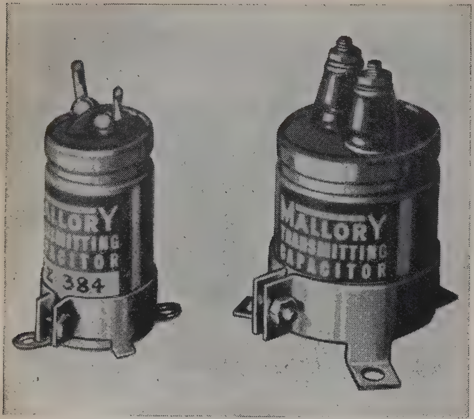
All units are now marked with minimum capacity only.

Mfd. New	Rating Old	Volts AC	Size	Mallory Cat. No.	List Price
20	20-24	110	1⅜ x 2¾	**MSU120**	**$1.70**
26	26-30	110	1⅜ x 2¾	**MSU121**	**1.70**
32	32-36	110	1⅜ x 2¾	**MSU122**	**1.83**
38	38-42	110	1⅜ x 2¾	**MSU123**	**1.83**
43	43-48	110	1⅜ x 2¾	**MSU124**	**1.83**
53	53-60	110	1⅜ x 2¾	**MSU125**	**1.89**
53	53-60	110	1 7/16 x 3⅜	**P5310**	**1.89**
64	64-72	110	1 7/16 x 3⅜	**P6410**	**1.89**
70	70-78	110	1 7/16 x 3⅜	**P7010**	**2.02**
75	75-84	110	1 7/16 x 3⅜	**P7510**	**2.02**
86	86-96	110	1 7/16 x 3⅜	**P8610**	**2.08**
97	97-107	110	1 7/16 x 3⅜	**P9710**	**2.15**
108	108-120	110	1 7/16 x 3⅜	**P10810**	**2.15**
124	124-138	110	1 7/16 x 3⅜	**P12410**	**2.27**
130	130-157	110	1 7/16 x 3⅜	**P13010**	**2.40**
145	145-162	110	1 13/16 x 3⅜	**P14510**	**2.78**
161	161-180	110	1⅜ x 4¼	**MSU134**	**3.03**
161	161-180	110	1 13/16 x 3⅜	**P16110**	**3.03**
194	194-216	110	1⅜ x 4¼	**MSU136**	**3.67**
194	194-216	110	1 13/16 x 3⅜	**P19410**	**3.67**
200	200-220	110	1⅜ x 4¼	**MSU138**	**3.98**
216	216-240	110	1 13/16 x 3⅜	**P21610**	**4.11**
243	243-270	110	1 13/16 x 4⅜	**P24310**	**4.55**
270	270-300	110	1 13/16 x 4⅜	**P27010**	**5.31**
324	324-360	110	1 13/16 x 4⅜	**P32410**	**6.07**
340	340-412	110	2 1/16 x 4⅜	**P34010**	**6.39**
378	378-420	110	2 1/16 x 4⅜	**P37810**	**6.83**
400	400-450	110	2 1/16 x 4⅜	**P40010**	**7.27**
430	430-485	110	2 1/16 x 4⅜	**P43010**	**7.90**
25	26-30	220	1 7/16 x 3⅜	**P2520**	**3.35**
32	32-36	220	1 13/16 x 3⅜	**P3220**	**3.79**
38	38-42	220	1 13/16 x 3⅜	**P3820**	**4.30**
43	43-48	220	1 13/16 x 3⅜	**P4320**	**4.55**
53	53-60	220	1 13/16 x 3⅜	**P5320**	**5.19**
64	64-72	220	1 13/16 x 4⅜	**P6420**	**5.95**
70	70-78	220	2 1/16 x 4⅜	**P7020**	**6.26**
75	75-84	220	2 1/16 x 4⅜	**P7520**	**6.58**
86	86-96	220	2 1/16 x 4⅜	**P8620**	**7.34**

TYPE "P" HARDWARE (MSU Hardware on Page 7)

Description		Mallory Cat. No.	List Price
Plastic End Cap	1 7/16	**PL-3**	**$0.18**
Plastic End Cap	1 13/16	**PL-6**	**.18**
Plastic End Cap	2 1/16	**PL-8**	**.25**
Mtg. Bracket	3⅜	**HB-4**	**.31**
Mtg. Bracket	4⅜	**HB-8**	**.31**

MALLORY TRANSMITTING CAPACITORS

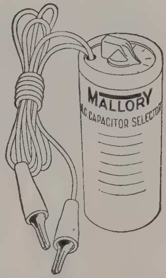

MALLORY TRANSMITTING CAPACITOR
384
MALLORY TRANSMITTING CAPACITOR

TZ ROUND TRANSMITTING CAPACITORS

- Type TZ capacitors are designed for low-power transmitting, industrial, television and power amplifier applications. They may be mounted upright or inverted by means of the ring clamp supplied with each unit. All units are internally insulated from case.

Cap. Mfd.	Working Volts DC	Size Dia. x Height	Mallory Cat. No.	List Price
2.0	600	1⅜ x 3⅛	**TZ382**	**$4.17**
4.0	600	1⅜ x 4⅛	**TZ383**	**5.69**
1.0	1000	1⅜ x 2⅝	**TZ384**	**3.79**
2.0	1000	1⅜ x 4⅛	**TZ385**	**4.93**
4.0	1000	2 x 4	**TZ389**	**7.21**
.5	1500	1⅜ x 3⅛	**TZ386**	**4.55**
1.0	1500	1⅜ x 4⅝	**TZ387**	**4.93**
2.0	1500	2 x 4	**TZ388**	**7.21**
1.0	2000	2 x 3¼	**TZ390**	**6.83**
2.0	2000	2 x 4½	**TZ391**	**7.59**

MSS AC CAPACITOR SELECTOR

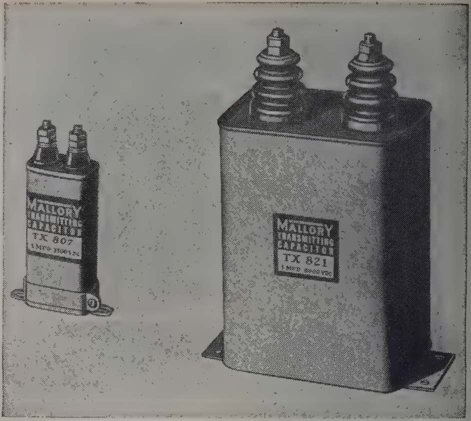


- The Mallory selector determines the correct capacity required without removing original unit. May also be used as a temporary replacement. Range 26 to 161 mfd.

Price complete with instructions. **$9.11** List.

TYPE "MSU" HARDWARE

Description		Mallory Cat. No.	List Price
Top Cap	1⅜	**115-1**	**$0.18**
Top Cap	2	**116-1**	**.18**
Bottom Cap	1⅜	**118-1**	**.18**
Bottom Cap	2	**119-1**	**.18**
Bracket	1⅜ x 3¼	**121-1**	**.31**
Bracket	1⅜ x 4¼	**122-1**	**.31**
Bracket	2 x 3⅛	**123-1**	**.31**
Bracket	2 x 4⅛	**124-1**	**.31**


MALLORY TRANSMITTING CAPACITOR
TX 807
1 MFD 1500 VDC
MALLORY TRANSMITTING CAPACITOR
TX 821
1 MFD 6000 VDC

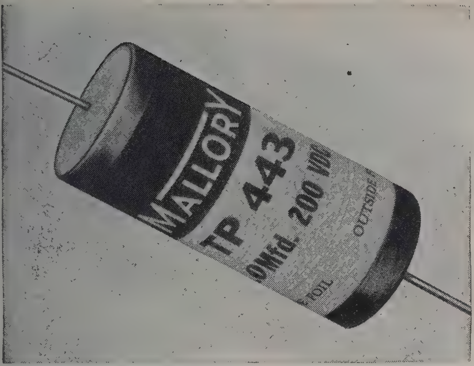
TX RECTANGULAR TRANSMITTING CAPACITORS

- These Mallory transmitting capacitors are compact in size and conservatively rated. Type TX capacitors are heavy duty general purpose units ideal for commercial, amateur, broadcast, industrial and television applications. Latest type insulated, leakproof terminal construction is employed throughout. Ratings from 600 to 6000 volts DC are carried in stock as listed below. Mounting hardware is included in all cases.

Cap. Mfd.	Working Volts DC	Size* W x L x H	Mallory Cat. No.	List Price
1	600	1 x 1¾ x 2⅛	**TX801**	**$ 5.13**
2	600	1 x 1¾ x 2⅝	**TX802**	**6.45**
4	600	1 x 1¾ x 4¼	**TX803**	**8.35**
6	600	1³⁄₁₆ x 2½ x 4⅝	**TX816**	**10.25**
10	600	1¼ x 3¾ x 4⅝	**TX817**	**13.67**
.5	1000	1 x 1¾ x 2⅛	**TX822**	**4.55**
1	1000	1 x 1¾ x 2⅝	**TX804**	**5.69**
2	1000	1 x 1¾ x 3⅞	**TX805**	**7.59**
4	1000	1³⁄₁₆ x 2½ x 4⅝	**TX806**	**9.49**
6	1000	1¼ x 3¾ x 4⅝	**TX824**	**12.53**
10	1000	1¾ x 3¾ x 4⅝	**TX825**	**15.19**
1	1500	1 x 1¾ x 4¼	**TX807**	**6.83**
2	1500	1³⁄₁₆ x 2½ x 4⅝	**TX808**	**9.49**
4	1500	1½ x 3¾ x 4⅝	**TX809**	**12.66**
6	1500	1¾ x 3¾ x 4⅝	**TX829**	**15.56**
10	1500	3³⁄₁₆ x 3¾ x 4⅝	**TX830**	**22.78**
.25	2000	1 x 1¾ x 2⅛	**TX831**	**6.45**
.5	2000	1 x 1¾ x 2⅞	**TX832**	**6.83**
1	2000	1³⁄₁₆ x 2½ x 3⅜	**TX810**	**8.35**
2	2000	1¼ x 3¾ x 4¼	**TX811**	**9.87**
4	2000	2¼ x 3¾ x 4⅜	**TX823**	**13.67**
6	2000	3³⁄₁₆ x 3¾ x 4⅝	**TX833**	**17.84**
10	2000	4⁹⁄₁₆ x 3¾ x 4⅝	**TX834**	**27.85**
1	2500	1¾ x 3¾ x 3¼	**TX812**	**12.15**
2	2500	1¾ x 3¾ x 4¾	**TX813**	**19.74**
.1	3000	1³⁄₁₆ x 2½ x 2⅜	**TX835**	**12.66**
.25	3000	1³⁄₁₆ x 2½ x 3⅜	**TX836**	**13.67**
.5	3000	1¹³⁄₁₆ x 2½ x 4⅝	**TX837**	**15.19**
1	3000	1¾ x 3¾ x 4⅝	**TX814**	**18.23**
2	3000	3³⁄₁₆ x 3¾ x 4⅝	**TX815**	**22.78**
4	3000	4⁹⁄₁₆ x 3¾ x 5½	**TX838**	**33.54**
1	4000	2¼ x 3¾ x 4¾	**TX839**	**33.54**
2	4000	4⁹⁄₁₆ x 3¾ x 4¾	**TX827**	**42.41**
4	4000	8⅛ x 5⅛ x 3½	**TX828**	**60.76**
1	5000	4⁹⁄₁₆ x 3¾ x 4¼	**TX818**	**37.98**
2	5000	4⁹⁄₁₆ x 3¾ x 6	**TX819**	**48.61**
.5	6000	4⅜ x 5⅛ x 3½	**TX820**	**60.76**
1	6000	4⁹⁄₁₆ x 3⅜ x 8	**TX821**	**75.96**

***W—Width; L—Length; H—Height.**

MALLORY PAPER TUBULAR CAPACITORS



TP WAX IMPREGNATED CARDBOARD TUBULARS

● Mallory type TP capacitors are wax impregnated and furnished in thoroughly waxed cardboard tubes. The substantial wax seal at each end and the type of wax used overall provide maximum protection from atmospheric conditions for this type of capacitor.

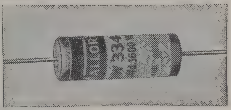
These tubular capacitors are attractively labelled and have as small physical dimensions as possible without sacrificing quality.

The chart below lists the wide assortment of ratings considered standard and available from stock.

The 200 volt ratings formerly listed have been dropped, since price and size differentials were small and the demand was of little consequence. The dual TP units formerly listed have also been dropped due to the lack of demand.

OW

OIL IMPREGNATED WAX FILLED TUBULARS



● These cardboard tubulars are oil impregnated and wax sealed. They provide an extra safety factor for voltage applications higher than recommended for regular wax impregnated units.

Cap. Mfd.	Working Volts DC	Size	Mallory Cat. No.	List Price
.0005	1600	9/16 x 1⅛	OW340	$0.56
.001	1600	9/16 x 1⅛	OW341	.56
.002	1600	9/16 x 1⅛	OW331	.56
.003	1600	⅝ x 1⅛	OW342	.56
.004	1600	9/16 x 1 5/16	OW343	.56
.005	1600	9/16 x 1⅜	OW332	.56
.006	1600	9/16 x 1 9/16	OW344	.56
.007	1600	9/16 x 1 9/16	OW345	.56
.0075	1600	9/16 x 1 9/16	OW346	.56
.008	1600	9/16 x 1 9/16	OW333	.56
.01	1600	⅝ x 1 9/16	OW334	.56
.015	1600	11/16 x 1 9/16	OW335	.56
.02	1600	¾ x 1 9/16	OW336	.56
.03	1600	¾ x 2	OW337	.56
.04	1600	13/16 x 2	OW338	.63
.05	1600	⅞ x 2	OW339	.69

TP WAX IMPREGNATED CARDBOARD TUBULARS

Cap. Mfd.	400 Volts DC			600 Volts DC		
	Mallory Cat. No.	S	List Price	Mallory Cat. No.	S	List Price
.0001				TP401	1	$ .25
.00025				TP402	1	.25
.0005				TP403	1	.25
.001				TP404	2	.25
.002				TP405	2	.25
.003				TP406	2	.25
.004				TP407	2	.25
.005				TP408	2	.25
.006				TP409	2	.25
.007				TP445	4	.25
.008				TP450	4	.25
.01	TP421	2	$ .25	TP410	4	.25
.015	TP400	4	.25	TP411	5	.25
.02	TP423	5	.25	TP412	5	.25
.025				TP451	6	.31
.03	TP424	6	.25	TP413	6	.31
.04	TP425	6	.25	TP414	8	.31
.05	TP426	7	.25	TP415	8	.31
.06	TP427	7	.31	TP416	8	.37
.075				TP452	9	.37
.1	TP428	8	.31	TP418	9	.37
.15				TP417	11	.50
.2	TP429	10	.37	TP419	12	.56
.25	TP430	11	.37	TP420	13	.56
.3	TP444	11	.50	TP453	14	.69
.4	TP442	12	.56	TP454	15	.75
.5	TP431	14	.56	TP432	16	.75
1.0	TP422	17	.75	TP433	18	1.26

	1000 Volts DC		
.001	TP455	2	$ .31
.002	TP456	2	.31
.003	TP457	3	.31
.004	TP458	3	.31
.005	TP459	5	.31
.006	TP460	5	.31
.007	TP461	6	.31
.008	TP462	6	.31
.01	TP434	6	.50
.015	TP463	7	.50
.02	TP435	8	.50
.03	TP464	9	.56
.04	TP465	9	.56
.05	TP437	10	.56
.06	TP466	10	.56
.075	TP467	11	.63
.1	TP439	12	.75

TYPE TP SIZE CHART

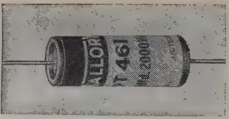
To save space in the main chart, the various sizes have been listed below. Column "S" refers to these sizes.

S	Size	S	Size
1	11/32 x 1	10	⅝ x 1⅞
2	⅜ x 1	11	11/16 x 1⅞
3	⅜ x 1¼	12	¾ x 1⅞
4	7/16 x 1	13	13/16 x 1⅞
5	7/16 x 1¼	14	⅞ x 1⅞
6	½ x 1¼	15	⅞ x 2
7	½ x 1½	16	1 x 2¼
8	17/32 x 1½	17	1 x 2½
9	⅝ x 1 9/16	18	1¼ x 2½

MALLORY PAPER DIELECTRIC CAPACITORS

OT

OIL FILLED METAL TUBULARS

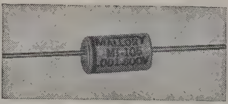


● Mallory OT metal cased tubulars represent the finest quality obtainable. Hermetically sealed, and provided with insulating sleeves, they are ideal for vibrator buffer and coupling applications. All OT tubulars are furnished with a Mallory TH clip for mounting purposes.

Cap. Mfd.	Working Volts DC	Size	Mallory Cat. No.	List Price
.01	600	⅝ x 1 3/16	OT101	$0.82
.02	600	⅝ x 1 3/16	OT103	.88
.05	600	11/16 x 1⅜	OT106	1.01
.1	600	11/16 x 1 11/16	OT110	1.13
.25	600	13/16 x 2⅛	OT113	1.70
.5	600	1 1/16 x 2¼	OT116	2.27
.01	1000	⅝ x 1 3/16	OT301	.88
.02	1000	11/16 x 1⅜	OT303	.94
.05	1000	11/16 x 2 3/16	OT306	1.13
.1	1000	13/16 x 2 3/16	OT310	1.51
.002	1600	⅝ x 1⅜	OT370	.69
.003	1600	⅝ x 1⅜	OT377	.69
.005	1600	⅝ x 1⅜	OT371	.69
.008	1600	⅝ x 1⅜	OT372	.75
.01	1600	11/16 x 1⅜	OT373	.88
.015	1600	11/16 x 1 11/16	OT375	.94
.02	1600	11/16 x 1 11/16	OT376	.94
.03	1600	11/16 x 2 3/16	OT378	1.07
.04	1600	11/16 x 2 3/16	OT379	1.07
.05	1600	11/16 x 2 7/16	OT380	1.13
.0025	2000	11/16 x 1⅜	OT458	.94
.005	2000	11/16 x 1 11/16	OT459	1.01
.0075	2000	11/16 x 1 11/16	OT460	1.07
.01	2000	11/16 x 1 11/16	OT461	1.13
.0125	2000	11/16 x 1 15/16	OT462	1.13
.015	2000	11/16 x 1 15/16	OT463	1.13
.02	2000	13/16 x 2⅛	OT464	1.26
.03	2000	13/16 x 2⅛	OT465	1.32
.04	2000	13/16 x 2⅝	OT466	1.32
.05	2000	13/16 x 2⅝	OT467	1.39

MT

MINIATURE METAL TUBULARS



● These new Mallory type MT miniature tubulars provide the small size so useful for hearing-aid and personal radio applications. They are supplied in metal tubes with external insulating sleeves in the ratings and sizes shown in the chart.

Cap. Mfd.	Working Volts DC	Size	Mallory Cat. No.	List Price
.001	100	9/32 x ½	MT105	$0.82
.002	100	9/32 x ½	MT107	.82
.005	100	9/32 x ½	MT115	.82
.01	100	21/64 x ½	MT125	.88
.02	100	21/64 x 11/16	MT127	.88
.05	100	21/64 x 1 1/16	MT135	.94
.1	100	21/64 x 1¾	MT145	1.01
.001	600	9/32 x 13/16	MT605	.82
.002	600	9/32 x 15/16	MT607	.88
.005	600	9/32 x 15/16	MT615	.94
.01	600	21/64 x 1 9/16	MT625	1.01

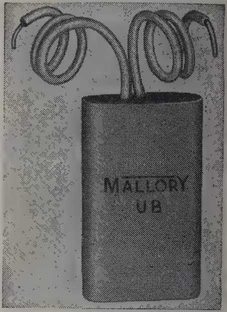
RF

RADIO FREQUENCY CHOKE COILS

● These are general purpose RF chokes supplied in convenient form as pictured and specially wound for low distributed capacity.

Turns	Wire	Size	Mallory Cat. No.	List Price
90	16	1 x 1½	RF581	$1.01
55	16	1 x 1 3/16	RF582	.75
55	12	1 5/16 x 1⅝	RF583	1.13

UB UNCASED WAX CAPACITORS



● Mallory type UB uncased capacitors are convenient as replacement sections in paper condenser block type filters. They may be used for any application requiring capacitors of this type.

For best results, these units should be potted with compound and not left unprotected from moisture in service.

Cap. Mfd.	Working Volts DC	Size* W L H	Mallory Cat. No.	List Price
1	200	½ x 1⅜ x 2⅛	UB351	$0.94
2	200	¾ x 1 9/16 x 2⅛	UB352	1.45
4	200	1 1/16 x 2 1/16 x 2⅛	UB353	2.59
1	400	9/16 x 1 9/16 x 2⅛	UB354	1.13
2	400	1 x 1¾ x 2⅛	UB355	1.77
4	400	15/16 x 1⅝ x 4⅜	UB356	3.03
.5	600	½ x 1⅜ x 2⅛	UB357	.94
1	600	⅞ x 1 9/16 x 2⅛	UB358	1.39
2	600	1⅛ x 2 1/16 x 2⅛	UB359	2.08
4	600	1 1/16 x 1⅞ x 4¼	UB364	4.11
1	1000	⅝ x 1 9/16 x 4⅜	UB362	2.27
2	1000	1⅛ x 1⅞ x 4⅜	UB363	3.79

*W—Width; L—Length; H—Height.

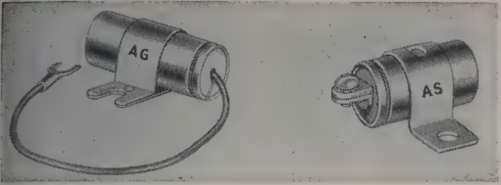
MALLORY TECHNICAL MANUAL

● This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems.

Contains 408 pages of information profusely illustrated. It's worth far more than its price.

$2.00 Net

MALLORY MISCELLANEOUS OIL-FILLED PAPER CAPACITORS



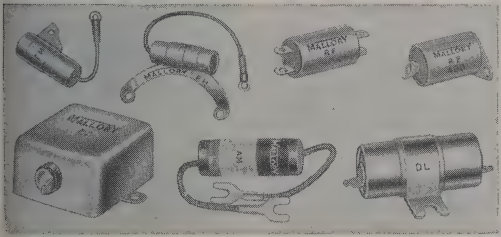
AG · AS AUTO NOISE SUPPRESSION CAPACITORS

● Type AG capacitors are designed for suppressing radio interference eminating from auto generators, oil and gas gauges, etc.

Type AS capacitors are for similar applications but embody the latest noise suppression technique developed during the war. These are extremely rugged units and are ideal for all suppression applications.

Cap. Mfd.	Working Volts DC	Size	Mallory Cat. No.	List Price
.05	100	⅜ x 1¼	**AG442**	**$0.75**
.05	100	7/16 x 1 3/16	**AG443**	**.75**
.25	200	⅝ x 1¾	**AG444**	**.75**
.5-.5	100	⅞ x 2	**AG450**	**1.13**
.5	200	¾ x 2	**AG451**	**.75**
1.0	200	1 x 2 3/16	**AG452**	**1.07**
.5	200	¾ x 2	**AG453**	**1.13**
.01	100	.675 x 15/16	**AS125**	**1.13**
.1	100	.675 x 1⅜	**AS145**	**1.32**
.25	100	¾ x 1½	**AS165**	**1.45**
.5	100	1 x 1⅝	**AS185**	**1.58**
.01	500*	.675 x 1	**AS525**	**1.26**
.1	500*	1 x 1½	**AS545**	**1.51**
.25	500*	1 x 2½	**AS565**	**1.89**

*500 volts AC or DC

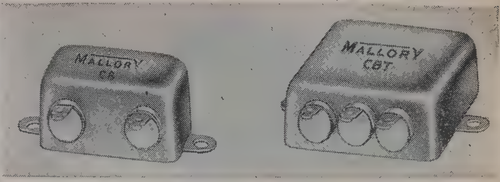


Types: (Top Row) FM441; FM442; RF481-RF482; RF480. (Bottom Row) CA275X; AM454; DL445.

AM · FM · DL · RF · CA NOISE SUPPRESSION CAPACITORS

● These units are also intended for radio noise suppression. Type AM is designed for use on ammeters. Type FM is for Ford generators. Type DL is for domelight filtering. Type RF is designed for low RF impedance and is ideal for general vibrator hash suppression. Type CA275X is bath-tub type for general suppression work in aircraft and marine applications.

Cap. Mfd.	Working Volts DC	Size D L	Mallory Cat. No.	List Price
.5	200	11/16 x 2	**AM454**	**$0.69**
.5	100	.675 x 1⅞	**FM441**	**.75**
.5	160	.675 x 1⅞	**FM442**	**.75**
.5	200	1 x 2⅜	**DL445**	**1.32**
.5	100	13/16 x 1 5/16	**RF480**	**.63**
.5	50	¾ x 1⅜	**RF481**	**.94**
1.0	50	15/16 x 1⅝	**RF482**	**1.13**
4.0	50	2 x 2 x 1	**CA275X**	**2.53**



CB OIL-FILLED CASED BYPASS CAPACITORS

● Mallory cased bypass type CB capacitors are oil-filled leak-proof units of extremely rugged construction. While seldom used in ordinary radio broadcast receivers, they are ideal for all applications where the finest quality is desired.

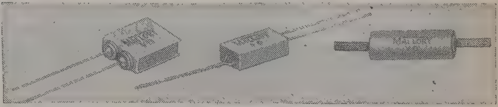
Industrial electronic, geophysical equipment and other special requirements provide frequent need for this type.

Completely sealed in heavy hot-tinned steel cases, they assure long trouble-free service under such adverse atmospheric conditions as may be encountered in aircraft and marine applications.

Type CB should not be confused with the former unsealed wax-impregnated types.

Cap. Mfd.	Working Volts DC	Size* W L H X	Mallory Cat. No.	List Price
.25	400	⅞ x 1¾ x ¾ x 2⅛	**CB403**	**$2.27**
.5	400	1 x 1¾ x ⅞ x 2⅛	**CB404**	**2.40**
1.0	400	1¾ x 2 x ¾ x 2⅜	**CB405**	**2.84**
2.0	400	2 x 2 x 1⅛ x 2⅜	**CB406**	**3.60**
.1	600	⅞ x 1¾ x ¾ x 2⅛	**CB602**	**2.65**
.25	600	1 x 1¾ x ¾ x 2⅛	**CB603**	**2.78**
.5	600	1¼ x 1¾ x ⅞ x 2⅛	**CB604**	**2.97**
1.0	600	1¾ x 2 x ⅞ x 2⅜	**CB605**	**3.41**
.1	1000	⅞ x 1¾ x ¾ x 2⅛	**CB1002**	**2.84**
.25	1000	1¼ x 1¾ x ¾ x 2⅛	**CB1003**	**2.91**
.5	1000	1¾ x 2 x ⅞ x 2⅜	**CB1004**	**3.16**
.25-.25	400	1¼ x 1¾ x ¾ x 2⅛	**CBD403**	**3.03**
.5-.5	400	1¾ x 2 x ¾ x 2⅜	**CBD404**	**3.79**
.1-.1	600	⅞ x 1¾ x ¾ x 2⅛	**CBD602**	**3.35**
3X .25	400	1¾ x 2 x ¾ x 2⅜	**CBT403**	**3.22**
3X .5	400	1¾ x 2 x 1 x 2⅜	**CBT404**	**4.55**
3X .1	600	1 x 1¾ x ⅞ x 2⅛	**CBT602**	**3.79**

*W—Width; L—Length; H—Height; X—Mounting Centers.



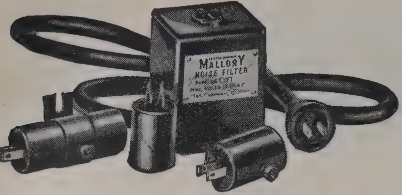
VB · VD · VO VIBRATOR BUFFER CAPACITORS

● Types VB and VD are specially designed for high voltage vibrator buffer applications. Type VO is useful in hash suppression in low voltage vibrator and other circuits.

Cap. Mfd.	Working Volts DC	Size* W L H	Fig. No.	Mallory Cat. No.	List Price
.0075	1600	5/16 x ⅝ x ⅞	1	**VB470**	**$0.69**
.01	1600	5/16 x ⅝ x ⅞	1	**VB471**	**.69**
.0008 .0008	1600	5/16 x ⅝ x 1 1/16	2	**VD491**	**.69**
.5	120	7/16 x ¾ x 2⅛	3	**VO480**	**.69**

***H—Height; W—Width; L—Length.**

MALLORY RADIO NOISE FILTER CAPACITORS



GENERAL NOISE ELIMINATION INFORMATION

● All radio noise suppression devices should be applied at the source of the noise. Filters inserted in radio receiver cords are usually ineffective.

The filters described on this page are, therefore, designed for insertion at the offending device. They incorporate many improvements accomplished through the extensive research and war production experience of the P. R. Mallory Company. While there will be some exceptions, most of the types of interference found in the home can be effectively reduced by the Mallory filters described. Unusual cases should be referred to the Mallory Engineering Department for advice.

Each filter is supplied with a complete instruction sheet for proper installation.

X · Z PLUG TYPE NOISE FILTERS

Type X1 is for relatively slight interference. Use at radio or appliance cord plug. Size 1⅜" x 1¾", rated 110 volts, 5 amps.
List Price each.................................**$0.75**

Type X3 is a capacitor type filter having greater efficiency than Type X1. Use at radio or appliance cord plug. Size 1⅜" x 2¼", rated 110-220 volts, 5 amps.
List Price each.................................**$1.13**

Type X5 is a triple capacity filter with provision for return lead to appliance. Special safety feature prevents possibility of shock and makes this unit ideal for use with vacuum cleaners, food mixers, etc. Size 1⅜" x 2⅛", rated 110-220 volts, 5 amps., and equipped with binding post for connection to appliance or motor frame.
List Price each.................................**$1.89**

Type Z2 is a capacitor-inductance filter for medium interference. Use with electric razor, radio or appliance cord plugs. Most effective on grounded line systems where reversal of plug will affect operation. Size 1⅜" x 2¾", rated 110-220 volts, 3 amps.
List Price each.................................**$1.77**

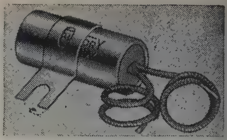
Type Z4 is a dual inductance-capacity filter for severe interference on appliances where a return lead from the filter is inconvenient. Ideal for electric razor, vibrators and household appliances. Use at radio or appliance cord plug. Size 1⅜" x 3", rated 110-220 volts, 3 amps.
List Price each.................................**$2.08**

Type Z6 is a dual inductance-capacity filter with provision for return lead to ground. Recommended for suppressing severe interference. Use at radio cord plug or motor and appliance plugs. Size 1⅛" x 3⅜". Rated 110-220 volts, 3 amps.
List Price each.................................**$2.65**

Type Z8 is same as Z6 but with provision for return wire connection to motor or appliance frame rather than ground. An efficient filter equivalent to box type within 3 amp. rating.
List Price each.................................**$2.65**

W

MOTOR BRUSH FILTERS



● These Mallory capacity type filters, while primarily designed for installation on motor brushes, may be used wherever permanent connection to the appliance is desired.

All type W filters are designed to automatically ground the common connection, via the filter case, to the motor or appliance frame. Where a shock hazard may exist type W followed by the letters SP should be specified as shown below. Type W has no ampere limit.

Type W7 115-220 Volts AC-DC
for Light interference—List Price...............**$1.13**

Type W9 115-220 Volts AC-DC
for Medium interference—List Price...............**$1.51**

Type W11 115-220 Volts AC-DC
for Severe interference—List Price...............**$1.89**

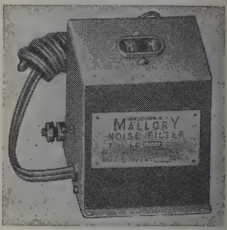
Type W7SP 115-220 Volts AC-DC
for Light intereference—List Price...............**$1.13**

Type W9SP 115-220 Volts AC-DC
for Medium interference—List Price...............**$1.51**

Type Z8A 115-220 Volts AC-DC3 Amperes
for Fluorescent Lights—List Price...............**$3.03**

LC5 · LC10

HEAVY DUTY APPLIANCE FILTERS



● Type LC filters are choke-capacity types for line insertion as pictured. They have provision for return lead to motor or appliance frame.

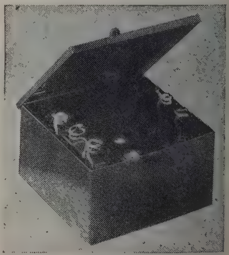
They are recommended for use where severe noise is encountered and a portable filter is desired.

Type LC5 rated 115-220 Volts AC-DC
5 Amperes—List Price...........................**$7.59**

Type LC10 rated 115-220 Volts AC-DC
10 Amperes—List Price.......................**$12.15**

LB

HEAVY DUTY PERMANENT INSTALLATION FILTERS



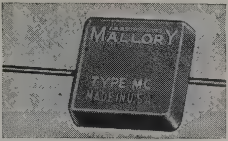
● These are heavy duty filters for permanent installation at house meter board or permanently installed motors. Supplied in standard type cut-out boxes as listed below

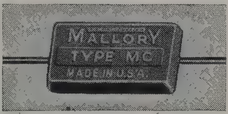
Type	Rating	Size	List Price
LB-10	220V-10 Amp.	6" x 6" x 4"	$18.23
LB-20	220V-20 Amp.	10" x 10" x 6"	42.41
LB-40	220V-40 Amp.	12" x 10" x 6"	52.74

MALLORY MICA CAPACITORS

MC

MICA CAPACITORS





- Mallory type MC mica capacitors are furnished in standard brown bakelite cases.

Designed primarily for radio receiving applications, they may be used in television and other electronic circuits within their voltage ratings.

The standard mica type has a capacity tolerance of ±20%.

The silver mica type may be secured in ±10% or ±2% as shown in the chart. Molded in low loss bakelite, these units are ideal for circuits where extreme stability is required.

High quality bakelite case material and carefully selected mica are used throughout.

For color code identification see illustration at right.

Available in standard packages of 10 units.

RMA COLOR CODE

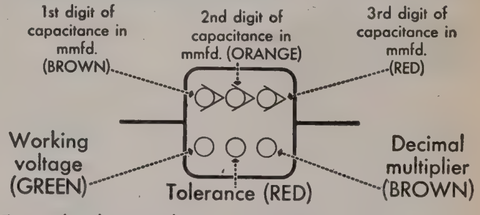
- The RMA color code, shown below, permits positive identification of the mica capacitors listed.

Reading in the direction of the arrow, top line first:—

1st dot —First significant capacity figure in *micro*-microfarads
2nd dot—Second significant capacity figure in *micro*-microfarads
3rd dot —Third significant capacity figure in *micro*-microfarads

The figure thus derived is now multiplied by the decimal multiplier indicated by the fourth dot. This gives capacity in *micro*-microfarads. (Divide by 1,000,000 for microfarads, if desired.)

5th dot —Capacity tolerance in percent
6th dot —Working voltage rating.



1st digit of capacitance in mmfd. (BROWN)
2nd digit of capacitance in mmfd. (ORANGE)
3rd digit of capacitance in mmfd. (RED)
Working voltage (GREEN)
Tolerance (RED)
Decimal multiplier (BROWN)

Example Shown Above = 1320 mmfd. ±2%, 500 V. W.

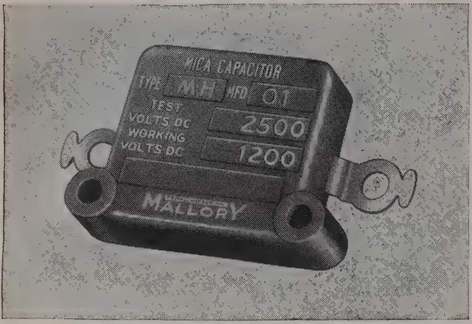
Case Size — 7/16" x 25/32" x 7/32" With 1/8" Wire Leads • Voltage Rating = 500 VDC Working — 1000 VDC Test

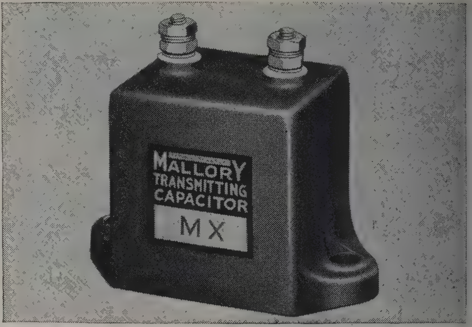
Capacity Mfd.	Standard Mica ±20% Cap. Tolerance		Silver Mica ±10% Cap. Tolerance		Silver Mica ±2% Cap. Tolerance	
	Mallory Cat. No.	List Price	Mallory Cat. No.	List Price	Mallory Cat. No.	List Price
.000005	MC205	$0.25	MCB205	$0.55		
.00001	MC215	.25	MCB215	.50	MCE215	$0.60
.000025	MC220	.25	MCB220	.50	MCE220	.60
.00004	MC223	.20	MCB223	.50	MCE223	.60
.00005	MC225	.20	MCB225	.50	MCE225	.60
.000075	MC230	.20	MCB230	.50	MCE230	.60
.0001	MC235	.20	MCB235	.50	MCE235	.60
.00015	MC236	.20	MCB236	.55	MCE236	.70
.0002	MC237	.20	MCB237	.55	MCE237	.70
.00025	MC240	.25	MCB240	.55	MCE240	.70
.0003	MC241	.25	MCB241	.85	MCE241	1.05
.0004	MC243	.25	MCB243	.85	MCE243	1.05
.0005	MC245	.25	MCB245	.85	MCE245	1.05
.0008	MC251	.25	MCB251	1.15	MCE251	1.55
.001	MC255	.30	MCB255	1.40	MCE255	1.75
.0015	MC256	.35				

Case Size — 13/16" x 13/16" x 5/16" With 1/8" Wire Leads • Voltage Rating = 500 VDC Working — 1000 VDC Test

Capacity Mfd.	Standard Mica ±20% Cap. Tolerance		Silver Mica ±10% Cap. Tolerance		Silver Mica ±2% Cap. Tolerance	
	Mallory Cat. No.	List Price	Mallory Cat. No.	List Price	Mallory Cat. No.	List Price
.0005	MC445	$0.25	MCB445	$0.85	MCE445	$1.05
.0008	MC451	.25	MCB451	1.15	MCE451	1.55
.001	MC455	.30	MCB455	1.40	MCE455	1.75
.0015	MC456	.30	MCB456	1.70	MCE456	2.10
.002	MC457	.40	MCB457	1.70	MCE457	2.10
.0025	MC460	.45	MCB460	2.30	MCE460	2.75
.003	MC461	.50	MCB461	2.55	MCE461	3.10
.004	MC463	.55	MCB463	2.70	MCE463	3.30
.005	MC465	.60	MCB465	2.85	MCE465	3.50
.006	MC467	.75	MCB467	3.30	MCE467	4.30
.007	MC469	.90	MCB469	3.85	MCE469	4.90
.008	MC471	1.00	MCB471	4.30	MCE471	5.60
.01	MC475	1.20	MCB475	5.30	MCE475	6.80

MALLORY MICA CAPACITORS





MH TRANSMITTING CAPACITORS

● Mallory type MH capacitors, molded in standard bakelite, are available for circuit voltages higher than permitted for type MC.

Transmitting and power amplifier equipment represent applications where they may be used to advantage in addition to the usual blocking and RF bypass requirements.

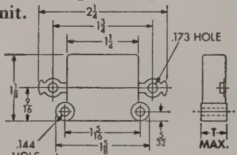
Furnished in the capacity and voltage ratings shown below, they have a capacity tolerance of ±20%.

Column T in the chart designates the case thickness, the only variable dimension.

The design of the type MH case permits permanent insulated mounting of the unit.

India mica of gauged thickness gives higher voltage breakdown and low power factor.

Type MH capacitors are strong mechanically, well insulated, provided with short, heavy terminals for minimum RF and contact resistance.



TYPE MH

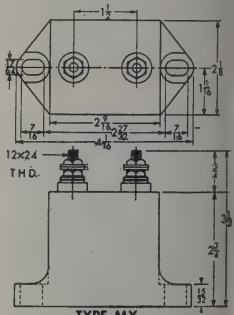
Cap. Mfd.	Working Volts DC	Test Volts DC	T	Mallory Cat. No.	List Price
.0001	600	1000	23/64	**MH535**	**$0.60**
.0001	1200	2500	23/64	**MH635**	**.85**
.0001	2500	5000	23/64	**MH735**	**1.10**
.0005	600	1000	23/64	**MH545**	**.60**
.0005	1200	2500	23/64	**MH645**	**.85**
.0005	2500	5000	23/64	**MH745**	**1.55**
.001	600	1000	23/64	**MH555**	**.65**
.001	1200	2500	23/64	**MH655**	**1.15**
.001	2500	5000	23/64	**MH755**	**1.95**
.002	600	1000	23/64	**MH557**	**.80**
.002	1200	2500	23/64	**MH657**	**1.65**
.002	2500	5000	23/64	**MH757**	**2.90**
.005	600	1000	23/64	**MH565**	**.95**
.005	1200	2500	29/64	**MH665**	**2.25**
.005	2500	5000	29/64	**MH765**	**4.30**
.01	600	1000	23/64	**MH575**	**1.40**
.01	1200	2500	29/64	**MH675**	**3.40**
.02	600	1000	29/64	**MH577**	**2.05**

MX TRANSMITTING CAPACITORS

● Mallory type MX mica capacitors are furnished in attractive porcelain cases in voltages from 2000 to 12,500 DC test as shown.

Ideal for amateur transmitting equipment, they may also be used in coupling, tank and bypass circuits at radio frequencies within their current ratings.

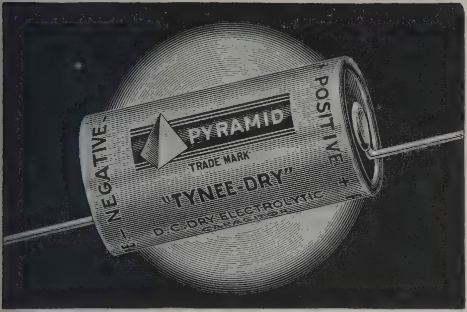
Note that the maximum amperes for several radio frequencies are given in the chart. The operating current should be kept within these limits.



TYPE MX

Cap. Mfd.	Test Volts DC	Max. Amps.	Freq. KC	Mallory Cat. No.	List Price
.001	12,500	9.0	15000	**MX855**	**$ 7.50**
		10.0	7500		
		11.0	3750		
		12.0	1875		
.002	12,500	9.0	15000	**MX857**	**10.30**
		12.0	7500		
		13.0	3750		
		15.0	1875		
.005	10,000	10.0	15000	**MX865**	**13.75**
		13.0	7500		
		14.0	3750		
		15.0	1875		
.01	7,000	10.0	15000	**MX875**	**14.50**
		13.0	7500		
		15.0	3750		
		15.0	1875		
.02	3,500	10.0	15000	**MX877**	**13.75**
		13.0	7500		
		17.0	3750		
		17.0	1875		
.05	3,500	11.0	15000	**MX885**	**15.80**
		14.0	7500		
		16.0	3750		
		18.0	1875		
.1	2,000	11.0	15000	**MX895**	**15.50**
		14.0	7500		
		16.0	3750		
		18.0	1875		

PYRAMID "LONG-LIFE" CAPACITORS



"TYNEE-DRY" TYPE

D.C. Dry Electrolytic Capacitors in Sealed Metal Tubes with Insulating Cardboard Sleeves; 3" Bare Wire Leads

- Popular, ultra-compact type
- Hermetically sealed and vented
- Full voltage protection
- Excellent power factor characteristics
- Polarity clearly marked
- Individually packaged

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
25 VOLTS WORKING; 40 VOLTS PEAK				
TD-10-25	10	11/16	1 3/8	$ .50
TD-25-25	25	11/16	1 3/8	.60
TD-50-25	50	11/16	1 3/8	.75
TD-100-25	100	11/16	1 3/4	1.10
50 VOLTS WORKING; 70 VOLTS PEAK				
TD-5-50	5	11/16	1 3/8	.50
TD-10-50	10	11/16	1 3/8	.55
TD-25-50	25	11/16	1 3/8	.70
TD-50-50	50	11/16	1 3/8	.85
TD-100-50	100	11/16	1 3/4	1.20
150 VOLTS WORKING; 225 VOLTS PEAK				
TD-4-150	4	11/16	1 3/4	.50
TD-8-150	8	11/16	1 3/4	.55
TD-12-150	12	11/16	1 3/4	.60
TD-16-150	16	11/16	1 3/4	.70
TD-20-150	20	11/16	1 3/4	.75
TD-24-150	24	13/16	1 3/4	.80
TD-30-150	30	13/16	1 3/4	.80
TD-40-150	40	13/16	1 3/4	.85
TD-50-150	50	13/16	1 3/4	1.10
TD-80-150	80	15/16	2 1/8	1.50

"TYNEE-DRY" Single Sections, cont'd

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
250 VOLTS WORKING; 325 VOLTS PEAK				
TD-8-250	8	11/16	1 3/4	$.60
TD-16-250	16	13/16	1 3/4	.90
TD-20-250	20	13/16	1 3/4	1.00
TD-24-250	24	13/16	1 3/4	1.05
TD-30-250	30	15/16	1 3/4	1.10
TD-40-250	40	15/16	1 3/4	1.15
450 VOLTS WORKING; 525 VOLTS PEAK				
TD-4-450	4	13/16	1 3/4	.70
TD-8-450	8	13/16	1 3/4	.75
TD-10-450	10	13/16	1 3/4	.85
TD-12-450	12	15/16	2 1/8	.90
TD-16-450	16	15/16	2 1/8	1.10
TD-20-450	20	15/16	2 1/8	1.20
TD-30-450	30	1 1/16	2 1/8	1.45
TD-40-450	40	1 1/16	2 5/8	1.75
525 VOLTS WORKING; 600 VOLTS PEAK				
TD-8-525	8	15/16	1 3/4	1.05
TD-16-525	16	1 1/16	2 1/8	1.60

"TYNEE-DRY" TYPE

Dual Section Units

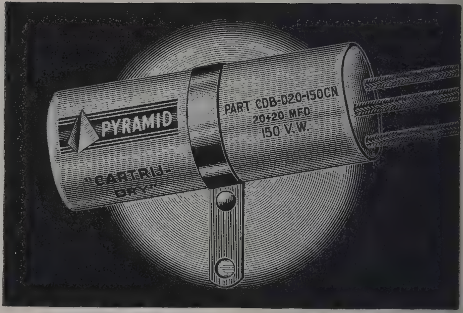
Two Positive Bare Wire Leads At One End; Common Negative At Opposite End

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
50 VOLTS WORKING; 70 VOLTS PEAK				
TD-D10-50	10+10	13/16	1 3/4	$ .85
150 VOLTS WORKING; 225 VOLTS PEAK				
TD-D8-150	8+8	13/16	1 3/4	1.00
TD-816-150	8+16	13/16	1 3/4	1.05
TD-D16-150	16+16	13/16	1 3/4	1.15
TD-D20-150	20+20	13/16	1 3/4	1.30
TD-D30-150	30+30	15/16	2 1/8	1.40
TD-4020-150	40+20	15/16	2 1/8	1.40
TD-D40-150	40+40	15/16	2 1/8	1.50
TD-5030-150	50+30	15/16	2 1/8	1.50
TD-8040-150	80+40	1 1/16	2 5/8	2.25
450 VOLTS WORKING; 525 VOLTS PEAK				
TD-D4-450	4+4	15/16	2 1/8	1.20
TD-48-450	4+8	15/16	2 1/8	1.25
TD-D8-450	8+8	15/16	2 1/8	1.30
TD-D10-450	10+10	15/16	2 1/8	1.40
TD-816-450	8+16	15/16	2 1/8	1.65
TD-D16-450	16+16	1 1/16	2 5/8	2.00
TD-D20-450	20+20	1 1/16	2 5/8	2.25

"LONG-LIFE" CAPACITORS PYRAMID

"CARTRIJ-DRY" TYPE CDB

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
Duals, Common Negative; Three Leads 150 Volts Working; 225 Volts Peak				
CDB-D16-150CN	16+16	7/8	2 3/8	$1.15
CDB-D20-150CN	20+20	7/8	2 3/8	1.30
CDB-D30-150CN	30+30	1	2 3/8	1.40
CDB-4020-150CN	40+20	1	2 3/8	1.40
CDB-D40-150CN	40+40	1	2 3/8	1.50
CDB-5030-150CN	50+30	1	2 3/8	1.50
CDB-8040-150CN	80+40	1 1/8	2 3/4	2.25
Duals, Separate Sections; Four Leads 150 Volts Working; 225 Volts Peak				
CDB-D16-150SS	16+16	1	2 3/8	1.50
CDB-D20-150SS	20+20	1	2 3/8	1.65



"CARTRIJ-DRY" TYPE CDB

D.C. Dry Electrolytic Capacitors in Wax-Filled Impregnated Cardboard Tubes; Terminals Are 6" Flexible Insulated Leads At One End of Tube; Supplied with Assembled Mounting Strap

"CARTRIJ-DRY" TYPE CD

D.C. Dry Electrolytic Capacitors in Wax-Filled Impregnated Cardboard Tubes; 2¾" Bare Wire Leads, One At Each End

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
150 VOLTS WORKING; 225 VOLTS PEAK				
CD-20-150	20	5/8	2	$.75
450 VOLTS WORKING; 525 VOLTS PEAK				
CD-8-450	8	3/4	2	.75

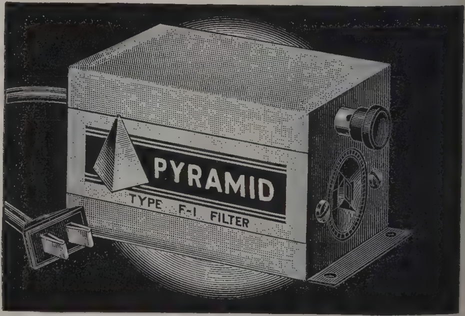
— NEGATIVE
PYRAMID
"CARTRIJ-DRY"
D.C. DRY ELECTROLYTIC
POSITIVE +

TYPE F-1

Capacitive-Inductive Radio-Noise Suppressor

- High-quality, highly efficient
- Effective with radios or appliances
- Sturdy, attractively-finished container
- Individually packaged

Rated voltage: 110 volts AC-DC
Maximum current: 5 amperes
List price: $7.50



PYRAMID "LONG-LIFE" CAPACITORS

PYRAMID
"METL-CAN"
D.C. DRY ELECTROLYTIC
CAPACITOR
Part MC-8-450
8 MFD.
450 V. W.
525 V. P.
Made in U.S.A.
PYRAMID ELECTRIC CO.
JERSEY CITY, N. J. U.S.A.

"METL-CAN" TYPE

D.C. Dry Electrolytic Capacitors in Insulated Cylindrical Screw-Base Aluminum Cans with 6" Flexible Insulated Leads; Palnut for Mounting

- Popular type for upright mounting
- Maximum protection against humidity
- Individually packaged in attractive container

Single Section Units; Two 6" Flexible Insulated Leads

Part Number	Capacity Mfd.	Can Body Size in Inches Diameter	Height	List Price
450 VOLTS WORKING; 525 VOLTS PEAK				
MC-4-450	4	1 3/8	3 1/8	$1.05
MC-8-450	8	1 3/8	3 1/8	1.30
MC-12-450	12	1 3/8	3 1/8	1.70
MC-16-450	16	1 3/8	3 1/8	1.90
MC-20-450	20	1 3/8	3 1/8	2.10
MC-30-450	30	1 3/8	3 1/8	2.40
MC-40-450	40	1 3/8	3 1/8	2.85

"METL-CAN" Single Sections, cont'd

Part Number	Capacity Mfd.	Can Body Size in Inches Diameter	Height	List Price
525 VOLTS WORKING; 600 VOLTS PEAK				
MC-8-525	8	1 3/8	3 1/8	1.80
MC-16-525	16	1 3/8	3 1/8	2.75
600 VOLTS WORKING; HIGHEST QUALITY SERIES-WOUND CONSTRUCTION				
MC-4-600	4	1 3/8	3 1/8	2.25
MC-8-600	8	1 3/8	3 1/8	3.15
MC-12-600	12	1 3/8	3 1/8	3.70
MC-16-600	16	1 3/8	3 1/8	4.20

Dual Section Units; 450 Volts Working; 525 Volts Peak; Separate Section Construction; Four 6" Flexible Insulated Leads

Part Number	Capacity Mfd.	Can Body Size in Inches Diameter	Height	List Price
MC-D8-450SS	8+8	1 3/8	3 1/8	$1.95
MC-816-450SS	8+16	1 3/8	3 1/8	2.30
MC-D16-450SS	16+16	1 3/8	3 1/8	2.70
MC-D20-450SS	20+20	1 3/8	3 1/8	2.85

Dual Section Units; 450 Volts Working; 525 Volts Peak; Common Negative Construction; Three 6" Flexible Insulated Leads

Part Number	Capacity Mfd.	Can Body Size in Inches Diameter	Height	List Price
MC-D8-450CN	8+8	1 3/8	3 1/8	$1.95
MC-816-450CN	8+16	1 3/8	3 1/8	2.30
MC-D16-450CN	16+16	1 3/8	3 1/8	2.70
MC-D20-450CN	20+20	1 3/8	3 1/8	2.85

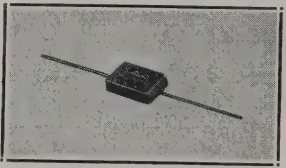
Manufactured by

PYRAMID ELECTRIC COMPANY

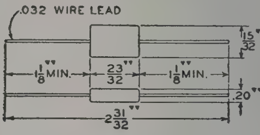
415-421 TONNELE AVENUE
JERSEY CITY 6, N. J., U. S. A.

SANGAMO CAPACITORS

TYPE K MICA CAPACITOR
TYPE KR SILVERED MICA CAPACITOR



Type K-KR



Type K-KR

TYPE K MICA

Cat. No.	Cap. mmf.	DC Wkg Voltage	±2% ±5% (G) (J)	±10% (K)	±20% (M)	List Price
K-1550	5	500			AB	$0.30
K-1410	10	500		AB	AB	.30
K-1412	12	500		AB		.30
K-1415	15	500		AB	AB	.30
K-1418	18	500		AB		.30
K-1420	20	500				.30
K-1422	22	500		ABC	ABC	.30
K-1424	24	500				.30
K-1425	25	500				.30
K-1427	27	500		ABC		.30
K-1430	30	500				.30
K-1433	33	500		ABC	ABC	.30
K-1436	36	500				.30
K-1439	39	500		ABC		.30
K-1443	43	500				.25
K-1447	47	500		ABC	ABC	.25
K-1450	50	500	BCDE			.25
K-1451	51	500	BCDE			.25
K-1456	56	500	BCDE	ABC		.25
K-1462	62	500	BCDE			.25
K-1468	68	500	BCDE	ABC	ABC	.25
K-1475	75	500	BCDE			.25
K-1482	82	500	BCDE	ABC		.25
K-1491	91	500	BCDE			.25
K-1310	100	500	BCDE	ABC	ABC	.25
K-1311	110	500	BCDE			.30
K-1312	120	500	BCDE	ABC		.30
K-1313	130	500	BCDE			.30
K-1315	150	500	BCDE	ABC	ABC	.30
K-1316	160	500	BCDE			.30
K-1318	180	500	BCDE	ABC		.30
K-1320	200	500	BCDE			.30
K-1322	220	500	BCDE	ABCD	ABCD	.30
K-1324	240	500	BCDE			.30
K-1325	250	500	BCDE			.30
K-1327	270	500	BCDE	ABCD		.30
K-1330	300	500	BCDE			.30
K-1333	330	500	BCDE	ABCD	ABCD	.30
K-1336	360	500	BCDE			.30
K-1339	390	500	BCDE	ABCD		.30
K-1340	400	500	BCDE			.30
K-1343	430	500	BCDE			.30
K-1347	470	500	BCDE	ABCD	ABCD	.30
K-1350	500	500	BCDE			.30
K-1351	510	500	BCDE			.30
K-1370	700	500	BCDE			.35
K-1380	800	500	BCDE			.35
K-1390	900	500	BCDE			.35
K-1210	1000	500	BCDE			.35

Prices shown are for ±20% tolerance A or B characteristic.
For ±10% add 10% to list price.
For ±5% add 20% to list price.
For ±2% add 75% to list price.
For C charactreistic add 75% to list price.
For D characteristic add 100% to list price.
For E characteristic add 150% to list price.

TYPE KR SILVERED MICA

Cat. No.	Cap. mmf.	DC Wkg Voltage	List Price
KR-1550	5	500	$0.65
KR-1410	10	500	.65
KR-1412	12	500	.65
KR-1415	15	500	.65
KR-1418	18	500	.65
KR-1420	20	500	.65
KR-1422	22	500	.65
KR-1424	24	500	.65
KR-1425	25	500	.65
KR-1427	27	500	.65
KR-1430	30	500	.65
KR-1433	33	500	.65
KR-1436	36	500	.65
KR-1439	39	500	.65
KR-1443	43	500	.55
KR-1447	47	500	.55
KR-1450	50	500	.55
KR-1451	51	500	.55
KR-1456	56	500	.55
KR-1462	62	500	.55
KR-1468	68	500	.55
KR-1475	75	500	.55
KR-1482	82	500	.55
KR-1491	91	500	.55
KR-1310	100	500	.55
KR-1311	110	500	.65
KR-1312	120	500	.65
KR-1313	130	500	.65
KR-1315	150	500	.65
KR-1316	160	500	.65
KR-1318	180	500	.65
KR-1320	200	500	.65
KR-1322	220	500	.65
KR-1324	240	500	.65
KR-1325	250	500	.65
KR-1327	270	500	.65
KR-1330	300	500	.65
KR-1333	330	500	.65
KR-1336	360	500	.65
KR-1339	390	500	.65
KR-1340	400	500	.65
KR-1343	430	500	.65
KR-1347	470	500	.65
KR-1350	500	500	.65
KR-1351	510	500	.65
KR-1370	700	500	.80
KR-1380	800	500	.80
KR-1390	900	500	.80
KR-1210	1000	500	.80

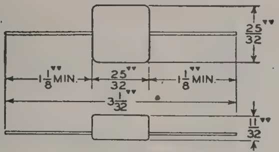
Standard tolerance ±5%.

For ±2% add 25% to price.

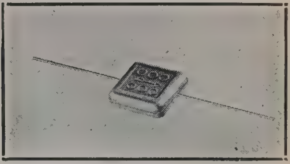
Approximate weight of largest capacitance value 0.10 ounce.

SANGAMO CAPACITORS

TYPE C MICA CAPACITOR
TYPE CR SILVERED MICA CAPACITOR



Type C-CR



Type C-CR

TYPE C MICA

Cat. No.	Cap. Mmf.	DC Wkg. Voltage	±2% (G) ±5% (J) ±10% (K) ±20% (M)	List Price
C-1347	470	500	ABCDE	$0.25
C-1375	750	500	ABCDE	.25
C-1210	1000	500	ABCDE	.30
C-1215	1500	500	ABCDE	.35
C-1218	1800	500	ABCDE	.40
C-1225	2500	500	ABCDE	.45
C-1230	3000	500	ABCDE	.45
C-1236	3600	500	ABCDE	.50
C-1240	4000	500	ABCDE	.50
C-1247	4700	500	ABCDE	.65
C-1250	5000	500	ABCDE	.65
C-1256	5600	500	ABCDE	.65
C-1268	6000	500	ABCDE	.70
C-06268	6800	300	ABCDE	.80
C-06275	7500	300	ABCDE	.90
C-06282	8200	300	ABCDE	1.00
C-06290	9000	300	ABCDE	1.10
C-06110	10000	300	ABCDE	1.15

Prices shown are for ±20% A or B characteristic.
For ±10% add 10% on list price.
For ±5% add 20% on list price.
For ±2% add 75% on list price.
For C characteristic add 75% on list price.
For D characteristic add 100% on list price.
For E characteristic add 150% on list price.

TYPE CR SILVERED MICA

Cat. No.	Cap. Mmf.	DC Wkg. Voltage	List Price
CR-1230	3000	500	$1.00
CR-1233	3300	500	1.00
CR-1236	3600	500	1.10
CR-1239	3900	500	1.10
CR-1240	4000	500	1.10
CR-1243	4300	500	1.20
CR-1247	4700	500	1.45
CR-1250	5000	500	1.45
CR-1251	5100	500	1.45
CR-1256	5600	500	1.45
CR-1260	6000	500	1.50
CR-1262	6200	500	1.55
CR-06268	6800	300	1.75
CR-06275	7500	300	2.00
CR-06280	8000	300	2.10
CR-06282	8200	300	2.20
CR-06290	9000	300	2.40
CR-06110	10000	300	2.50

Standard tolerance ±5%.

For ±2% add 25% to price.

Approximate weight of largest capacitance value 0.25 ounce.

GENERAL INFORMATION
Regarding All Sangamo Capacitors

All list prices are subject to change without notice. When possible ample notice of price changes will be given, but due to uncertainties with regard to prices of raw materials it may not always be possible to do this.

When ordering be sure to give complete designation, including catalog number, capacity and voltage ratings, also color code where required. Where special characteristics are desired, specify these by adding proper suffix letter or by complete description of the characteristics desired.

In many instances capacities in addition to those listed are available in various type units. Inquiry should be made to the factory in those cases where capacities other than those listed are required for information as to their availability.

The various characteristic designations used throughout this catalog are in accordance with those specified in the American War Standard for Fixed Mica Dielectric Capacitors, JAN-C-5. Details of these characteristics are indicated in the Characteristic Table below. Color code markings are also those specified in the above standard, and will be used where customer does not specify a different color code marking.

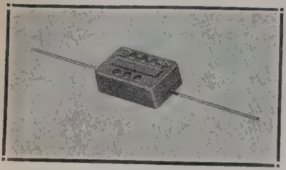
Shipping instructions should accompany all orders. If no shipping instructions are furnished, the method of transportation considered to be most satisfactory will be used. All shipments are insured against non-delivery, unless otherwise instructed.

LETTER DESIGNATION FOR CHARACTERISTIC (JAN-C-5)

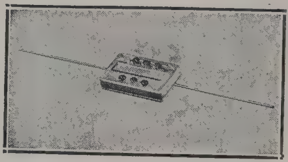
Characteristic	Q (see par. F-2f (1))	Dissipation factor (see par. F-2f (2))	Temperature coefficient parts/million/degree C. (see par. F-2h (1))	Capacitance drift (see par. F-2h (2)) (maximum).
A	As specified in par. D-2c (2) a.	As specified in par. D-2c (2) b.	Not specified.	Not specified.
B	do	do	do	do
C	do	do	—200 to +200	±0.5 percent.
D	do	do	—100 to +100	±0.3 percen.t
E	do	do	—20 to +100	±(0.1 percent + 0.1 mmf.).
F	do	do	0 to + 70	±(0.05 percent +0.1 mmf.).
G	do	do	0 to — 50	do

SANGAMO CAPACITORS

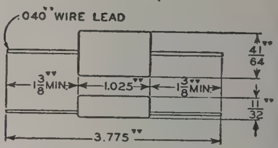
TYPE J CAPACITOR



Type J Thick

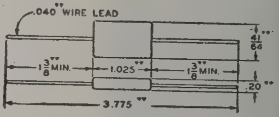


Type J Thin



Type J Thick

Cat. No.	Cap. Mfd.	DC Wkg. Voltage	±2% ±5% ±10% ±20% (G) (J) (K) (M)	List Price
J-1310	100	500	ABCD	$0.40
J-1325	250	500	ABCD	.40
J-1350	500	500	ABCD	.40
J-1210	1000	500	ABCD	.45
*J-1220	2000	500	ABCDE	.50
*J-1225	2500	500	ABCDE	.50
*J-1230	3000	500	ABCDE	.55
*J-1233	3300	500	ABCDE	.55
*J-1236	3600	500	ABCDE	.60
*J-1239	3900	500	ABCDE	.60
*J-1243	4300	500	ABCDE	.65
*J-1247	4700	500	ABCDE	.65
*J-1251	5100	500	ABCDE	.70
*J-1256	5600	500	ABCDE	.75
*J-1262	6200	500	ABCDE	.80
*J-1268	6800	500	ABCDE	.85
*J-1275	7500	500	ABCDE	.90
*J-1282	8200	500	ABCDE	.95
*J-06291	9100	300	ABCDE	1.00
*J-06110	10000	300	ABCDE	1.10

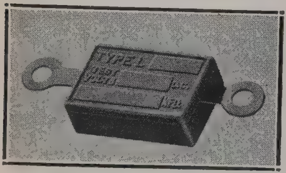


Type J Thin

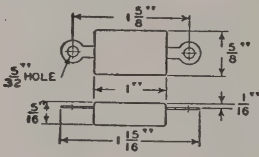
Note: Some of the above capacities can be furnished in higher voltages. Inquiry should be made to the factory. Approximate weight of largest capacitance value, 0.21 ounce.

*—Thickness 11/32".

TYPE L MICA CAPACITOR



Type L



Type L

Cat. No.	Cap. Mfd.	DC Test Voltage	DC Wkg. Voltage	±2% ±5% ±10% ±20% (G) (J) (K) (M)	List Price
L-1450	.00005	1000	500	ABCD	$0.50
L-1470	.00007	1000	500	ABCD	.50
L-1475	.000075	1000	500	ABCD	.50
L-1310	.0001	1000	500	ABCD	.50
L-1320	.0002	1000	500	ABCD	.50
L-1325	.00025	1000	500	ABCD	.50
L-1335	.00035	1000	500	ABCD	.50
L-1350	.0005	1000	500	ABCD	.50
L-1210	.001	1000	500	ABCD	.55
L-1215	.0015	1000	500	ABCD	.60
L-1220	.002	1000	500	ABCD	.65
L-1225	.0025	1000	500	ABCD	.70
L-1230	.003	1000	500	ABCD	.75
L-1240	.004	1000	500	ABCD	.80
L-1250	.005	1000	500	ABCD	.90
L-0626	.006	600	300	ABCD	1.00
L-0628	.008	600	300	ABCD	1.10
L-0611	.01	600	300	ABCD	1.20

Prices shown are for ±20%, A or B characteristic.

For ±10% tolerance add 10% to list price.

For ±5% tolerance add 20% to list price.

For C characteristic add 50% to list price.

For D characteristic add 75% to list price.

Approximate weight of largest capacitance value 0.28 ounce.

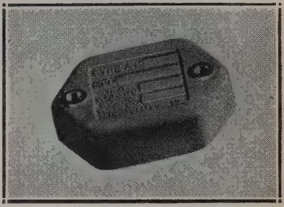
SANGAMO CAPACITORS

TYPE A-2 MICA CAPACITOR

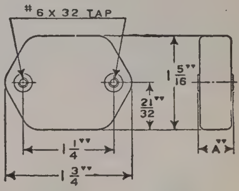
Cat. No.	ASA Case No.	Capacity	DC Test Volt.	DC Wkg. Volt.	List Price
A2-1450	CM55	.00005	1200	600	$0.65
A2-1310	CM55	.0001	1200	600	.65
A2-1315	CM55	.00015	1200	600	.65
A2-1320	CM55	.0002	1200	600	.65
A2-1325	CM55	.00025	1200	600	.65
A2-1350	CM55	.0005	1200	600	.65
A2-1210	CM55	.001	1200	600	.65
A2-1215	CM55	.0015	1200	600	.70
A2-1220	CM55	.002	1200	600	.70
A2-1225	CM55	.0025	1200	600	.80
A2-1230	CM55	.003	1200	600	.85
A2-1240	CM55	.004	1200	600	.85
A2-1250	CM55	.005	1200	600	.85
A2-1260	CM55	.006	1200	600	1.00
A2-1280	CM55	.008	1200	600	1.20
A2-1110	CM55	.01	1200	600	1.40
A2-1120	CM55	.02	1200	600	1.85
A2-1125	CM60	.025	1200	600	2.30
A2-1130	CM60	.03	1200	600	2.50
A2-1140	CM60	.04	1200	600	3.25
A2-1150	CM60	.05	1200	600	3.80
A2-2450	CM55	.00005	2500	1200	.70
A2-2310	CM55	.0001	2500	1200	.70
A2-2315	CM55	.00015	2500	1200	.70
A2-2320	CM55	.0002	2500	1200	.70
A2-2325	CM55	.00025	2500	1200	.70
A2-2350	CM55	.0005	2500	1200	.70
A2-2210	CM55	.001	2500	1200	.90
A2-2215	CM55	.0015	2500	1200	1.20
A2-2220	CM55	.002	2500	1200	1.35
A2-2230	CM55	.003	2500	1200	1.60
A2-2240	CM55	.004	2500	1200	1.60
A2-2250	CM55	.005	2500	1200	1.75
A2-2260	CM55	.006	2500	1200	1.75
A2-2280	CM55	.008	2500	1200	2.25
A2-2110	CM55	.01	2500	1200	2.80
A2-2115	CM60	.015	2500	1200	3.35
A2-2120	CM60	.02	2500	1200	3.90
A2-2125	CM60	.025	2500	1200	4.35
A2-5450	CM55	.00005	5000	2500	.90
A2-5310	CM55	.0001	5000	2500	.90
A2-5315	CM55	.00015	5000	2500	1.00
A2-5320	CM55	.0002	5000	2500	1.05
A2-5325	CM55	.00025	5000	2500	1.05
A2-5350	CM55	.0005	5000	2500	1.25
A2-5210	CM55	.001	5000	2500	1.50
A2-5215	CM55	.0015	5000	2500	1.95
A2-5220	CM55	.002	5000	2500	2.25
A2-5230	CM55	.003	5000	2500	2.75
A2-5240	CM55	.004	5000	2500	3.15
A2-5250	CM55	.005	5000	2500	3.30
A2-5260	CM55	.006	5000	2500	3.45
A2-5280	CM60	.008	5000	2500	3.80
A2-5110	CM60	.01	5000	2500	4.10
A2-5115	CM60	.015	5000	2500	4.45

For B characteristic use list price. For C characteristic add 50% to the list price. For D characteristic add 75% to the list price. For ± 20% tolerance use list price. For ± 10% tolerance add 10% to the list price. For ± 5% tolerance add 20% to the list price. For ± 2% tolerance add 75% to the list price.

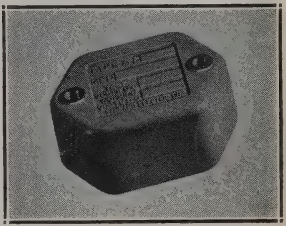
The following characteristics in CM60 cases only; For E characteristic add 100% to the list price. For F characteristic add $1.25 to the list price.



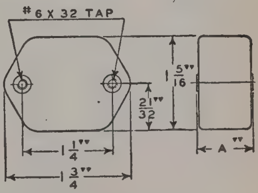
Type A-2
CM-55 *CM-56



*CM56—Furnished with .144" clearance holes. Designate as Type A-2-A.



Type A-2
CM-60 *CM-61

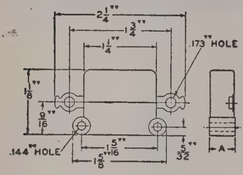


*CM61—Furnished with .144" clearance holes. Designate as Type A-2-A.

SEE "GENERAL INFORMATION" ON PAGE Q-119

SANGAMO CAPACITORS

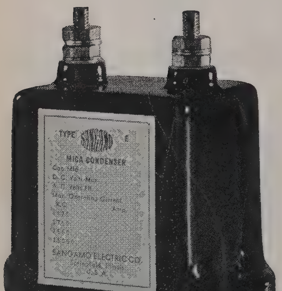
Type H: CM-45



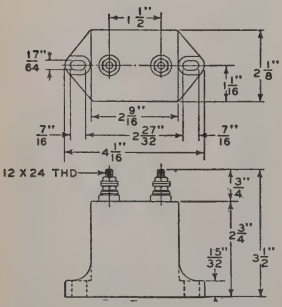
TYPE H MICA CAPACITOR

Cat. No.	ASA Case No.	Capacity	DC Test Volt.	DC Wkg. Volt.	List Price
H-1450	CM45	.00005	1200	600	$0.50
H-1310	CM45	.0001	1200	600	.50
H-1320	CM45	.0002	1200	600	.50
H-1325	CM45	.00025	1200	600	.50
H-1330	CM45	.0003	1200	600	.50
H-1340	CM45	.0004	1200	600	.50
H-1350	CM45	.0005	1200	600	.50
H-1210	CM45	.001	1200	600	.50
H-1215	CM45	.0015	1200	600	.50
H-1220	CM45	.002	1200	600	.60
H-1225	CM45	.0025	1200	600	.70
H-1230	CM45	.003	1200	600	.70
H-1240	CM45	.004	1200	600	.70
H-1250	CM45	.005	1200	600	.70
H-1260	CM45	.006	1200	600	.85
H-1280	CM45	.008	1200	600	1.00
H-1110	CM45	.01	1200	600	1.20
H-1115	CM50	.015	1200	600	1.35
H-1120	CM50	.02	1200	600	1.60
H-1125	CM50	.025	1200	600	1.90
H-1130	CM50	.03	1200	600	2.10
H-2450	CM45	.00005	2500	1200	.70
H-2310	CM45	.0001	2500	1200	.70
H-2320	CM45	.0002	2500	1200	.70
H-2325	CM45	.00025	2500	1200	.70
H-2330	CM45	.0003	2500	1200	.70
H-2350	CM45	.0005	2500	1200	.70
H-2210	CM45	.001	2500	1200	.90
H-2215	CM45	.0015	2500	1200	1.20
H-2220	CM45	.002	2500	1200	1.35
H-2225	CM45	.0025	2500	1200	1.45
H-2230	CM45	.003	2500	1200	1.60
H-2240	CM50	.004	2500	1200	1.60
H-2250	CM50	.005	2500	1200	1.75
H-2260	CM50	.006	2500	1200	1.75
H-2280	CM50	.008	2500	1200	2.25
H-2110	CM50	.01	2500	1200	2.80
H-5450	CM45	.00005	5000	2500	.90
H-5310	CM45	.0001	5000	2500	.90
H-5320	CM45	.0002	5000	2500	1.10
H-5325	CM45	.00025	5000	2500	1.10
H-5330	CM45	.0003	5000	2500	1.15
H-5350	CM45	.0005	5000	2500	1.25
H-5210	CM45	.001	5000	2500	1.50
H-5215	CM45	.0015	5000	2500	1.95
H-5220	CM45	.002	5000	2500	2.25
H-5225	CM50	.0025	5000	2500	2.50
H-5230	CM50	.003	5000	2500	2.75
H-5240	CM50	.004	5000	2500	3.15
H-5250	CM50	.005	5000	2500	3.30

For A characteristic use list price. For B characteristic use list price. For ± 20% tolerance use list price. For ± 10% add 10% to the list price. For ± 5% add 20% to the list price. For ± 2% add 75% to the list price. For Meter mounting brackets (add letter E to type designation) add 30 cents to the list price when assembled on Condenser. For Meter mounting brackets add 20 cents to the list price not assembled on Condenser (specify case size).



Type E



TYPE E MICA CAPACITOR, For Amateur Transmitters

Catalog Number	Cap. mfds.	D.C. Test Volts	MAXIMUM OPERATING CURRENT IN AMPERES 15,000 KC	7,500 KC	3,750 KC	1,875 KC	List Price
E-1245	00005	12500	3.0	2.5	1.75	1.0	$ 7.25
E-1231	0001	12500	5.0	5.0	5.0	5.0	7.25
E-12325	00025	12500	6.5	6.5	6.5	6.0	7.25
E-1235	0005	12500	7.5	8.0	8.5	8.5	7.25
E-721	001	7000	7.0	8.0	9.0	10.0	[illegible].60
E-1221	001	12500	8.0	9.0	10.0	11.0	7.25
E-7215	0015	7000	7.5	9.0	10.0	11.0	7.25
E-12215	0015	12500	8.5	10.0	11.0	12.0	8.60
E-722	002	7000	8.0	9.0	10.0	11.5	8.60
E-1222	002	12500	9.0	10.0	11.5	12.5	9.90
E-723	003	7000	8.0	9.5	11.5	12.5	9.25
E-1023	003	10000	9.0	10.5	12.5	13.5	11.90
E-3524	004	3500	7.5	9.0	11.0	12.0	9.25
E-724	004	7000	8.5	10.0	12.0	13.0	11.90
E-1024	004	10000	9.5	11.0	13.0	14.0	12.55
E-3525	005	3500	7.5	9.0	11.0	12.5	8.60
E-725	005	7000	8.5	10.0	12.0	13.5	[illegible]
E-1025	005	10000	9.5	11.0	13.0	14.5	13.20
E-3511	01	3500	9.0	11.0	13.0	14.0	13.20
E-711	01	7000	10.0	12.0	14.0	15.0	13.85
E-212	02	2000	9.0	12.0	14.0	15.0	12.25
E-3512	02	3500	10.0	13.0	15.0	16.0	13.20
E-215	05	2000	9.5	13.0	15.0	16.0	13.20
E-3515	05	3500	10.5	14.0	16.0	17.0	15.20
E-201	0.1	2000	11.0	14.0	16.0	17.5	15.20

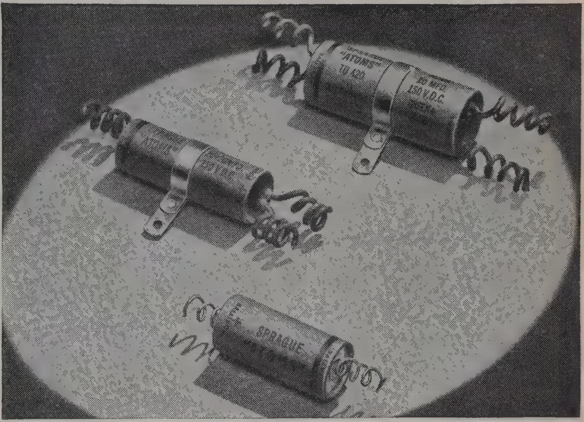
Standard tolerance ± 20%. Recommended for amateur installations. Vacuum impregnated with special low loss wax.

SEE "GENERAL INFORMATION" ON PAGE Q-119

SPRAGUE CAPACITORS

SPRAGUE ATOMS

THE UNIVERSAL MIDGET DRY ELECTROLYTICS



Sprague Atom Capacitors—"Mightiest Midgets of All"—are the answer to 90% or more of all radio service requirements for replacement dry elctrolytic units. A small stock of different capacities and voltages equips you for quick, dependable service on practically every job.

Sprague atoms will fit anywhere. The smaller units can be mounted by means of their sturdy, tinned-copper leads. Metal mounting straps are provided with all dual units and are available for the larger single units. (See Hardware page P-119.) Or if desired, you can mount them by any other suitable means. Despite their extremely small size, Atoms will last longer and stand far more punishment than much larger, old-style dry electrolytics.

Atoms are guaranteed to have low leakage, to withstand high surge voltages, and to have exceptionally long shelf life. They are fully sealed against moisture and blow-ups by an exclusive Sprague process.

SINGLE

Cat. No.	Mfd.	Voltage DC working	Voltage Surge	Dimen. D	Dimen. L	List Price
TA-5	5	25	40	11/16	1 13/16	$0.63
TA-10	10	25	40	11/16	1 13/16	.63
TA-25	25	25	40	11/16	1 13/16	.75
TA-50	50	25	40	11/16	1 13/16	.75
TA-55	5	50	75	11/16	1 13/16	.63
TA-510	10	50	75	11/16	1 13/16	.69
TA-525	25	50	75	11/16	1 13/16	.88
TA-550	50	50	75	13/16	1 13/16	1.07
UT-41	4	150	200	11/16	1 13/16	.63
UT-81	8	150	200	11/16	1 13/16	.69
UT-121	12	150	200	11/16	1 13/16	.75
UT-161	16	150	200	11/16	1 13/16	.88
UT-201	20	150	200	11/16	1 13/16	.94
UT-301	30	150	200	13/16	1 13/16	1.01
UT-401	40	150	200	⅞	1 13/16	1.07
UT-501	50	150	200	15/16	1 13/16	1.26
UT-42	4	250	300	11/16	1 13/16	.69
UT-82	8	250	300	11/16	1 13/16	.75
UT-122	12	250	300	13/16	1 13/16	1.01
UT-162	16	250	300	13/16	1 13/16	1.13
UT-202	20	250	300	13/16	1 13/16	1.26
UT-402	40	250	300	15/16	2 5/16	$1.45
UT-43	4	350	400	11/16	1 13/16	.75
UT-83	8	350	400	13/16	1 13/16	.88
UT-123	12	350	400	13/16	1 13/16	1.07
UT-163	16	350	400	15/16	1 13/16	1.26
UT-203	20	350	400	1 1/16	1 13/16	1.39
UT-4	4	450	525	11/16	1 13/16	.88
UT-8	8	450	525	13/16	1 13/16	.94
UT-12	12	450	525	15/16	1 13/16	1.13
UT-16	16	450	525	15/16	2 5/16	1.39
UT-20	20	450	525	15/16	2 5/16	1.51
UT-30	30	450	525	1 1/16	2 5/16	1.83
UT-85	8	500	600	15/16	1 13/16	1.32
UT-165	16	500	600	1 1/16	2 5/16	2.02
UT-205	20	500	600	1 1/16	2 5/16	2.40

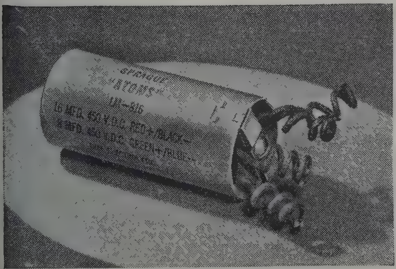
COMMON NEGATIVE—3 LEADS

Cat. No.	Mfd.	Voltage DC working	Voltage Surge	Dimen. D	Dimen. L	List Price
TA-110	10-10	25	40	9/16	2⅜	1.07
TA-100	10-10	50	75	9/16	2⅜	1.26
TA-88	8-8	150	200	11/16	2⅜	1.26
TA-122	12-20	150	200	¾	2⅜	1.45
TA-116	16-16	150	200	¾	2⅜	1.45
TA-220	20-20	150	200	13/16	2⅜	1.64
TA-230	20-30	150	200	⅞	2⅜	$1.70
TA-240	20-40	150	200	15/16	2⅜	1.77
TA-330	30-30	150	200	15/16	2⅜	1.70
TA-430	40-30	150	200	1	2⅜	1.77
TA-440	40-40	150	200	1	2⅜	1.83
TA-530	50-30	150	200	1	2⅜	1.89
TA-816	8-16	200	250	¾	2⅜	1.45
TA-212	12-12	200	250	13/16	2⅜	1.45
TA-216	16-16	200	250	13/16	2⅜	1.64
AT-816	8-16	250	300	13/16	2⅜	1.64
AT-261	16-16	250	300	15/16	2⅜	1.89
UT-88	8-8	450	525	1	2⅜	1.64
UT-816	8-16	450	525	1	2⅞	2.08

SEPARATE POSITIVE AND SEPARATE NEGATIVE—4 LEADS

Cat. No.	Mfd.	Voltage DC working	Voltage Surge	Dimen. D	Dimen. L	List Price
TU-220	20-20	150	200	1	2⅜	2.08
TU-420	40-20	150	200	1 1/16	2⅝	2.15
TU-816	8-16	250	300	1	2⅜	2.15
TU-216	16-16	250	300	1	2⅞	2.53
TU-88	8-8	450	525	1 1/16	3⅜	2.08
TU-1616	16-16	450	525	1⅜	3⅛	3.03

SPRAGUE LM UNIVERSAL MOUNTING REPLACEMENTS


SPRAGUE
"ATOMS"
LM-816
16 MFD. 450 V.D.C. RED+ BLACK-
8 MFD. 450 V.D.C. GREEN+ BLUE-

SPRAGUE PRODUCTS COMPANY
North Adams, Mass.
Catalog No. C-400

Sprague Type LM are the handiest, most convenient dry electrolytics yet developed for vertical chassis mounting. Mount them in any position to replace inverted can or spade-lug capacitors, or any other type. Their special mounting arrangements are designed to replace screw type can mounting and will fit any chassis hole from ⅜" to ¾" diameter. All Type LM units have separate positive and separate negative leads which can be connected together to get common positive or negative sections. They are particularly recommended to replace old common positive capacitors since they eliminate all possibility of section to section electrolysis, which causes common positive sections to fail. Units are of famous Sprague etched foil construction completely sealed and moisture-proofed.

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
LM-121	20	150	200	¾	2⅞	$1.45
LM-8	8	450	525	¾	2⅞	1.45
LM-16	16	450	525	1	2⅞	2.21
LM-220	20-20	150	200	1	2⅞	2.53
LM-28	8-8	250	300	1	2⅞	2.40
LM-216	16-16	250	300	1	3⅜	2.91
LM-88	8-8	450	525	1	3⅜	2.27
LM-816	8-16	450	525	1⅜	3⅜	2.91
LM-1616	16-16	450	525	1⅜	3⅜	3.41
LM-2016	20-16/25	250/25	300/40	1¼	3⅞	3.54
LM-4020	40-20/25	250/25	300/40	1¼	3⅞	4.05

SPRAGUE CAPACITORS

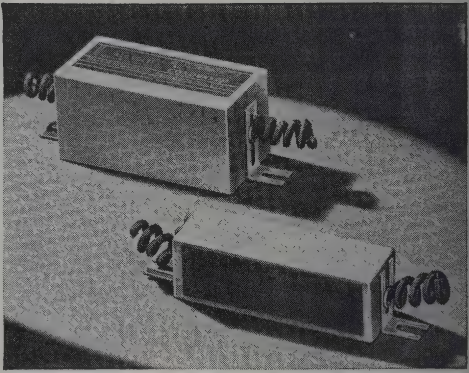
SPRAGUE PTM

SMALL RESTANGULAR DRY ELECTROLYTICS WITH UNIVERSAL MOUNTING

Sprague Type PTM dry electrolytic capacitors were the first of the "midget" dry capacitors for universal service replacement, and still continue to have great appeal with servicemen, because of their ease of mounting, universal application, and high quality performance.

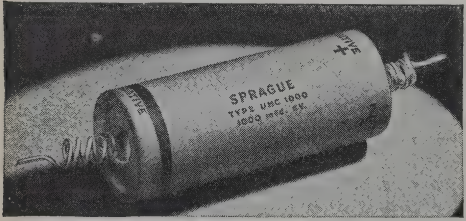
PTM's are made by the famous Sprague etched foil process, which permits extremely high capacity in a small space, with low leakage current and low power factor. The sections are wax embedded in a rugged, rectangular cardboard casing. Terminal leads are brought out through grommets in the ends of the casing. The universal, adjustable, "any angle" mounting feet, allow PTM's to be mounted anywhere, in any position.

Catalog No.	Mfd.	Voltage DC working	Surge	Dimsneions W	T	L	List Price
PTM-4	2	450	525	13/16	13/16	2 9/16	$1.13
PTM-8	8	450	525	¾	1 3/16	2 9/16	1.45
PTM-12	12	450	525	1⅛	1⅛	2 9/16	2.02
PTM-16	16	450	525	1¼	1¼	2 9/16	2.21
PTM-88	8-8	450	525	1⅛	1½	2 9/16	2.27



SPRAGUE UHC HIGH-CAPACITY, LOW-VOLTAGE TUBULARS

These miniature high-capacity, low-voltage tubular dry electrolytics are specifically constructed for use as cathode by-pass capacitors and as smoothing filters for low-voltage, high-current power supplies. Whereas ordinary high-capacity, dry electrolytics have high leakage current and relatively high power factor, Type UHC provides exceptionally low leakage current and low power factor. In by-pass applications, this means unusually high filtering action, without the introduction of shunt resistance across low-resistance bias units, and it is particularly important in controlled feedback amplifiers.



Catalog No.	Mfd.	Voltage DC working	Surge	Dimensions D	L	List Price
UHC-106	100	6	10	11/16	1 13/16	$1.13
UHC-206	250	6	10	13/16	1 13/16	1.45
UHC-506	500	6	10	1 1/16	1 13/16	1.89
UHC-1000	1000	6	10	1 1/16	2 13/16	2.65
UHC-1500	1500	6	10	1 1/16	3 5/16	3.41
UHC-112	100	12	15	11/16	1 13/16	1.26
UHC-212	250	12	15	13/16	1 13/16	1.64
UHC-512	500	12	15	1 1/16	1 13/16	2.27
UHC-1012	1000	12	15	1 1/16	2 13/16	3.79
UHC-115	100	15	20	11/16	1 13/16	1.32
UHC-215	250	15	20	15/16	1 13/16	1.89
UHC-515	500	15	20	15/16	2 5/16	2.65
UHC-1015	1000	15	20	1 1/16	3 5/16	4.55
UHC-102	100	25	40	13/16	1 13/16	1.39
UHC-202	250	25	40	1 1/16	1 13/16	2.27
UHC-502	500	25	40	1 1/16	2 13/16	3.41
UHC-105	100	50	75	15/16	1 13/16	1.51

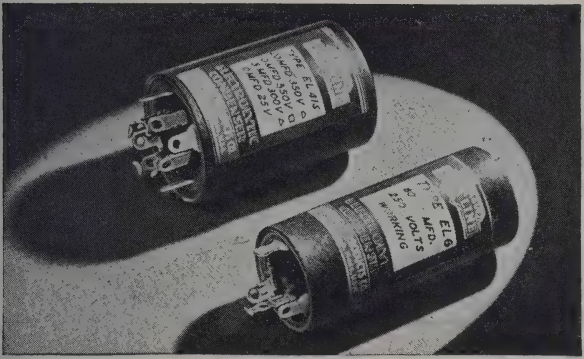
SPRAGUE HLV HIGH - CAPACITY, LOW - VOLTAGE ALUMINUM CAN TYPES

These aluminum can high-capacity, how-voltage capacitors are specifically designed for tough filter applications, in "A" eliminators, talking movie equipment, plant telephone systems and similar low-voltage, high capacity filter circuits where it is essential to have absolute reliability, and to eliminate all hum. All units have outer insulating tube.

Catalog No.	Mfd.	Voltage DC working	Surge	Dimensions D	L	List Price
HLV-506	500	6	10	1	2⅛	$1.89
HLV-106	1000	6	10	1⅜	2¼	2.65
HLV-156	1500	6	10	1⅜	2¾	3.41
HLV-206	2000	6	10	1⅜	3¼	4.17
HLV-5012	500	12	15	1⅜	2¼	2.27
HLV-1012	1000	12	15	1⅜	2¼	3.79
HLV-1512	1500	12	15	1⅜	2¾	4.55
HLV-2012	2000	12	15	1⅜	3¼	4.93
HLV-5015	500	15	20	1⅜	2¼	2.65
HLV-1015	1000	15	20	1⅜	2¼	4.55
HLV-1515	1500	15	20	1⅜	3¼	5.31
HLV-2015	2000	15	20	1½	3¾	5.69
HLV-525	500	25	40	1⅜	2¼	3.41
HLV-1025	1000	25	40	1⅜	3¼	5.31
HLV-2025	2000	25	40	1¾	4¼	9.11

HLV 506
500 mfd.

SPRAGUE CAPACITORS



SPRAGUE EL SELF - MOUNTING MIDGET CAN TYPE

The popularity of EL units is proved by their widespread use by leading manufacturers. They are easy to mount, and no other dry type gives so much dependability in such compact size. EL Capacitors are of highest quality etched-foil construction, hermetically sealed in aluminum cans and have twist-prong tabs for washer or direct to chassis mounting. Tabs have holes and are tinned for easy soldering. **Each unit is supplied to you with Bakelite and metal washers, making them ideal for above-chassis mounting.** The mounting tab ring, formed by the end of the metal container and serving as the negative terminal, is electrically welded to the capacitor cathode. Multi-Section EL Capacitors are concentrically wound and have common cathode construction.

SINGLE SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
EL-13	3000	10	1⅜	3	$5.69
EL-111	1000	15	1	3	3.98
EL-121	2000	15	1⅜	3	5.69
EL-142	40	25	¾	2	1.01
EL-112	100	25	¾	2	1.64
EL-152	500	25	1	2½	3.79
EL-122	1000	25	1⅜	2	5.31
EL-50	150	50	¾	2½	2.46
EL-55	500	50	1⅜	2½	5.69
EL-31	30	150	¾	2	1.07
EL-51	50	150	¾	2½	1.45
EL-14	40	200	1	2	1.39
EL-12	20	250	¾	2	1.07
EL-30	30	250	¾	2½	1.39
EL-42	40	250	1	2	1.51
EL-6	60	250	1	2½	1.83
EL-203	15	300	¾	2	1.01
EL-33	30	300	1	2	1.51
EL-53	50	300	1	2½	2.02
EL-123	125	300	1⅜	3	3.60
EL-5	50	350	1	3	2.21
EL-125	125	350	1⅜	3	3.98
EL-10	10	400	¾	2	1.13
EL-20	20	400	1	2	1.70
EL-80	80	400	1⅜	2½	3.73
EL-1	10	450	¾	2	1.13
EL-15	15	450	1	2	1.51
EL-2	20	450	1	2	1.70
EL-3	30	450	1	2½	2.08
EL-4	40	450	1	3	2.46
EL-115	10	525	1	2	1.51

DUAL SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
EL-242	40-40	25	1	2	1.51
EL-250	50-50	50	1	2	1.83
EL-221	20-20	150	1	2	1.51
EL-231	30-15	150	1	2	1.51
EL-230	30-30	150	1	2	1.70
EL-24	40-20	150	1	2	1.70
EL-35	50-30	150	1	2	1.83
EL-25	50-50	150	1	2	2.02
EL-26	60-60	150	1	3	2.21
EL-101	10-10	250	1	2	1.39
EL-120	20-20	250	1	2	1.70
EL-245	40-40	250	1	3	2.21
EL-21	10-10	300	1	2	1.51
EL-253	15-15	300	1	2	1.51
EL-22	20-20	300-25	1	2	1.51
EL-23	30-30	300-350	1	3	2.27
EL-32	30-20	350	1	3	2.21
EL-254	15-15	400	1	2½	2.21
EL-214	80-10	400	1⅜	3	4.17
EL-210	10-10	450	1	2	1.83
EL-151	15-10	450	1	2½	2.02
EL-220	20-10	450	1	3	2.53
EL-240	40-40	450	1⅜	3	4.05

TRIPLE SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
EL-325	20-20-20	25	1	2	$1.39
EL-335	30-30-30	50	1	2	1.83
EL-313	10-30-30	150	1	2	1.89
EL-320	20-20-20	150	1	2	1.83
EL-224	40-20-20	150	1	2	2.02
EL-340	40-40-40	150	1	3	2.40
EL-321	30-20-100	150-150-6	1	2	2.27
EL-222	20-20-20	150-150-25	1	2	1.70
EL-324	30-20-20	150-150-25	1	2	1.77
EL-332	30-30-20	150-150-25	1	2	1.89
EL-43	30-40-25	150-150-25	1	2	2.02
EL-343	40-30-20	150-150-25	1	2	2.15
EL-351	50-30-100	150-150-25	1	2	2.59
EL-352	50-50-20	150-150-25	1	2½	2.21
EL-355	10-15-15	250	1	2	1.77
EL-315	10-15-30	250	1	2	2.02
EL-354	40-20-20	250	1	3	2.40
EL-331	15-15-20	250-250-25	1	2	1.70
EL-334	30-30-20	250-250-25	1	2½	2.08
EL-314	10-20-30	250-250-350	1	3	2.27
EL-316	10-10-10	300	1	2	1.64
EL-333	20-20-20	300-300-25	1	2	2.02
EL-341	40-15-20	300-300-25	1	2½	2.21
EL-102	10-10-20	350-350-25	1	2	1.70
EL-153	15-10-20	350-350-25	1	2	1.77
EL-326	15-15-20	350-350-25	1	2½	1.89
EL-212	20-10-20	350-350-25	1	2½	2.02
EL-323	30-20-20	350-350-25	1	3	2.40
EL-311	10-10-10	400	1	2½	2.40
EL-342	15-15-40	400-400-25	1	2½	2.53
EL-222	20-20-20	400-400-25	1	3	1.70
EL-310	10-10-10	450	1	2½	2.40
EL-344	15-15-10	450	1	3	2.65
EL-362	20-15-10	450-300-300	1	3	2.27
EL-363	10-10-20	450-350-25	1	2	1.83
EL-364	15-20-20	450-350-250	1⅜	2	2.53
EL-345	10-10-10	450-450-25	1	2	2.02
EL-202	10-10-20	450-450-25	1	2	2.02
EL-312	10-20-20	450-450-25	1	3	2.46
EL-353	15-15-20	450-450-25	1	3	2.40
EL-205	20-15-20	450-450-25	1	3	2.59
EL-350	20-20-20	450-450-25	1	3	2.65
EL-330	30-30-20	450-450-25	1⅜	2½	3.41
EL-360	15-15-10	450-450-300	1	3	2.40
EL-215	15- 5-15	450-450-350	1	3	2.27

QUADRUPLE SECTION

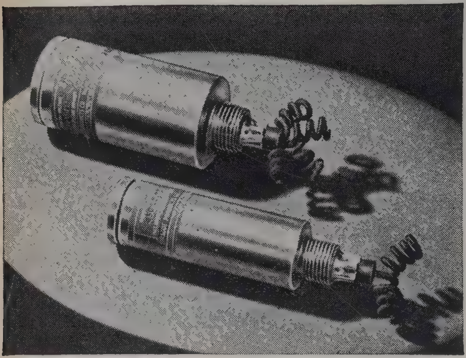
Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
EL-434	30-30-30-40	150-150-150-25	1⅜	2	2.53
EL-443	40-40-30-20	150-150-150-25	1⅜	2	2.53
EL-452	50-50-50-20	150-150-150-25	1⅜	2	2.91
EL-422	40-20-10-20	200-200-200-25	1⅜	2	2.40
EL-412	10-10-10-20	300-300-300-25	1⅜	2	2.40
EL-432	40-40-20-20	350-300-300-25	1⅜	3	3.54
EL-415	20-10- 5-10	350-350-350-25	1⅜	2	2.27
EL-442	20-20-20-20	400-400-400-25	1⅜	2½	3.60
EL-410	10-10-10-10	450	1⅜	2	2.91
EL-420	20-20-20-20	450	1⅜	3	4.17
EL-421	20-15-15-20	450-350-350-25	1⅜	2	2.84
EL-423	20-15-20-20	450-450- 25-25	1⅜	2	2.78
EL-425	20-20-30-30	450-450-300-300	1⅜	3	3.92
EL-431	10-10-10-20	450-450-450-25	1⅜	2	2.59
EL-424	40-30-10-20	450-450-450-25	1⅜	3	4.30

5 CITATIONS

for distinguished service are the enviable wartime record of the producers of Sprague Capacitors and Sprague Koolohm Resistors.

SPRAGUE CAPACITORS

SPRAGUE PLS "TINY MIKE" 450V



Type PLS Capacitors can be used with complete dependability on applications where much larger, old-style can-type dry electrolytics were previously necessary. Their exceptional quality and dependability in minimum size are made possible by the exclusive Sprague etched foil process which permits high capacity with very small leakage currents and low power factor. Aluminum cans have threaded bushing and locknut at one end for mounting. Cans are completely insulated from the capacitor sections.

Special ring clamps are available for upright mounting. (See Hardware, page P-119.)

CONTINUOUS WORKING VOLTAGE 450 VOLTS
MAXIMUM SURGE VOLTAGE 525 VOLTS

Catalog No.	Mfd.	Voltage DC working	Surge	Dimensions D	L	List Price
PLS-4	4	450	525	1	$2\frac{15}{16}$	$1.32
PLS-8	8	450	525	1	$2\frac{15}{16}$	1.64
PLS-12	12	450	525	1	$2\frac{15}{16}$	2.15
PLS-16	16	450	525	1	$2\frac{15}{16}$	2.40
PLS-20	20	450	525	1⅜	$2\frac{15}{16}$	2.65
PLS-25	25	450	525	1⅜	$3\frac{7}{16}$	2.84
PLS-30	30	450	525	1⅜	$3\frac{7}{16}$	3.03
PLS-40	40	450	525	1⅜	$3\frac{15}{16}$	3.48
PLS-48	4-8	450	525	1⅜	$2\frac{15}{16}$	2.21
PLS-88	8-8	450	525	1½	$2\frac{15}{16}$	2.46
PLS-816	8-16	450	525	1½	$4\frac{7}{16}$	3.16
PLS-216	16-16	450	525	1½	$3\frac{7}{16}$	3.29
PLS-888	8-8-8	450	525	1½	$2\frac{15}{16}$	3.54

SPRAGUE LS

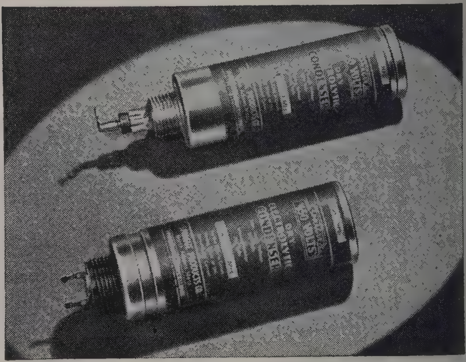
ALUMINUM CAN TYPES, 450V

Popular units for replacing older can type capacitors. May be mounted in any position. Standard mounting through chassis by threaded bushing on can. Packed with mounting hardware and insulating washers for use where can must be insulated from chassis. Special ring mounting clamps are available for upright mounting with can partly extending through panels or chassis. (See Hardware, page P-119.)

TYPE LS UNITS have the can as negative terminal, and lug terminals for anode connections.

CONTINUOUS WORKING VOLTAGE 450 VOLTS
MAXIMUM SURGE VOLTAGE 525 VOLTS

Catalog No.	Mfd.	Voltage DC working	Surge	Dimensions D	L	List Price
LS-8	8	450	525	1⅜	$2\frac{15}{16}$	$1.64
LS-12	12	450	525	1⅜	$2\frac{15}{16}$	2.15
LS-16	16	450	525	1⅜	$2\frac{15}{16}$	2.40
LS-20	20	450	525	1⅜	$2\frac{15}{16}$	2.65
LS-25	25	450	525	1⅜	$3\frac{7}{16}$	2.84
LS-30	30	450	525	1⅜	$3\frac{7}{16}$	3.03
LS-40	40	450	525	1⅜	$3\frac{15}{16}$	3.48
LS-88	8-8	450	525	1⅜	$2\frac{15}{16}$	2.46



SPRAGUE SC INVERTED SCREW CAN MOUNTING TYPE, 475V

(WITH CAN AS NEGATIVE TERMINAL)

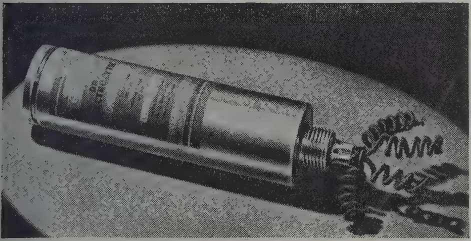
Can type dry electrolytics especially designed for the exacting continuous duty requirements of public address and power amplifier work. High surge voltage rating provides extra safety in high-current power supplies where high peaks often occur. Unexcelled for "extra tough" service replacement uses. Provided with threaded bushing for standard mounting in any position. Can is the negative terminal in all units. Positive terminal is lug connection. Supplied with mounting nut, and insulating washer to insulate can from chassis. Special ring clamps are available for upright mounting. (See Hardware, page P-119.)

CONTINUOUS WORKING VOLTAGE 475 VOLTS
MAXIMUM SURGE VOLTAGE 600 VOLTS

Catalog No.	Mfd.	Voltage DC working	Surge	Dimensions D	L	List Price
SC-4	4	475	600	1	$3\frac{7}{16}$	$1.89
SC-8	8	475	600	1⅜	$4\frac{7}{16}$	2.27
SC-12	12	475	600	1⅜	$4\frac{7}{16}$	3.16
SC-16	16	475	600	1½	$4\frac{7}{16}$	3.54
SC-88	8-8	475	600	1½	$4\frac{7}{16}$	3.67

SPRAGUE CAPACITORS

SPRAGUE CL INVERTED SCREW CAN MOUNTING TYPE, 475V (WITH CAN INSULATED FROM SECTIONS)

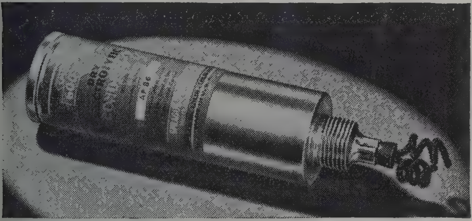


These can-type dry electrolytics are similar to Type SC Capacitors except that the can is insulated from the filter sections. Separate positive and negative terminal leads for each section. Especially recommended for high gain, high power amplifiers where minimum inter-stage coupling through power supply is desired. Special ring clamps are available for upright mounting. (See Hardware, p. P-119.)

CONTINUOUS WORKING VOLTAGE 475 VOLTS
MAXIMUM SURGE VOLTAGE 600 VOLTS

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
CL-8	8	475	600	1⅜	$4\frac{7}{16}$	$2.27
CL-16	16	475	600	1½	$4\frac{7}{16}$	3.54
CL-88	8.8	475	600	1½	$4\frac{15}{16}$	3.67

SPRAGUE AP HIGH-VOLTAGE CAN TYPES, 600V



These sturdy can-type units are outstandingly popular for all public address and theater applications where the working voltage is high and surges run well over 600 volts. These high capacities and high voltage ratings are obtained by use of balanced dry electrolytic sections connected in series, assuring long, trouble-free performance. Full capacity, full working voltage and low power factor are GUARANTEED.

CONTINUOUS WORKING VOLTAGE 600 VOLTS
MAXIMUM SURGE VOLTAGE 800 VOLTS

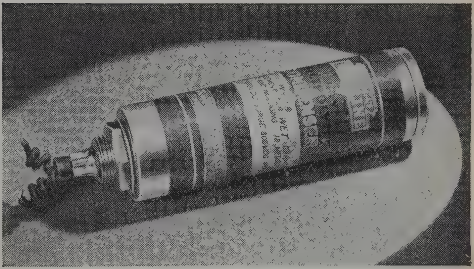
Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
AP-46	4	600	800	1	$4\frac{7}{16}$	$2.84
AP-86	4	600	800	1⅜	$4\frac{7}{16}$	3.98
AP-16	16	600	800	1½	$4\frac{7}{16}$	5.31

SPRAGUE RW

WET ELECTROLYTIC REPLACEMENTS

Sprague Type RW Capacitors are NOT SUBSTITUTES. Instead they are dry electrolytics of very high voltage formation specifically designed for use wherever wet electrolytic capacitors may have been used in the past. Not only will they stand high peak voltages, but they'll handle a-c ripples that might cause ordinary 450 volt drys to break down. Diameter is the same as standard wet mounting holes.

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
RW-8	8	500	600	1	$4\frac{7}{16}$	$1.45
RW-16	16	500	600	1⅜	$4\frac{7}{16}$	2.08
RW-25	25	500	600	1½	$5\frac{7}{16}$	2.46



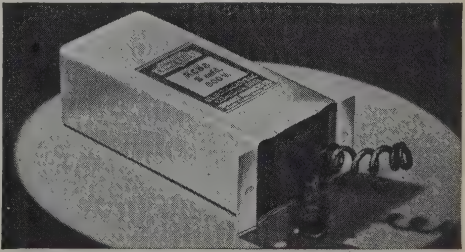
SPRAGUE RC HIGH - VOLTAGE

METAL CONTAINER TYPE, 800V

These units are for use in portable public address and theater equipment applications where space is limited and working voltages are high and surges may run well over 600 volts.. Operation at full rated working voltage, low leakage and low power factor are FULLY GUARANTEED. Type RC-88 is recommended for use on requirements for capacities up to and including 8 mfd.

CONTINUOUS WORKING VOLTAGE 800 VOLTS
MAXIMUM SURGE VOLTAGE 1000 VOLTS

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions W	Dimensions T	Dimensions L	List Price
RC-88	8	800	1000	1½	1½	4½	$4.17



SPRAGUE CAPACITORS

SPRAGUE TC TUBULARS, 600V

"NOT A FAILURE IN A MILLION"

Under Sprague engineering leadership, cartridge by-pass tubular capacitors have reached their highest state of perfection. Of all that have been used in all parts of the world, the slogan "Not a failure in a Million" is far more than a boast. It is a fact proved by long experience under the most difficult conditions of use.

TC By-Pass Capacitors consist of non - inductively wound, tubular sections impregnated by a special process and assembled in wax-impregnated tubes with wax end seals. Tinned wire leads are 2½ inches long, and are firmly anchored so that they will not pull out. Tubes are clearly marked to indicate polarity.

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
TC-31	.0001	600	⅜	⅞	$0.25
TC-325	.00025	600	⅜	⅞	.25
TC-34	.0004	600	⅜	⅞	.25
TC-35	.0005	600	⅜	⅞	.25
TC-21	.001	600	7/16	1¼	.25
TC-22	.002	600	7/16	1¼	.25
TC-23	.003	600	7/16	1⅜	.25
TC-24	.004	600	7/16	1⅜	.25
TC-25	.005	600	7/16	1⅜	.25
TC-26	.006	600	7/16	1⅜	.25
TC-11	.01	600	½	1⅜	.25
TC-12	.02	600	½	1⅜	.25
TC-13	.03	600	½	1⅝	.31
TC-14	.04	600	½	1⅝	.31
TC-15	.05	600	½	1⅝	.31
TC-16	.06	600	9/16	1⅝	.37
TC-1	.1	600	⅝	1⅝	.37
TC-2	.25	600	11/16	2⅛	.56
TC-5	.5	600	15/16	2⅛	.75
TC-10	1.0	600	1 3/16	2½	1.26

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
TR-35	.0005	1600	⅜	1¼	$0.56
TR-21	.001	1600	⅜	1⅜	.56
TR-22	.002	1600	⅜	1⅜	.56
TR-23	.003	1600	½	1½	.56
TR-24	.004	1600	9/16	1½	.56
TR-25	.005	1600	9/16	1⅝	.56
TR-26	.006	1600	9/16	1⅝	.56
TR-27	.007	1600	9/16	1⅝	.56
TR-28	.008	1600	⅝	1⅝	.56
TR-11	.01	1600	½	2	.56
TR-12	.02	1600	9/16	2	.56
TR-13	.03	1600	⅞	2⅛	.56
TR-14	.03	1600	15/16	2⅛	.63
TR-15	.05	1600	15/16	2⅛	.69

SPRAGUE TR HIGH - VOLTAGE PAPER TUBULARS, 1600V

Oil-impregnated and wax-filled in cardboard tubes, Sprague TR Tubulars are especially designed for use as buffers and other high-voltage applications such as automobile radio, vibrator power supplies, etc. They are constructed throughout for long life under extreme conditions of vibration and heat. Full capacity — true voltage ratings.

SPRAGUE SW METAL TUBULAR HIGH - VOLTAGE, HIGH - FREQUENCY TYPES

1000V and 1500V (MICA REPLACEMENTS, ETC.)

In addition to other high-voltage, high-frequency uses, Type SW units serve as entirely satisfactory mica capacitor substitutes when used as by-pass, blocking or antenna-coupling capacitors; as buffer capacitors (with mercury vapor tubes); as filters for phone use or for grounding rotors. Units are oil-impregnated in metal cases to withstand severe climatic conditions. They are non-inductive and have extremely low power factor.

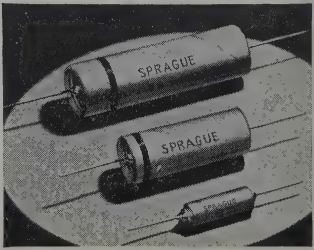
GUARANTEED UNCONDITIONALLY WHEN USED AS SPECIFIED

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
SW-22	.002	1500	⅝	1¼	$0.69
SW-25	.005	1500	⅝	1¼	.69
SW-11	.01	1500	11/16	1⅝	1.07
SW-12	.02	1500	11/16	1⅝	1.13
SW-15	.05	1000	11/16	1⅞	1.26
SW-1	.1	1000	¾	2½	1.39

SPRAGUE PX

HERMETICALLY-SEALED OIL-IMPREGNATED METAL TUBULARS, 600V AND 1000V DC

Here is your answer to every need calling for higher-voltage tubular capacitors in the smallest possible size for real dependability under difficult operating conditions. Sprague Type PX Capacitors consist of specially wound sections impregnated with an exclusive Sprague oil and hermetically sealed in metal containers for long trouble-free service. Each unit is supplied with an external sleeve to insulate it from the chassis and other metal parts. Mounting may be made by means of the tinned copper leads 2½" long, or by standard Sprague Mounting straps (see Hardware P-119).



SEE TOP OF NEXT PAGE FOR TYPE PX TABLE

SPRAGUE CAPACITORS

SPRAGUE PX (CONTINUED)

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
PX-316	.0001	600	½	1¼	$0.94
PX-3256	.00025	600	½	1¼	.94
PX-356	.0005	600	½	1¼	.94
PX-216	.001	600	½	1¼	.94
PX-226	.002	600	½	1¼	.94
PX-236	.003	600	½	1¼	.94
PX-246	.004	600	½	1¼	.94
PX-256	.005	600	½	1¼	.94
PX-266	.006	600	½	1¼	.94
PX-276	.007	600	½	1¼	.94
PX-286	.008	600	½	1¼	.94
PX-296	.009	600	½	1¼	.94
PX-116	.01	600	½	1¼	.94
PX-126	.02	600	½	1¾	.94
PX-136	.03	600	⅝	1⅝	1.01
PX-146	.04	600	⅝	1⅝	1.01
PX-156	.05	600	⅝	1⅝	1.01
PX-166	.06	600	$\frac{11}{16}$	1⅞	1.07
PX-186	.08	600	$\frac{11}{16}$	1⅞	1.07
PX-16	.1	600	$\frac{11}{16}$	1⅞	1.13
PX-26	.25	600	$\frac{13}{16}$	$2\frac{13}{16}$	1.70
PX-56	.5	600	$1\frac{1}{16}$	$2\frac{13}{16}$	2.40
PX-106	1.0	600	$1\frac{1}{16}$	$3\frac{11}{16}$	3.16

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
PX-311	.0001	1000	$\frac{11}{16}$	1¼	$1.01
PX-3251	.00025	1000	$\frac{11}{16}$	1¼	1.01
PX-351	.0005	1000	$\frac{11}{16}$	1¼	1.01
PX-211	.001	1000	$\frac{11}{16}$	1¼	1.01
PX-221	.002	1000	$\frac{11}{16}$	1¼	1.01
PX-231	.003	1000	$\frac{11}{16}$	1¼	1.01
PX-241	.004	1000	$\frac{11}{16}$	1¼	1.01
PX-251	.005	1000	$\frac{11}{16}$	1¼	1.01
PX-261	.006	1000	$\frac{11}{16}$	1¼	1.01
PX-271	.007	1000	$\frac{11}{16}$	1¼	1.01
PX-281	.008	1000	$\frac{11}{16}$	1¼	1.01
PX-291	.009	1000	$\frac{11}{16}$	1¼	1.01
PX-111	.01	1000	$\frac{11}{16}$	1¼	1.01
PX-121	.02	1000	⅝	1⅝	1.01
PX-131	.03	1000	$\frac{11}{16}$	1¾	1.07
PX-141	.04	1000	$\frac{11}{16}$	1¾	1.07
PX-151	.05	1000	$\frac{11}{16}$	1¾	1.13
PX-161	.06	1000	$1\frac{1}{16}$	2	1.20
PX-181	.08	1000	$1\frac{1}{16}$	2	1.32
PX-11	1.	1000	$1\frac{1}{16}$	2	1.51
PX-21	.25	1000	$1\frac{1}{16}$	$2\frac{13}{16}$	2.08
PX-51	.5	1000	$1\frac{1}{16}$	$3\frac{11}{16}$	2.84

OIL-FILLED TRANSMITTING CAPACITORS

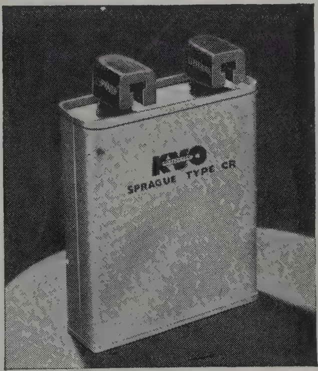
Filled with

KVO

(KILO-VOLT-OIL — The Sprague wartime research oil development)

SPRAGUE CR

(With Universal Mounting Feature)



An oil-filled transmitting capacitor is no better than the oil with which it is filled—and Sprague brings you the best! KVO*—Kilo Volt Oil—is the result of extensive laboratory research and engineering tests and has proved its excellence throughout the world during the war in capacitors used on practically every type of equipment. KVO retains its dielectric efficiency at low temperatures to a greater extent than any other type of oil in common use. High insulation resistance and low power factor are maintained over a very broad range of operating temperatures. **Oil-filled** capacitors are essential for high-voltage use, and you can rely upon Sprague KVO units under all conditions. Terminals are insulated from the cans for AT LEAST TWICE the working voltage. Capacitor sections are hermetically sealed in sturdy rectangular metal cans which can be automatically grounded through the mounting clamps.

For special **industrial** applications, where extremely high insulation resistance requirements must be met, Sprague can supply special dielectric materials.

CR Capacitors are of convenient rectangular shape and have handy adjustable universal flanges for mounting in any position. Each unit is labelled with operating information based on A.R.R.L. standards and, in accordance with Sprague custom, ALL RATINGS ARE CONSERVATIVE. No need to "play safe" by buying mose costly, higher-voltage transmitting capacitors than you actually need.

Unconditionally guaranteed against breakdown when used as specified.

*Trademark applied for.

Catalog No.	Mfd.	Voltage DC working	Dimensions T	Dimensions W	Dimensions L	List Price
CR-056	.5	600	$1\frac{1}{16}$	$1\frac{13}{16}$	2¼	$ 4.17
CR-16	1.0	600	$1\frac{1}{16}$	$1\frac{13}{16}$	2¼	5.31
CR-26	2.0	600	$1\frac{1}{16}$	$1\frac{13}{16}$	2⅞	6.45
CR-36	3.0	600	$1\frac{1}{16}$	$1\frac{13}{16}$	3¼	7.59
CR-46	4.0	600	$1\frac{3}{16}$	2½	3½	8.35
CR-66	6.0	600	$1\frac{3}{16}$	2½	4¾	10.25
CR-86	8.0	600	1¼	3¾	3⅞	12.15

Catalog No.	Mfd.	Voltage DC working	Dimensions T	Dimensions W	Dimensions L	List Price
CR-106	10.0	600	1¼	3¾	4¾	$13.67
CR-011	.1	1000	$1\frac{1}{16}$	$1\frac{13}{16}$	1⅝	3.79
CR-0251	.25	1000	$1\frac{1}{16}$	$1\frac{13}{16}$	2¼	4.17
CR-051	.5	1000	$1\frac{1}{16}$	$1\frac{13}{16}$	2¼	4.55
CR-11	1.0	1000	$1\frac{1}{16}$	$1\frac{13}{16}$	2¼	5.69
CR-21	2.0	1000	$1\frac{1}{16}$	$1\frac{13}{16}$	3⅞	7.59
CR-41	4.0	1000	$1\frac{3}{16}$	2½	4¾	9.49
CR-81	8.0	1000	1¼	3¾	4¾	13.67
CR-101	10.0	1000	1¾	3¾	4¾	15.19
CR-121	12.0	1000	2¼	3¾	4½	16.45
CR-151	15.0	1000	2½	3¾	4¾	18.23
CR-0515	.5	1500	$1\frac{1}{16}$	$1\frac{13}{16}$	2⅞	5.69
CR-115	1.0	1500	$1\frac{1}{16}$	$1\frac{13}{16}$	3⅞	6.83
CR-215	2.0	1500	$1\frac{3}{16}$	2½	4¼	9.49
CR-415	4.0	1500	1¼	3¾	4¾	12.66
CR-515	5.0	1500	1¼	3¾	4	13.67
CR-815	8.0	1500	2½	3¾	4¾	18.99
CR-1015	10.0	1500	$3\frac{3}{16}$	3¾	4¾	22.78
CR-012	.1	2000	$1\frac{3}{16}$	2½	2½	6.07
CR-0252	.25	2000	$1\frac{3}{16}$	2½	2½	6.45
CR-052	.5	2000	$1\frac{3}{16}$	2½	2⅞	6.83
CR-12	1.0	2000	$1\frac{3}{16}$	2½	3½	8.35
CR-22	2.0	2000	1¼	3¾	4¼	9.87
CR-32	3.0	2000	1¼	3¾	4¾	12.15
CR-42	4.0	2000	2¼	3¾	3⅞	13.67
CR-62	6.0	2000	$3\frac{3}{16}$	3¾	4½	17.85
CR-102	10.0	2000	$4\frac{9}{16}$	3¾	4¾	27.85
CR-0125	.1	2500	$1\frac{3}{16}$	2½	2½	9.36
CR-0525	.5	2500	1¼	3¾	3¼	10.63
CR-125	1.0	2500	1¾	3¾	3¼	12.15
CR-225	2.0	2500	1¾	3¾	4¾	19.62
CR-425	4.0	2500	$4\frac{9}{16}$	3¾	4⅜	27.22
CR-013	.1	3000	$1\frac{3}{16}$	2½	2½	12.66
CR-0253	.25	3000	$1\frac{3}{16}$	2½	2⅞	13.67
CR-053	.5	3000	$1\frac{3}{16}$	2½	4¼	15.19
CR-13	1.0	3000	2¼	3¾	3⅞	18.23
CR-23	2.0	3000	$3\frac{3}{16}$	3¾	4½	22.78
CR-43	4.0	3000	$4\frac{9}{16}$	3¾	4¾	33.42
CR-014	.1	4000	2¼	3¾	2¾	22.78
CR-0254	.25	4000	2¼	3¾	2¾	24.05
CR-054	.5	4000	2¼	3¾	3⅞	27.22
CR-14	1.0	4000	2¼	3¾	5⅛	33.42
CR-24	2.0	4000	$4\frac{9}{16}$	3¾	5⅛	42.41
CR-025	.2	5000	1¾	3¾	3⅞	27.22
CR-055	.5	5000	2¼	3¾	4½	30.38
CR-15	1.0	5000	$4\frac{9}{16}$	3¾	4⅜	37.98
CR-25	2.0	5000	$4\frac{9}{16}$	3¾	6	48.61
CR-0160	.1	6000	2¼	3¾	3⅜	30.38
CR-0260	.2	6000	1¾	3¾	4¼	37.98
CR-160	1.0	6000	8	4	11	75.96
CR-0175	.1	7500	2¼	3¾	3⅞	43.04
CR-0275	.2	7500	1¾	3¾	4¾	45.58

FREE! LIFEGUARD PROTECTIVE CAPS

Don't run any chance of getting hold of a "hot one!" Each Sprague Type KVO Capacitor comes to you equipped with the famous Sprague 'Lifeguard' Protective Insulating Caps at no extra charge. They afford maximum protection at all times.

BUY LIFEGUARDS FOR YOUR OLD CAPACITORS

LG-1—List price per pair, 30c

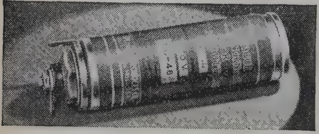
SPRAGUE CAPACITORS

SPRAGUE OT POPULAR, INEXPENSIVE ROUND CAN TRANSMITTING TYPES, 600V TO 3000V

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	R	List Price
OT-26	2	600	2	2 15/32	1¼	$4.93
OT-11	1	1000	2	2 15/32	1¼	4.17
OT-21	2	1000	2	3 3/32	1¼	5.69
OT-41	4	1000	2	5 3/32	1¼	7.21
OT-515	0.5	1500	2	2 15/32	1¼	4.17
OT-115	1	1500	2	2 21/32	1¼	5.31
OT-215	2	1500	2	4 15/32	1¼	7.21
OT-12	1	2000	2	4 3/32	1¼	6.83
OT-22	2	2000	2½	4 15/32	1½	7.59
OT-13	1	3000	2½	4 23/32	1½	13.67

Long a favorite with amateurs, broadcasters, etc., throughout the world. Impregnated and filled with KVO*. Rated to conform with tube and circuit design requirements. As with other Sprague high-voltage transmitting types, each unit is equipped with ceramic terminals and LIFEGUARD Safety Caps. Mounting clamp is provided. Unconditionally guaranteed when used as specified.

*Trademark applied for.



SPRAGUE PC INVERTED ROUND SCREW CAN TRANSMITTING TYPES, 600V TO 1500V

These popular Sprague TYPE PC inverted round screw can capacitors are filled (NOT just impregnated) with KVO*, the famous Sprague 500°F. flash protection oil that has the added advantage of retaining its dielectric efficiency at low temperatures. The PC Capacitors find a wide field of usefulness in such applications as public address systems, medium-voltage transmitters, television and high-gain amplifiers. THEY ARE RATED CONSERVATIVELY and labelled according to A.R.R.L. standards. Ample safety factor is assured. Units include spade washer and insulating lug to insulate the round metal can containers from the chassis. Ring clamp is available for upright mounting. (See page P-119.)

*Trademark applied for.

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
PC-26	2.0	600	1½	2⅞	$4.17
PC-36	3.0	600	1½	3⅞	4.93
PC-46	4.0	600	1½	4 7/16	5.69
PC-11	1.0	1000	1½	2⅞	3.79
PC-21	2.0	1000	1½	4 7/16	4.93
PC-515	0.5	1500	1½	2⅜	4.55
PC-115	1.0	1500	1½	3⅞	5.06

SPRAGUE AR & LR AUTO GENERATOR AND VIBRATOR TYPES

Exceptionally sturdy design to withstand the bouncing and vibration of automobile use is a feature of these Automobile Generator and Vibrator types. They are oil-impregnated and metal-encased for long service under difficult conditions of heat and humidity.

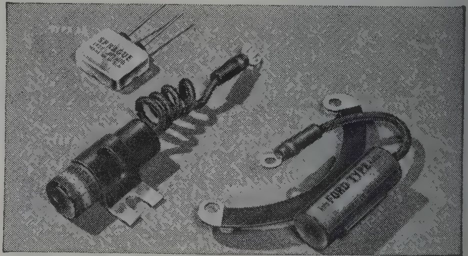
The Ford Type has a special mounting bracket to accommodate cars of this make. All units are conservatively rated, and designed to withstand high surge voltages. Full capacity-true voltage ratings.

AR (GENERATOR TYPES)

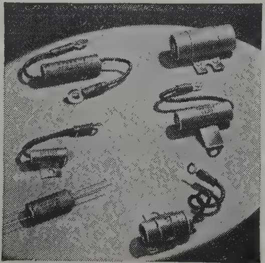
Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
AR-1	1.0	400	1	2 3/16	$1.07
AR-2	.5	400	11/16	1⅛	.75
AR-55	.5—.5	400	1	2 3/16	1.13
AR-Ford	.5	400	11/16	1⅞	.75

LR (VIBRATOR TYPES)

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	R	List Price
LR-11	.01	1600	¼	⅞	1 1/16	$0.69
LR-12	.02	1600	¼	⅞	1 1/16	.69
LR-27	.007	1600	¼	⅞	1 1/16	.69



SPRAGUE SPECIAL AUTOMOBILE TYPES

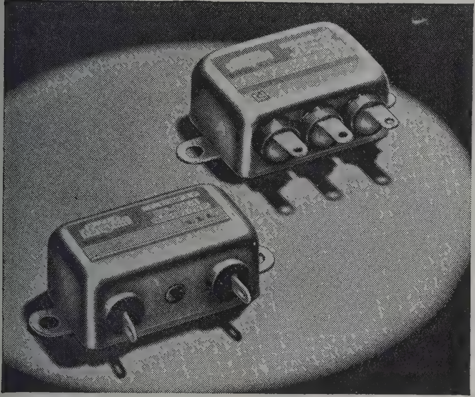


Designed for special automobile services as indicated in the table, the following Sprague capacitors are equipped with suitable mounting features.

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
DL-1—Dome Light Filter	.2	200	1	2 3/16	$1.26
GG-5—Gas Gauge Filter	.05	200	7/16	1 7/32	.75
OG-50—Oil Gauge Filter	.25	200	11/16	1⅞	.75
P-2077—Ford Replacement	.5	200	11/16	1⅞	.75
P-2402—Ammeter Capacitor	.5	200	11/16	2	.69
P-2153—Motorola Replacement	.0008-.0008	1000	¾	1⅜	.69

SPRAGUE CAPACITORS

SPRAGUE BP METAL-ENCASED BATHTUB UNITS (WITH SIDE TERMINALS)



These popular units are styled for use where the most severe conditions of heat and moisture must be met. They are oil impregnated and filled with KVO*. Mounting flanges or ears are integral parts of the containers.

* Trademark applied for.

Catalog No.	Mfd.	Voltage DC working	Dimensions L	Dimensions W	Dimensions H	List Price
BP-1	.1	400	1 13/16	1	¾	$1.01
BP-25	.25	400	1 13/16	1	¾	1.13
BP-50	.5	400	1 13/16	1	⅞	1.45
BP-10	1.0	400	2	1¾	⅞	1.89
BP-21	.1-.1	400	1 13/16	1	¾	1.26
BP-225	.25-.25	400	1 13/16	1	1	1.51
BP-250	.5-.5	400	2	1¾	⅞	1.89
BP-31	.1-.1-.1	400	1 13/16	1	¾	1.64
BP-56	.05	600	1 13/16	1	¾	2.59
BP-16	.1	600	1 13/16	1	¾	2.65
BP-256	.25	600	1 13/16	1	¾	2.78
BP-506	.5	600	1 13/16	1	⅞	2.97
BP-106	1.0	600	2	1¾	⅞	3.41
BP-206	2.0	600	2	2	1⅛	4.55
BP-2056	.05-.05	600	1 13/16	1	¾	3.29
BP-216	.1-.1	600	1 13/16	1	¾	3.35
BP-2256	.25-.25	600	1 13/16	1	1	3.41
BP-2506	.5-.5	600	2	1¾	⅞	3.92
BP-116	1.0-1.0	600	2	2	1⅛	4.81
BP-316	.1-.1-.1	600	1 13/16	1	¾	3.79
BP-3256	.25-.25-.25	600	2	1¾	⅞	4.30
BP-356	.5-.5-.5	600	2	2	1⅛	5.19
BP-51	.05	1000	1 13/16	1	¾	2.65
BP-11	.1	1000	1 13/16	1	¾	2.84
BP-251	.25	1000	1 13/16	1	¾	2.91
BP-501	.5	1000	2	1¾	⅞	3.16
BP-101	1.0	1000	2	2	1⅛	4.17
BP-2051	.05-.05	1000	1 13/16	1	¾	3.29
BP-211	.1-.1	1000	1 13/16	1	¾	3.54
BP-2251	.25-.25	1000	2	1¾	⅞	3.79
BP-2501	.5-.5	1000	2	2	1⅛	4.93
BP-311	.1-.1-.1	1000	1 13/16	1	⅞	4.17
BP-3251	.25-.25-.25	1000	2	2	1⅛	5.31

Sprague Type UC cardboard-cased capacitors cost only about one-third the price of conventional high-voltage units—and you can count on them fully for tip-top service for practically any transmitting or similar use up to 1000 volts as rated. They are equally popular with beginners as well as old-time amateurs who want to save money on their rigs without interfering with efficiency. These capacitors are oil impregnated, wax filled, fully cased and sealed in durable cardboard containers. Handy mounting flanges may be cut off when not needed. Unconditionally guaranteed when used at rated voltages.

SPRAGUE UC

INEXPENSIVE CARDBOARD-CASED TRANSMITTING TYPES, 400V TO 1000V

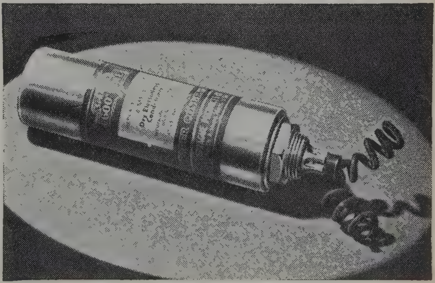
Catalog No.	Mfd.	Voltage DC working	Dimensions T	Dimensions W	Dimensions H	List Price
UC-54	0.5	400	⅝	1⅝	2⅛	$0.75
UC-14	1	400	¾	1⅝	2⅜	1.13
UC-24	2	400	1⅛	1⅝	2⅜	1.77
UCL-24	2	400	1 5/16	1⅜	3½	1.77
UC-16	1	600	1⅛	1 13/16	2⅜	1.39
UC-26	2	600	1 5/16	1⅞	3½	2.08
UC-46	4	600	1½	2¼	4½	3.79
UC-18	1	800	1 5/16	1⅞	3½	1.89
UC-28	2	800	1½	2¼	4½	3.03
UC-11	1	1000	1⅜	1⅞	4½	2.27
UC-21	2	1000	1⅞	2 7/16	4½	3.79
UC-41	4	1000	2 7/16	3½	4½	6.83

SPRAGUE DR CAN-ENCASED PAPER DIELECTRIC TYPE, 600V (FOR DRY ELECTROLYTIC REPLACEMENTS)

The steady demand for Paper Dielectric Capacitors of the same sizes and shapes as Dry Electrolytics to serve as replacements for Dry Electrolytics has prompted us to bring you this line of capacitors. The actual capacity is one-third to one-half that of a Dry Electrolytic in the same size container. The leakage and power factor are extremely low. No polarity has been observed.

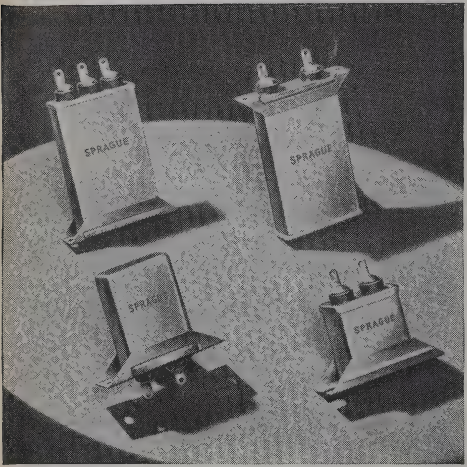
Ideal for replacements in high-voltage public address systems, power amplifiers and high-voltage filter circuits.

Catalog No.	Replacement Cap. Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
DR-8	8	600	1⅜	4½	$2.65
DR-88	8-8	600	1⅜	4½	4.30



SPRAGUE CAPACITORS

SPRAGUE
CAB, CAT, CNB & CNT
WITH CHANNEL BRACKET MOUNTINGS



These oil-impregnated paper dielectric Capacitors meet many special needs where the call is for sturdy, small-size units to withstand severe operating conditions. Extreme care is exercised to assure hermetic sealing of the metal containers. Channel bracket mountings, firmly soldered to the containers, are supplied as standard.

These units are specifically designed for chassis and relay rack mounting, and are mechanically constructed to withstand severe vibration in automotive, aircraft, or industrial use.

The capacitors sections are oil impregnated and the units are oil filled with specially processed KVO*. All units are flash tested at twice rated voltage, and ground tested from terminals to container at twice rated voltage. Standard capacity tolerance for single and dual units is —10%, +20%, and for triple units is ±20%.

*Trademark applied for.

CNB—CNT

Catalog No.		Mfd.	Voltage DC Working	—Dimensions— T	W	H	List Price
CNB-154	CNT-154	.05	400	41/64	1 ¾	1	$2.84
CNB-14	CNT-14	.1	400	41/64	1 ¾	1	2.97
CNB-24	CNT-24	.25	400	41/64	1 ¾	1 ½	3.03
CNB-54	CNT-54	.5	400	41/64	1 ¾	1 15/16	3.16
CNB-104	CNT-104	1.0	400	41/64	1 ¾	2 ½	3.43
CNB-2154	CNT-2154	.05-.05	400	41/64	1 ¾	1	3.67
CNB-214	CNT-214	.1-.1	400	41/64	1 ¾	1 ½	3.73
CNB-224	CNT-224	.25-.25	400	41/64	1 ¾	1 15/16	3.92
CNB-254	CNT-254	.5-.5	400	41/64	1 ¾	2 ½	4.24
CNB-3154	CNT-3154	.05-.05-.05	400	41/64	1 ¾	1	4.49
CNB-314	CNT-314	.1-.1-.1	400	41/64	1 ¾	1 ½	4.81
CNB-324	CNT-324	.25-.25-.25	400	41/64	1 ¾	2 ½	5.19
CNB-126	CNT-126	.02	600	41/64	1 ¾	1	2.78
CNB-156	CNT-156	.05	600	41/64	1 ¾	1	2.91
CNB-16	CNT-16	.1	600	41/64	1 ¾	1	3.03
CNB-26	CNT-26	.25	600	41/64	1 ¾	1 ½	3.16
CNB-56	CNT-56	.5	600	41/64	1 ¾	1 15/16	3.35
CNB-106	CNT-106	1.0	600	41/64	1 ¾	2 ½	3.67
CNB-2156	CNT-2156	.05-.05	600	41/64	1 ¾	1	3.79
CNB-216	CNB-216	.1-.1	600	41/64	1 ¾	1 ½	3.92
CNB-226	CNT-226	.25-.25	600	41/64	1 ¾	1 15/16	4.17
CNB-256	CNT-256	.5-.5	600	41/64	1 ¾	2 ½	4.49
CNB-3156	CNT-3156	.05-.05-.05	600	41/64	1 ¾	1	4.55
CNB-316	CNT-316	.1-.1-.1	600	41/64	1 ¾	1 ½	4.93
CNB-326	CNT-326	.25-.25-.25	600	41/64	1 ¾	2 ½	5.31
CNB-151	CNT-151	.05	1000	41/64	1 ¾	1	3.03
CNB-11	CNT-11	.1	1000	41/64	1 ¾	1	3.16
CNB-21	CNT-21	.25	1000	41/64	1 ¾	1 15/16	3.29
CNB-51	CNT-51	.5	1000	41/64	1 ¾	2 ½	3.48
CNB-2151	CNT-2151	.05-.05	1000	41/64	1 ¾	1	4.17
CNB-211	CNT-211	.1-.1	1000	41/64	1 ¾	1 ½	4.43
CNB-221	CNT-221	.25-.25	1000	41/64	1 ¾	2 ½	4.55
CNB-3151	CNT-3151	.05-.05-.05	1000	41/64	1 ¾	1 ½	4.93
CNB-311	CNT-311	.1-.1-.1	1000	41/64	1 ¾	2 ½	5.31

CAB—CAT

Catalog No.		Mfd.	Voltage DC Working	—Dimensions— T	W	H	List Price
CAB-154	CAT-154	.05	400	49/64	1 5/16	1 1/16	$2.65
CAB-14	CAT-14	.1	400	49/64	1 5/16	1 1/16	2.84
CAB-24	CAT-24	.25	400	49/64	1 5/16	1 ⅜	2.91
CAB-54	CAT-54	.5	400	49/64	1 5/16	2	2.97
CAB-104	CAT-104	1.0	400	49/64	1 5/16	2 ½	3.29
CAB-156	CAT-156	.05	600	49/64	1 5/16	1 1/16	2.78
CAB-16	CAT-16	.1	600	49/64	1 5/16	1 ⅜	2.91
CAB-26	CAT-26	.25	600	49/64	1 5/16	1 ⅝	2.97
CAB-56	CAT-56	.5	600	49/64	1 5/16	2	3.03
CAB-106	CAT-106	1.0	600	49/64	1 5/16	2 ½	3.41
CAB-151	CAT-151	.05	1000	49/64	1 5/16	1 ⅜	2.84
CAB-11	CAT-11	.1	1000	49/64	1 5/16	1 ⅜	2.97
CAB-21	CAT-21	.25	1000	49/64	1 5/16	2	3.03
CAB-51	CAT-51	.5	1000	49/64	1 5/16	2 ½	3.29

SPRAGUE MICA CAPACITORS
Twice Tested for R-F Characteristics

Sprague Mica Capacitors provide maximum quality for R-F applications where exacting requirements involving low-power factor and high-insulation resistance at high frequencies must be met. The line includes types for every requirement ranging from the tiny "toothpick" 1FM types to the giant ceramic-jacketed types 4CC. Each type incorporates outstanding developments based on far-reaching Sprague wartime engineering.

Mica units are perhaps the most critical of all capacitor types to produce properly—and it is in the handling of these essential details that Sprague engineering and production excels. Beginning with selection and handling of the mica itself, extreme care is taken in every operation to assure completed units which, although they look like conventional units on the surface, will far surpass ordinary mica capacitors in actual service.

Stocks of raw mica are carefully selected. So critical are Sprague requirements that far more mica is rejected than is actually selected for use. The selected mica is then hand split and each piece electrically graded by exclusive Sprague methods.

Particular care is exercised in the interleaving of section foils and in connecting them to terminals through specially designed low-resistance R-F bonds. Perhaps most important of all is the fact that each and every Sprague Mica Capacitor section receives a painstaking radio frequency test before being encased in its mold. After this test, each section is carefully impregnated and moisture-proofed prior to the molding operation.

Upon completion, all Sprague Mica Capacitors required to carry large R-F currents are actually R-F current tested for their peak ratings. This test combined with thorough testing before molding assures the serviceman, amateur, experimenter or industrial user of units of utmost dependability for any application or any condition of use.

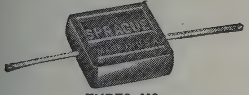
SPRAGUE MS
STANDARD CAPACITY TOLERANCE ±5%

Catalog Nos.	Dimensions L	W	T
MS-55 through MS-35	51/64	15/32	7/32
MS-36 through MS-23	53/64	53/64	9/32
MS-24 through MS-28	53/64	53/64	11/32
MS-29 through MS-11	1	⅝	5/16

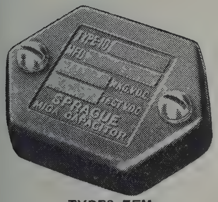
Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
MS-55	.000005	500	1000	$0.60
MS-41	.00001	500	1000	.50
MS-415	.000015	500	1000	.50
MS-42	.00002	500	1000	.50
MS-425	.000025	500	1000	.50
MS-43	.00003	500	1000	.50
MS-44	.00004	500	1000	.50
MS-45	.00005	500	1000	.50
MS-46	.00006	500	1000	.50
MS-47	.00007	500	1000	.50
MS-31	.0001	500	1000	.50
MS-32	.0002	500	1000	.60
MS-33	.0003	500	1000	.90
MS-34	.0004	500	1000	.90
MS-35	.0005	500	1000	.90
MS-36	.0006	500	1000	1.20
MS-37	.0007	500	1000	1.20
MS-38	.0008	500	1000	1.35
MS-39	.0009	500	1000	1.35
MS-21	.001	500	1000	1.50
MS-22	.002	500	1000	1.80
MS-23	.003	500	1000	2.70
MS-24	.004	500	1000	2.85
MS-25	.005	500	1000	3.00
MS-26	.006	500	1000	3.20
MS-27	.007	300	600	3.45
MS-28	.008	300	600	3.75
MS-29	.009	300	600	4.10
MS-11	.01	300	600	4.50

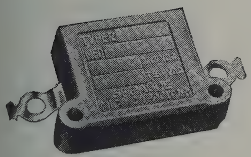
SPRAGUE CAPACITORS

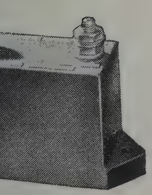
MICA TYPES
(continued)


TYPES MS
and 1FM

TYPES 3AFM
3BFM and 3CFM


TYPES 7FM
8FM and 9FM


TYPES XFM
YFM and ZFM


TYPES 1MC
and 2MC

SPRAGUE 1FM

STANDARD CAPACITY TOLERANCE ±20%

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
1FM-44	.00004	500	1000	$0.20
1FM-45	.00005	500	1000	.20
1FM-475	.000075	500	1000	.20
1FM-31	.0001	500	1000	.20
1FM-315	.00015	500	1000	.20
1FM-32	.0002	500	1000	.20
1FM-325	.00025	500	1000	.25
1FM-335	.00035	500	1000	.25
1FM-34	.0004	500	1000	.25
1FM-35	.0005	500	1000	.25
1FM-37	.0007	500	1000	.25
1FM-21	.001	500	1000	.30
1FM-215	.0015	500	1000	.30
1FM-22	.002	500	1000	.40
1FM-23	.003	500	1000	.50
1FM-24	.004	500	1000	.55
1FM-25	.005	500	1000	.60
1FM-26	.006	500	1000	.75
1FM-27	.007	300	600	.80
1FM-28	.008	300	600	.80
1FM-29	.009	300	600	.85
1FM-11	.01	300	600	.90

Catalog Nos.	Dimensions L	W	T
1FM-44 through 1FM-35	51/64	15/32	7/32
1FM-37 through 1FM-23	53/64	53/64	9/32
1FM-24 through 1FM-28	53/64	53/64	11/32
1FM-29 through 1FM-11	1	⅝	5/16

SPRAGUE 3AFM 3BFM & 3CFM

STANDARD CAPACITY TOLERANCE ±10%

3AFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3AFM-25	.005	300	600	$0.60
3AFM-26	.006	300	600	.75
3AFM-27	.007	300	600	.80
3AFM-28	.008	300	600	.80
3AFM-11	.01	300	600	.90
3AFM-115	.015	300	600	1.00

3BFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3BFM-31	.0001	500	1000	.20
3BFM-32	.0002	500	1000	.20
3BFM-325	.00025	500	1000	.25
3BFM-33	.0003	500	1000	.25
3BFM-34	.0004	500	1000	.25
3BFM-35	.0005	500	1000	.25
3BFM-21	.001	500	1000	.30
3BFM-215	.0015	500	1000	.30
3BFM-22	.002	500	1000	.40
3BFM-225	.0025	500	1000	.45
3BFM-23	.003	500	1000	.50
3BFM-24	.004	500	1000	.55
3BFM-25	.005	500	1000	.60
3BFM-26	.006	500	1000	.75
3BFM-27	.007	500	1000	.80
3BFM-28	.008	500	1000	.80

3CFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3CFM-45	.00005	1000	2000	.60
3CFM-31	.0001	1000	2000	.60
3CFM-32	.0002	1000	2000	.60
3CFM-325	.00025	1000	2000	.60
3CFM-33	.0003	1000	2000	.70
3CFM-34	.0004	1000	2000	.70
3CFM-35	.0005	1000	2000	.70
3CFM-21	.001	1000	2000	.75
3CFM-215	.0015	1000	2000	.80
3CFM-22	.002	1000	2000	.80
3CFM-225	.0025	1000	2000	.80

Catalog Nos.	Dimensions L	W	T
3AFM Types	1	⅝	5/16
3BFM Types	1	⅝	5/16
3CFM Types	1	⅝	5/16

SPRAGUE 7FM 8FM & 9FM

STANDARD CAPACITY TOLERANCE ±10%

7FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
7FM-45	.00005	600	1200	$0.75
7FM-31	.0001	600	1200	.75
7FM-315	.00015	600	1200	.75
7FM-32	.0002	600	1200	.75
7FM-325	.00025	600	1200	.75
7FM-35	.0005	600	1200	.75
7FM-21	.001	600	1200	.75
7FM-22	.002	600	1200	.80
7FM-225	.0025	600	1200	.90
7FM-23	.003	600	1200	1.05
7FM-24	.004	600	1200	1.05
7FM-25	.005	600	1200	1.05
7FM-26	.006	600	1200	1.20
7FM-28	.008	600	1200	1.45
7FM-11	.01	600	1200	1.70
7FM-115	.015	600	1200	1.95
7FM-12	.02	600	1200	2.25
7FM-13	.03	600	1200	3.00
7FM-14	.04	600	1200	3.90
7FM-15	.05	600	1200	4.65
7FM-16	.06	600	1200	5.40

Catalog Nos.	Dimensions L	W	T
7FM-45 through 7FM-13	1¾	1 5/16	7/16
7FM-14 through 7FM-16	1¾	1 5/16	¾

8FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
8FM-45	.00005	1200	2500	$0.85
8FM-31	.0001	1200	2500	.85
8FM-315	.00015	1200	2500	.85
8FM-32	.0002	1200	2500	.85
8FM-325	.00025	1200	2500	.85
8FM-35	.0005	1200	2500	.85
8FM-21	.001	1200	2500	1.10
8FM-22	.002	1200	2500	1.65
8FM-225	.0025	1200	2500	1.75
8FM-23	.003	1200	2500	1.90
8FM-24	.004	1200	2500	1.90
8FM-25	.005	1200	2500	2.10
8FM-26	.006	1200	2500	2.10
8FM-28	.008	1200	2500	2.70
8FM-11	.01	1200	2500	3.40
8FM-115	.015	1200	2500	4.05
8FM-12	.02	1200	2500	4.75
8FM-125	.025	1200	2500	5.30
8FM-13	.03	1200	2500	5.55

Catalog Nos.	Dimensions L	W	T
8FM-45 through 8FM-115	1¾	1 5/16	7/16
8FM-12 through 8FM-13	1¾	1 5/16	¾

9FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
9FM-45	.00005	2500	5000	$1.10
9FM-31	.0001	2500	5000	1.10
9FM-325	.00025	2500	5000	1.30
9FM-35	.0005	2500	5000	1.50
9FM-21	.001	2500	5000	1.80
9FM-22	.002	2500	5000	2.70
9FM-225	.0025	2500	5000	3.00
9FM-23	.003	2500	5000	3.30
9FM-24	.004	2500	5000	3.80
9FM-25	.005	2500	5000	4.00
9FM-26	.006	2500	5000	4.20
9FM-28	.008	2500	5000	4.60
9FM-11	.01	2500	5000	4.95
9FM-115	.015	2500	5000	5.40

Catalog Nos.	Dimensions L	W	T
9FM-45 through 9FM-26	1¾	1 5/16	7/16
9FM-28 through 9FM-115	1¾	1 5/16	¾

SPRAGUE CAPACITORS

SPRAGUE XFM YFM & ZFM

STANDARD CAPACITY TOLERANCE ±10%

(See Photos, Page P-117)

XFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
XFM-45	.00005	600	1200	$0.60
XFM-31	.0001	600	1200	.60
XFM-32	.0002	600	1200	.60
XFM-325	.00025	600	1200	.60
XFM-33	.0003	600	1200	.60
XFM-34	.0004	600	1200	.60
XFM-35	.0005	600	1200	.60
XFM-21	.001	600	1200	.60
XFM-215	.0015	600	1200	.60
XFM-22	.002	600	1200	.70
XFM-225	.0025	600	1200	.80
XFM-23	.003	600	1200	.85
XFM-24	.004	600	1200	.85
XFM-25	.005	600	1200	.85
XFM-26	.006	600	1200	1.05
XFM-27	.007	600	1200	1.15
XFM-28	.008	600	1200	1.20
XFM-11	.01	600	1200	1.40
XFM-12	.02	600	1200	1.90
XFM-13	.03	600	1200	2.55

Catalog Nos.	Dimensions L	W	T
XFM-45 through XFM-11	1⅝	1⅛	11/32
XFM-12 through XFM-13	1⅝	1⅛	7/16

YFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
YFM-45	.00005	1200	2500	$0.85
YFM-31	.0001	1200	2500	.85
YFM-32	.0002	1200	2500	.85
YFM-325	.00025	1200	2500	.85
YFM-33	.0003	1200	2500	.85
YFM-34	.0004	1200	2500	.85
YFM-35	.0005	1200	2500	.85
YFM-21	.001	1200	2500	1.10
YFM-215	.0015	1200	2500	1.40
YFM-22	.002	1200	2500	1.65
YFM-225	.0025	1200	2500	1.75
YFM-23	.003	1200	2500	1.90
YFM-24	.004	1200	2500	1.90
YFM-25	.005	1200	2500	2.10
YFM-26	.006	1200	2500	2.10
YFM-27	.007	1200	2500	2.50
YFM-28	.008	1200	2500	2.70
YFM-11	.01	1200	2500	3.40

Catalog Nos.	Dimensions L	W	T
YFM-45 through YFM-24	1⅝	1⅛	11/32
YFM-25 through YFM-11	1⅝	1⅛	7/16

ZFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
ZFM-45	.00005	2500	5000	$1.10
ZFM-31	.0001	2500	5000	1.10
ZFM-32	.0002	2500	5000	1.30
ZFM-325	.00025	2500	5000	1.30
ZFM-33	.0003	2500	5000	1.35
ZFM-34	.0004	2500	5000	1.45
ZFM-35	.0005	2500	5000	1.50
ZFM-21	.001	2500	5000	1.80
ZFM-215	.0015	2500	5000	2.35
ZFM-22	.002	2500	5000	2.70
ZFM-23	.003	2500	5000	3.30
ZFM-24	.004	2500	5000	3.30
ZFM-25	.005	2500	5000	4.00

Catalog Nos.	Dimensions L	W	T
ZFM-45 through ZFM-22	1⅝	1⅛	11/32
ZFM-23 through ZFM-25	1⅝	1⅛	7/16

SPRAGUE 1MC & 2MC

STANDARD CAPACITY TOLERANCE ±5%

(See Photos, Page P-117)

1MC

Catalog No.	Mfd.	Voltage AC Peak	List Price
1MC-45	.00005	3000	$10.80
1MC-31	.0001	3000	10.80
1MC-315	.00015	3000	10.80
1MC-32	.0002	3000	10.80
1MC-325	.00025	3000	10.80
1MC-33	.0003	3000	10.80
1MC-34	.0004	3000	10.60
1MC-35	.0005	3000	10.60
1MC-36	.0006	3000	10.60
1MC-37	.0007	3000	10.60
1MC-38	.0008	3000	10.80
1MC-21	.001	3000	10.80
1MC-215	.0015	3000	10.80
1MC-22	.002	3000	10.80
1MC-23	.003	2000	10.80
1MC-24	.004	2000	10.80
1MC-25	.005	2000	10.60
1MC-26	.006	2000	10.60
1MC-27	.007	2000	10.60
1MC-28	.008	1500	10.80
1MC-11	.01	1000	10.80
1MC-115	.015	1000	10.60
1MC-12	.02	1000	11.50
1MC-13	.03	500	11.50
1MC-14	.04	500	11.50
1MC-15	.05	250	11.50
1MC-1	.1	250	12.00

Catalog No.	Dimensions L	W	H
1MC	2	15/16	1 19/32

2MC

Catalog No.	Mfd.	Voltage AC Peak	List Price
2MC-45	.00005	5000	$14.40
2MC-31	.0001	5000	14.40
2MC-315	.00015	5000	14.40
2MC-32	.0002	5000	14.40
2MC-325	.00025	5000	14.40
2MC-33	.0003	5000	14.40
2MC-34	.0004	5000	14.40
2MC-35	.0005	5000	14.40
2MC-36	.0006	5000	14.40
2MC-37	.0007	5000	14.40
2MC-38	.0008	5000	14.40
2MC-21	.001	5000	14.40
2MC-215	.0015	5000	14.40
2MC-22	.002	5000	14.40
2MC-23	.003	3000	14.40
2MC-24	.004	3000	14.40
2MC-25	.005	3000	14.40
2MC-26	.006	3000	14.40
2MC-27	.007	3000	14.40
2MC-28	.008	2000	14.40
2MC-11	.01	2000	14.40
2MC-115	.015	2000	14.40
2MC-12	.02	2000	16.00
2MC-13	.03	1500	14.40
2MC-14	.04	1500	14.40
2MC-15	.05	1500	14.50
2MC-16	.06	1000	15.00
2MC-17	.07	1000	15.50
2MC-18	.08	500	16.00
2MC-1	.1	500	16.50

Catalog No.	Dimensions L	W	H
2MC	2¼	1¼	1 13/16

SPRAGUE 1CC & 2CC

STANDARD CAPACITY TOLERANCE ±5%

(See Photos, Page P-119)

1CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
1CC-45	.00005	6000	$26.40
1CC-475	.000075	6000	27.75
1CC-31	.0001	6000	28.80
1CC-315	.00015	6000	31.20
1CC-32	.0002	6000	31.20
1CC-325	.00025	6000	31.20
1CC-33	.0003	6000	32.40
1CC-34	.0004	6000	32.40
1CC-35	.0005	6000	32.40
1CC-36	.0006	6000	32.40
1CC-37	.0007	6000	32.40
1CC-38	.0008	6000	32.40
1CC-21	.001	6000	32.40
1CC-215	.0015	6000	33.60
1CC-22	.002	6000	33.60
1CC-23	.003	6000	34.80
1CC-24	.004	6000	34.80
1CC-25	.005	4000	34.80
1CC-26	.006	4000	34.80
1CC-27	.007	4000	34.80
1CC-28	.008	4000	34.80
1CC-11	.01	4000	36.00
1CC-115	.015	3000	36.00
1CC-12	.02	2000	36.00
1CC-125	.025	2000	37.50
1CC-13	.03	1500	39.00
1CC-14	.04	1500	41.00
1CC-15	.05	1500	42.50
1CC-16	.06	1500	44.00
1CC-17	.07	1000	45.00
1CC-18	.08	1000	46.00
1CC-1	.1	1000	48.00

Catalog No.	Dimensions D	H
1CC	2 13/16	2½

2CC

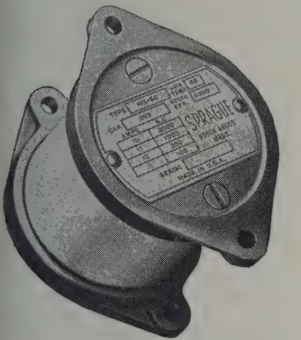
Catalog No.	Mfd.	Voltage AC Peak	List Price
2CC-45	.00005	10000	$48.00
2CC-475	.000075	10000	48.00
2CC-31	.0001	10000	48.00
2CC-315	.00015	10000	45.60
2CC-32	.0002	10000	45.60
2CC-33	.0003	10000	45.60
2CC-34	.0004	10000	45.60
2CC-35	.0005	10000	45.60
2CC-36	.0006	10000	45.60
2CC-37	.0007	10000	45.60
2CC-38	.0008	10000	45.60
2CC-21	.001	10000	45.60
2CC-215	.0015	10000	45.60
2CC-22	.002	10000	45.60
2CC-23	.003	8000	45.60
2CC-24	.004	8000	45.60
2CC-25	.005	6000	48.00
2CC-26	.006	5000	48.00
2CC-27	.007	5000	48.00
2CC-28	.008	5000	48.00
2CC-11	.01	5000	48.00
2CC-115	.015	4000	48.00
2CC-12	.02	3000	48.00
2CC-125	.025	3000	50.00
2CC-13	.03	2000	51.00
2CC-14	.04	2000	54.00
2CC-15	.05	2000	56.00
2CC-16	.06	2000	57.50
2CC-17	.07	1500	59.00
2CC-18	.08	1500	60.00
2CC-1	.1	1500	62.50

Catalog No.	Dimensions D	H
2CC	3½	3

SPRAGUE CAPACITORS

MICA TYPES (continued)

SPRAGUE 3CC-4CC



TYPES 1CC, 2CC, 3CC and 4CC

STANDARD CAPACITY TOLERANCE OF TYPES 3CC AND 4CC IS ±5%.

3CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
3CC-45	.00005	20000	$72.00
3CC-475	.000075	20000	78.00
3CC-31	.0001	20000	80.40
3CC-315	.00015	20000	80.40
3CC-32	.0002	20000	80.40
3CC-33	.0003	20000	80.40
3CC-34	.0004	20000	80.40
3CC-35	.0005	20000	80.40
3CC-36	.0006	20000	80.40
3CC-37	.0007	20000	80.40
3CC-38	.0008	20000	78.00
3CC-21	.001	20000	78.00
3CC-215	.0015	15000	78.00
3CC-22	.002	15000	78.00
3CC-23	.003	12000	78.00
3CC-24	.004	12000	78.00
3CC-25	.005	10000	79.20
3CC-26	.006	10000	82.00
3CC-27	.007	10000	84.00
3CC-28	.008	10000	86.00
3CC-11	.01	8000	90.00
3CC-115	.015	5000	86.00
3CC-12	.02	5000	86.00
3CC-125	.025	3000	79.20
3CC-13	.03	3000	79.20
3CC-14	.04	3000	79.20
3CC-15	.05	3000	79.20
3CC-16	.06	3000	83.00
3CC-17	.07	2000	86.00
3CC-18	.08	2000	90.00
3CC-1	.1	2000	95.00

Catalog No.	Dimensions D	H
3CC	5	4

4CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
4CC-31	.0001	30000	$114.00
4CC-315	.00015	30000	123.00
4CC-32	.0002	30000	132.00
4CC-33	.0003	30000	132.00
4CC-34	.0004	30000	132.00
4CC-35	.0005	30000	132.00
4CC-36	.0006	30000	132.00
4CC-37	.0007	30000	126.00
4CC-38	.0008	30000	126.00
4CC-21	.001	30000	126.00
4CC-215	.0015	25000	114.00
4CC-22	.002	20000	114.00
4CC-23	.003	20000	120.00
4CC-24	.004	15000	120.00
4CC-25	.005	15000	138.00
4CC-26	.006	15000	138.00
4CC-27	.007	15000	144.00
4CC-28	.008	12000	144.00
4CC-29	.009	12000	144.00
4CC-11	.01	10000	150.00
4CC-115	.015	8000	144.00
4CC-12	.02	6000	138.00
4CC-13	.03	6000	138.00
4CC-14	.04	5000	144.00
4CC-15	.05	5000	150.00
4CC-16	.06	5000	160.00
4CC-17	.07	4000	165.00
4CC-18	.08	3000	170.00
4CC-1	.1	3000	180.00

Catalog No.	Dimensions D	H
4CC	5	5¾

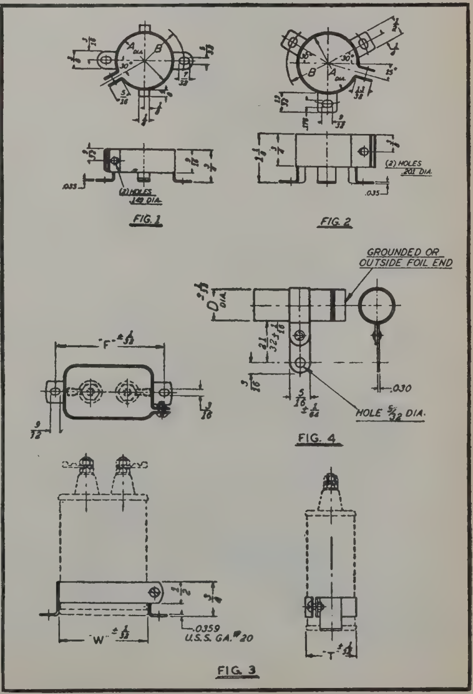
SPRAGUE HARDWARE

Sprague Mounting Clamps and Straps provide quick, dependable means for securing a wide variety of capacitors and resistors to a mounting surface. All clamps and straps are made from plated steel.

CMC Vertical Mounting Clamps for Cylindrical Capacitors (Figs. 1 and 2) are ideally suited for vertical or "above chassis" mounting of Sprague Capacitor Types AP, CL, DR, EL, HLV, LM, LS, OT, PC, PLS, RW, SC or other round can units.

The RMC Wrap Around Clamps for Rectangular Capacitors (Fig. 3) are designed for mounting Type CR Capacitors or other rectangular units.

Type TMS Mounting Straps for Tubular Capacitors (Fig. 4) fit any tubular capacitor or resistor having a diameter of between ¼″ and 1⅜″, inclusive. They may be used with Sprague Types AT, PX, SW, TA, TC, TR, TU, UHC, UT or other tubular units and with Sprague *Koolohm Resistor Types 5KT/5NIT, 10KT/10NIT, 25KT/25NIT, 50KT/50NIT and 120KT/120NIT.



VERTICAL MOUNTING CLAMPS FOR CYLINDRICAL CAPACITORS

Catalog No.	A Diameter	B Mounting Radius	Figure No.	List Price
CMC-12	¾	21/32	1	$0.08
CMC-16	1	23/32	1	.08
CMC-20	1¼	27/32	1	.08
CMC-22	1⅜	57/64	1	.08
CMC-24	1½	31/32	1	.12
CMC-28	1¾	1 3/32	1	.14
CMC-32	2	1¼	2	.18
CMC-40	2½	1½	2	.18

WRAP AROUND CLAMPS FOR RECTANGULAR CAPACITORS

Catalog No.	Dimensions T	W	F	iFgure No.	List Price
RMC-17	1 1/16	1 13/16	2¼	3	$0.20
RMC-19	1 3/16	2½	3	3	.20
RMC-20	1¼	3¾	4⅜	3	.20
RMC-28	1¾	3¾	4⅜	3	.20
RMC-36	2¼	3¾	4⅜	3	.25
RMC-40	2½	3¾	4⅜	3	.25
RMC-51	3 3/16	3¾	4⅜	3	.30
RMC-73	4 9/16	3¾	4⅜	3	.40
RMC-128	8	4	4⅝	3	.50

MOUNTING STRAPS FOR TUBULAR CAPACITORS

Catalog No.	Tube Diameter	Figure No.	List Price	Catalog No.	Tube Diameter	Figure No.	List Price
TMS-4	¼″	4	$0.06	TMS-14	⅞″	4	$0.06
TMS-5	5/16″	4	.06	TMS-15	15/16″	4	.06
TMS-6	⅜″	4	.06	TMS-16	1″	4	.10
TMS-7	7/16″	4	.06	TMS-17	1 1/16″	4	.10
TMS-8	½″	4	.06	TMS-18	1⅛″	4	.10
TMS-9	9/16″	4	.06	TMS-19	1 3/16″	4	.10
TMS-10	⅝″	4	.06	TMS-20	1¼″	4	.15
TMS-11	11/16″	4	.06	TMS-21	1 5/16″	4	.15
TMS-12	¾″	4	.06	TMS-22	1⅜″	4	.15
TMS-13	13/16″	4	.06				

*Trademark Reg. U. S. Pat. Off.

SPRAGUE KOOLOHMS

TRADEMARK REGISTERED U.S. PAT. OFF.

THE RESISTORS WITH THE CERAMIC-COATED WIRE INSULATION

Sprague Koolohm Wire-Wound Resistors are wound with wire that is insulated before it is wound with a flexible, ceramic coating that is impervious to heat as high as 1000° C. In addition, each resistor is doubly protected by a glazed ceramic coating and new type of end seals which guard it effectively against any moisture or other climatic conditions. Ordinary resistors may be designed to provide some degree of "tropicalized" protection at extra cost. STANDARD Koolohms give FULL protection at regular prices!

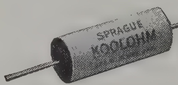
No Other Resistors Have These Features

Because of the complete protection afforded by both their wire insulation and outer ceramic shells, Koolohms may be mounted anywhere, even flat against a chassis or against grounded parts. They can safely be used at full wattage ratings, even on the high-resistance values because of the excellent insulation at high temperatures. No danger of shorts or current leakage! Thanks to their ceramic wire insulation, Koolohms can be wound in layers. This means higher ratings in much smaller physical sizes. Even more important, larger, sturdier wire sizes can be used. Actually, the wire sizes in Koolohm Resistors average 2¼ times greater in cross-sectional area than those in ordinary resistors of the same size!

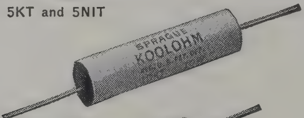
High Insulation Resistance

Also standard Koolohms have the high insulation resistance to ground required for television and other high-voltage uses—10,000 volts from the surface of their sturdy ceramic jackets to their resistance elements!

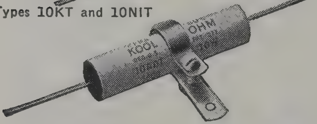
The following listings include only the Sprague Koolohm Wire-Wound Resistor types commonly supplied for radio repair service and amateur radio applications. Various other types are also regularly produced in large quantities and to the most exacting standard or special applications. All have been thoroughly proved and tested for the most exacting military, naval and aircraft applications.



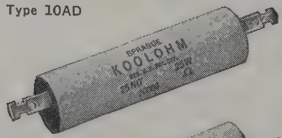
Types 5KT and 5NIT



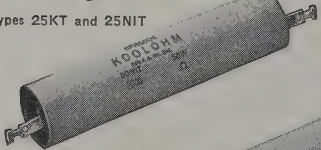
Types 10KT and 10NIT



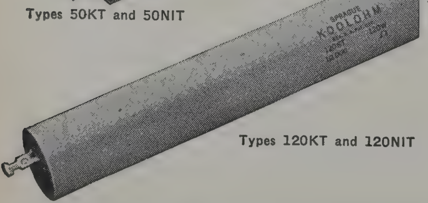
Type 10AD



Types 25KT and 25NIT



Types 50KT and 50NIT



Types 120KT and 120NIT

STANDARD RESISTANCE TOLERANCE ±5%

5 Watts

$1\frac{7}{32}$" x $\frac{15}{32}$" Diameter
CATALOG TYPES 5KT
and 5NIT (Non-Inductive)

List Price Type 5KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price 5NIT (Non-Induc.)
$0.52	5	1000	5.00	$0.78
.52	10	707	7.07	.78
.52	15	587	8.67	.78
.52	20	500	10	.78
.52	25	446	11	.78
.52	30	406	12	.78
.52	40	354	14	.78
.52	50	316	15	.78
.52	75	258	19	.78
.52	100	224	22	.78
.52	150	183	27	.78
.52	200	158	31	.78
.52	250	141	35	.78
.52	300	129	38	.78
.52	400	112	44	.78
.52	500	100	50	.78
.52	600	91	54	.78
.52	700	84	59	.78
.52	800	79	63	.78
.52	900	74	67	.78
.52	1000	70	70	.78
.52	1250	63	79	.91
.52	1500	57	86	.91
.52	1750	53	93	.91
.52	2000	50	100	.91
.52	2500	44	112	.98
.52	3000	40	123	.98
.52	4000	35	141	.98
.52	5000	31	158	1.04
.54	6000	28	173	
.54	7000	26	187	
.54	7500	25	194	
.54	8000	25	200	
.54	9000	23	212	
.54	10000	22	234	
.60	12500	20	250	
.60	14000	18	265	
.60	15000	18	274	
.66	20000	15	333	
.84	25000	14	354	
.90	30000	13	387	
1.02	40000	11	447	

10 Watts

$1\frac{27}{32}$" x $\frac{15}{32}$" Diameter
CATALOG TYPES 10KT
and 10NIT (Non-Inductive)

List Price Type 10KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price 10NIT (Non-Induc.)
$0.59	5	1414	7.07	$0.78
.59	10	1000	10	.78
.59	15	830	12.3	.78
.59	20	707	14.1	.78
.59	25	630	15.8	.78
.59	30	575	17.4	.78
.59	40	500	20	.78
.59	50	447	22.4	.78
.59	75	365	27.4	.78
.59	100	316	31.6	.78
.59	150	259	38.7	.78
.59	200	223	44.6	.78
.59	250	200	50	.78
.59	300	182	54.7	.78
.59	400	158	63.3	.78
.59	500	141	70.7	.78
.59	600	129	77.6	.78
.59	700	119	84	.78
.59	750	115	86.9	.78
.59	800	112	89.5	.78
.59	900	105	95	.78
.59	1000	100	100	.78
.59	1250	89	112	.91
.59	1500	81	123	.91
.59	1750	75	133	.91
.59	2000	70	143	.91
.59	2500	63	158	.98
.59	3000	57	174	.98
.59	4000	50	200	.98
.59	5000	44	227	1.04
.59	6000	41	245	1.04
.59	7500	36	275	1.17
.59	8000	35	283	1.17
.59	9000	33	300	1.17
.59	10000	32	316	1.50
.65	12000	29	346	
.65	14000	26	384	
.65	15000	25	400	
.72	17500	24	419	
.72	20000	21	475	
.84	25000	20	500	
.90	30000	18	555	
1.08	40000	16	632	
1.20	50000	14	700	
1.50	60000	13	780	
1.68	70000	12	840	

SPRAGUE KOOLOHMS

TRADEMARK REGISTERED U. S. PAT. OFF.

10 Watts Adjustable†

$1\frac{29}{32}$" x $\frac{15}{32}$" Diameter
CATALOG TYPE No. 10-AD

Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price
10	1000	10	$0.98
25	630	15.8	.98
50	447	22.4	.98
100	316	31.6	.98
150	259	38.7	.98
200	223	44.6	.98
250	200	50	.98
400	158	63.3	.98
300	182	54.7	.98
500	141	70.7	.98
750	115	86.9	.98
1000	100	100	.98
1500	81	123	.98
2000	70	143	.98
2500	63	158	.98
3000	57	174	.98
4000	50	200	.98
5000	44	227	.98
7500	36	275	.98
10000	32	316	.98

Extra Bands, $0.10

†Adjustable resistors are not of tropicalized construction.

25 Watts

$2\frac{7}{8}$" x $\frac{23}{32}$" Diameter
CATALOG TYPES 25KT
and 25NIT (Non-Inductive)

List Price Type 25KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price 25NIT (Non-Induc.)
$1.08	5	2.23	11	$1.98
1.08	10	1.58	15	1.98
1.08	25	1.0	25	1.98
1.08	50	.707	35	1.98
1.08	75	.577	43	1.98
1.98	100	.500	50	1.98
1.08	150	.408	61	1.98
1.08	200	.353	70	1.98
1.08	250	.316	79	1.98
1.08	500	.223	111	1.98
1.08	600	.204	122	1.98
1.08	750	.182	137	1.98
1.08	1000	1.58	158	1.98
1.08	1500	1.29	193	1.98
1.08	2000	.111	223	1.98
1.08	2500	.100	250	1.98
1.08	3000	.091	273	1.98
1.08	4000	.079	316	1.98
1.08	5000	.070	353	1.98
1.28	7500	.057	432	1.98
1.28	10000	.050	500	1.98
1.28	12000	.046	548	2.22
1.28	15000	.041	612	2.22
1.44	20000	.035	707	2.64
1.44	25000	.032	790	2.64
1.80	50000	.022	1118	
2.15	75000	.018	1370	
2.40	100000	.016	1580	

50 Watts

4" x $\frac{7}{8}$" Diameter
CATALOG TYPES 50KT
and 50NIT (Non-Inductive)

List Price Type 50KT	Resistance Ohms	Maximum Current M.A.	Maximum Vlots	List Price 50NIT (Non-Induc.)
1.56	5	3.16	15	$2.82
1.56	10	2.23	22	2.82
1.56	25	1.41	35	2.82
1.56	50	1.00	50	2.82
1.56	75	.816	61	2.82
1.56	100	.707	70	2.82
1.56	150	.577	86	2.82
1.56	200	.500	100	2.82
1.56	250	.447	111	2.82
1.56	500	.316	158	2.82
1.56	600	.289	173	2.82
1.56	750	.258	193	2.82
1.56	1000	2.23	223	2.82
1.56	1500	.182	274	2.82
1.56	2000	.158	316	2.82
1.56	2500	.141	353	2.82
1.56	3000	.129	387	2.82
1.56	4000	.111	447	2.82
1.56	5000	.100	500	2.82
1.80	7500	.081	612	3.24
1.80	10000	.070	707	3.24
1.80	12000	.064	775	3.24
1.80	15000	.057	870	3.24
1.80	20000	.050	1000	3.24
1.80	25000	.044	1120	3.24
2.15	50000	.032	1580	3.90
2.50	75000	.026	1936	
2.70	100000	.022	2238	

120 Watts

$8\frac{15}{16}$" x $1\frac{1}{16}$" Diameter
CATALOG TYPES 120KT
& 120NIT (Non-Inductive)

List Price Type 120KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price 120NIT (Non-Induc.)
$4.60	5	4.9	24.5	$6.60
4.60	10	3.46	34.6	6.60
4.60	25	2.18	54.6	6.60
4.60	50	1.54	77.4	6.60
4.60	75	1.26	94.8	6.60
4.60	100	1.09	109.5	6.60
4.60	150	.884	134	6.60
4.60	200	.775	155	6.60
4.60	250	.692	173	6.60
4.60	500	.490	245	6.60
4.60	600	.446	268	6.60
4.60	750	.400	300	6.60
4.60	1000	.346	346	6.60
4.60	1500	.282	424	6.60
4.60	2000	.245	490	6.60
4.60	2500	.219	548	6.60
4.60	3000	.200	600	6.60
4.60	5000	.154	774	6.60
4.80	7500	.126	948	7.20
4.80	10000	.109	1095	7.20
5.00	15000	.089	1340	7.60
5.20	20000	.077	1550	8.00
5.20	25000	.069	1733	8.00
5.60	50000	.049	2450	8.40
6.35	75000	.040	3000	
7.10	100000	.034	3460	

*Type KT only.

Other types not listed in this catalog include:

Hermetically-Sealed, Ferrule Terminal, Power Wire-Wound Resistors, with power ratings of 15, 20, 40, 50, 90, 120 and 150 watts. These are the famous Sprague Koolohm "Grade 1, Class 1" resistors that are impervious to salt water, thermal shock, and corrosive atmospheres.

Precision Meter Multiplier Resistors, Wire-Wound, Hermetically-Sealed. Resistance values up to 7.5 megohms per unit. Three types, MFA, MFB, and MFC. Resistance tolerances of ±0.5% and stability of ±0.1%. The most rugged meter multipliers in the world!

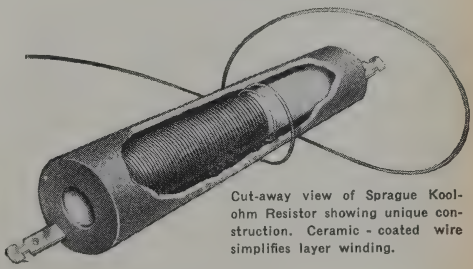
Voltage Divider Resistors. Wire-wound power resistors with ratings of 10, 15, and 25 watts. Designed for through bolt mounting as individual units, or in multiple sections of any size to provide tapped voltage dividers.

***MEGOMAX, High-resistance, High-Voltage, Resistors.** Ferrule terminal, hermetically-sealed, composition resistors of pressed and sintered ring construction, capable of high-temperature operation to 150° C. Three types with resistance values to 1000 megohms; power ratings of 6, 12 and 22 watts and voltages up to 20,000 volts.

BOBBIN Wire-Wound, Semi-Precision Resistors. Wound with ceramic-insulated wire on high-temperature plastic forms. Five high stability types with power ratings of 1, 2, 2.5, 3 and 5 watts, and resistance values to 500,000 ohms. Resistance tolerance down to ±0.5%.

Complete details on the above and other new types are contained in the Sprague Koolohm Industrial Resistor Catalog No. 100E, copy of which will gladly be sent on request by industrial users. Sprague engineers welcome the opportunity to be of assistance regarding industrial resistor applications.

*Trademark applied for.



Cut-away view of Sprague Koolohm Resistor showing unique construction. Ceramic - coated wire simplifies layer winding.

SPRAGUE FILTEROL

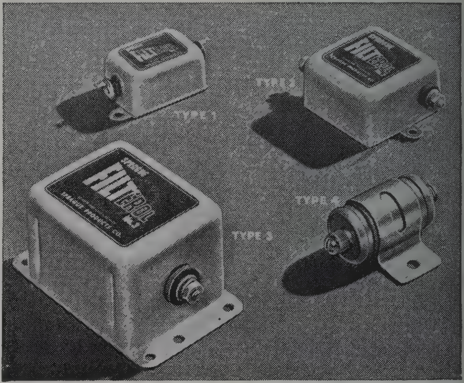
Trademark applied for

INTERFERENCE FILTERS

Sprague †FILTEROL Radio Interference Filters are a direct outgrowth of highly successful Sprague wartime engineering research, and offer for civilian use a war-tested, practical filter that suppresses man-made radio noises and television "scrambles" on practically any application. They are small, completely self-contained, and easily installed. Applicable to any electrical device within their current and voltage ratings, they provide maximum noise suppression on radio broadcast bands. A study of the Attenuation Curve (available on request) illustrating typical FILTEROL noise suppression performance will show that this surpasses anything normally available in the past.

SPRAGUE FILTEROL TYPES 1, 2 and 3 are designed for connection in series with power supply lines to interference-producing devices. Their basic circuit is a special three-terminal network of which the can is one terminal. The filter selected should have a rating higher than the continuous running current of the device. A single FILTEROL connected in one side of the line is usually sufficient. However, in severe interference cases a FILTEROL in each power line may be necessary. For three-or-four wire systems, a FILTEROL in each wire is necessary.

FILTEROL TYPE 4 is a new, exclusive Sprague invention incorporating a Sprague *HYPASS capacitor and provides exceptionally high attenuation at frequencies above 5MC. It is effective up to 150 MC or more. Intended for all small devices with continuous current ratings up to 20 amperes. Applied by mounting directly on the frame of the device to be filtered, and connecting the power supply line in series through the filter. In severe cases, a FILTEROL may be necessary in each line wire.



SPRAGUE IF TYPES

IF-15—A TRIPLE-SECTION FILTER for all small motor-operated devices. Especially designed to prevent accidental shocks from discharge of filter capacitors.

IF-21—COMPACT DUAL METAL-ENCASED TUBULAR FILTER for use across brushes of fractional horsepower motors with can grounded to motor frame. Also across line terminals of motors.

IF-11—A DUAL HIGH-CAPACITY FILTER with completely enclosed safety construction. Designed for motors over 1 horsepower and up to 220 volts AC or DC. Also used on high-current arcing or sparking devices.

IF-S1—SINGLE 2-LEAD FILTER SECTION with can completely insulated. For use across make-and-break contacts.

IF-37—3-SECTION DELTA-CONNECTED FILTER. Especially designed for use on single fluorescent lamps. Also effective on make-and-break governor-type motors.

*Trademark Reg. U.S. Pat. Off.
†Trademark applied for.

RATINGS

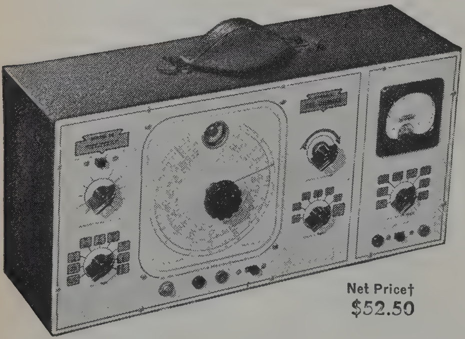
SPRAGUE FILTEROL TYPES

			List Price
FILTEROL 1	1 AMP.	115V AC or DC	$4.75
FILTEROL 2	10 AMP.	115V AC or DC	9.75
FILTEROL 3	35 AMP.	115V AC or DC	12.50
FILTEROL 4	20 AMP.	115V AC or DC	2.72

SPRAGUE IF TYPES

		List Price
IF-15	220V AC or DC	$1.89
IF-11	220V AC or DC	4.36
IF-21	220V AC or DC	1.51
IF-S1	220V AC or DC	2.02
IF-37	220V AC or DC	1.50

SPRAGUE TEL-OHMIKE



Net Price†
$52.50

Sprague Model TO-2 TEL-OHMIKE is a complete bridge-type resistance and capacitance analyzer with built-in DC volt-milliammeter. Rapidly detects open and short circuits, grounds or leakage. Directly indicates intermittent opens. Tube and circuit voltages and currents are directly read on built-in meter. Condition and characteristics of capacity and resistance coupling and filter circuit components can be checked quickly. Also measures resistance of circuits and r-f coils, etc., and provides a ready means of analyzing motor-starting capacitors and measuring circuit continuity.

All capacitor characteristics can be measured at rated voltages on direct-reading scales up to 900 volts DC. Power is provided by a continuously variable built-in supply. This is highly important since the only quality measurements on capacitors that are really worth while are those made at rated working voltages.

Tel-Ohmike indicates with reasonable accuracy whether or not the capacity value is in the correct range WITHOUT DISCONNECTING ANY LEADS!

It measures capacitance from .000010 mfd. to 2000 mfd. Measures resistance from .5 ohm to 5,000,000 ohms, and insulation resistance up to 10,000 megohms. Accuracy is ±5% for all capacity and resistance ranges. A sensitive electronic "eye" indicator shows bridge circuit balance. Measures Power Factor of electrolytic capacitors directly within a range of 0 to 50%. The voltmeter and milliammeter of the instrument allow test voltages to be set exactly, and leakage current to be read directly on the built-in meter. Voltmeter range is from 0 to 1500 volts DC in 4 ranges. Milliammeter range is from 0 to 50 MA DC in 3 ranges. Accuracy is ±2% for all voltage and current ranges. An "off" position is provided between the voltage and MA ranges. Ranges are graduated downward on either side of the "off" position for maximum meter safety. A rugged double-pivot meter movement and a broad, easily read meter scale are used. A switch and pin-jacks are provided so that the volt-milliammeter may be used for measurements external to the instrument. Overall dimensions are 17½" x 9" x 6". Carrying weight is 12¾ lbs.

CHICAGO CONDENSER CORPORATION

3255 WEST ARMITAGE AVENUE
CHICAGO 47, ILLINOIS

CHICAGO WAX TUBULAR CAPACITORS

TYPE NO.	CAP. MFD.	LENGTH	DIAMETER
200 VOLTS D.C. OPERATING			
25x2	1.0	2½″	1″
2500	.5	2″	¾″
2250	.25	1¾″	⅝″
2100	.1	1⅝″	½″
2050	.05	1¼″	7/16″
2040	.04	1¼″	7/16″
2030	.03	1¼″	⅜″
2020	.02	1¼″	⅜″
2010	.01	1¼″	⅜″
400 VOLTS D.C. OPERATING			
45x2	1.0	2½″	1″
4500	.5	2″	⅞″
4250	.25	2″	11/16″
4100	.1	1⅝″	9/16″
4050	.05	1⅝″	7/16″
4040	.04	1⅝″	7/16″
4030	.03	1⅝″	7/16″
4020	.02	1¼″	7/16″
4010	.01	1¼″	⅜″
600 VOLTS D.C. OPERATING			
6500	.5	2½″	1⅛″
6250	.25	2″	¾″
6100	.1	1⅞″	⅝″
6050	.05	1⅝″	9/16″
6040	.04	1⅝″	9/16″
6030	.03	1⅝″	½″
6020	.02	1⅝″	7/16″
6010	.01	1¼″	⅜″
6006	.006	1¼″	⅜″
6005	.005	1¼″	⅜″
6004	.004	1¼″	⅜″
6003	.003	1¼″	⅜″
6002	.002	1¼″	⅜″
6001	.001	1¼″	⅜″

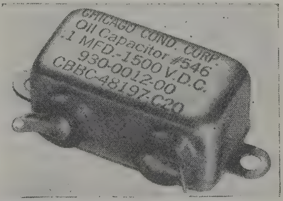
CHICAGO
1 MFD. 400 V.D.C.
TYPE 4100
GROUND

- *NON-INDUCTIVELY WOUND*
- *HIGH VACUUM IMPREGNATION*
- *PAPER TUBES VACUUM WAXED*
- *TINNED COPPER WAXED*
- *END FILLED WITH HI-WAX*
- *FLASH TESTED 3 TIMES*

CHICAGO OIL IMPEGNATED VACUUM FILLED CAPACITORS

TYPE NO.	CAP. MFD.	WIDTH	THICKNESS	HEIGHT	MOUNT.
600 VOLTS D.C.					
9005	.05	1 13/16″	1″	¾″	2⅛″
9010	.1	1 13/16″	1″	¾″	2⅛″
9025	.25	1 13/16″	1″	¾″	2⅛″
9050	.5	1 13/16″	1″	1″	2⅛″
9100	1.0	2″	1¾″	⅞″	2⅜″
9200	2.0	2″	2″	1⅛″	2⅜″
29005	.05-.05	1 13/16″	1″	¾″	2⅛″
29010	.1-.1	1 13/16″	1″	¾″	2⅛″
29025	.25-.25	1 13/16″	1″	⅞″	2⅛″
29050	.5-.5	2″	1¾″	⅞″	2⅜″
29100	1.0-1.0	2″	2″	1⅛″	2⅜″
39010	.1-.1-.1	1 13/16″	1″	⅞″	2⅛″
39025	.25-.25-.25	2″	1¾″	⅞″	2⅜″
39050	.5-.5-.5	2″	2″	1⅛″	2⅜″

BATH TUB TYPE CONDENSER



BATH TUB TYPE RADIO & MOTORS
INTERFERENCE
ELECTRONIC
SPECIAL TIMING
HERMETICALLY SEALED
TESTED AT THREE-TIME VOLTAGE

ALL SINGLE UNITS HAVE 2 TERMINALS—ALL DUAL UNITS HAVE 3 TERMINALS—ALL TRIPLE UNITS HAVE 3 TERMINALS—ONE GROUNDED TO CASE. OTHER UNITS HIGHER OR LOWER VOLTAGES CAN BE SUPPLIED UPON REQUEST.

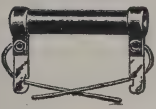
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

ATLAS RESISTORS

Atlas Wire Wound Resistors with Pig-Tails & Lugs



5 AND 10 WATT RATINGS

- MOISTURE PROOF
- TRIPLE INSULATION
- TOLERANCE WITHIN 5%
- 64 STANDARD OHMAGES

5 WATTS—TYPE 1PT—1¾" x 5/16"

List $0.35

Ohms
5
10
15
20
25
30
40
50
75
100
125
150
175
200
225
250
275
300
350
400

Ohms
450
500
600
700
750
800
850
900
1,000
1,100
1,200
1,250
1,350
1,400
1,500
1,750
2,000
2,250
2,500
2,750
3,000

Ohms
3,500
4,000
4,500
5,000
6,000
7,000
7,500
8,000
8,500
9,000
10,000

List $0.40

12,500
14,000
15,000
17,500
20,000
22,500
25,000

10 WATT—TYPE 2PT—1¾" x ⅜"

List $0.40

Ohms
5
10
15
20
25
30
40
50
75
100
125
150
175
200
225
250
275
300
350
400
450
500

Ohms
600
700
750
800
850
900
1,000
1,100
1,200
1,250
1,350
1,400
1,500
1,750
2,000
2,250
2,500
2,750
3,000
3,500
4,000
4,500
5,000

Ohms
6,000
7,000
7,500
8,000
8,500
9,000
10,000

List $0.45

12,500
14,000
15,000
17,500
20,000
22,500
25,000

List $0.50

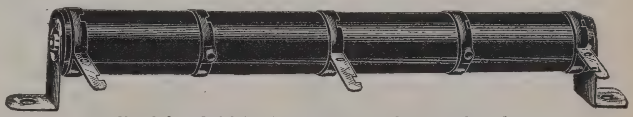
30,000
35,000
40,000
45,000
50,000

ATLAS HEAVY-DUTY IRON-OXIDE COATED NON-INDUCTIVE TRANSMITTING BLEEDER RESISTORS WITH CENTER TAP

4 or 8 Sections

Ruggedly built, accurately made and procurable in a practical non-inductive winding. Atlas high voltage bleeder resistors are designed to improve the performance of your transmitter by functioning quietly and effectively.

A most important feature found only in Atlas heavy duty bleeder resistors is the non-inductive winding. Each side of the center tap has two to four oppositely wound sections of equal resistance. Therefore should only one section be used, that section will be purely non-inductive as well.



Used for Grid Leaks as Well as for Bleeders by AMATEUR SHORT-WAVE AND BROADCAST STATIONS

Specify whether you want Inductive or Non-Inductive Bleeders

EQUIPPED WITH HEAVY MOUNTING BRACKETS

100 WATTS—Size 8" x 15/16"

Type	Ohmage	Resistance	List
IF	5000	2500-0-2500	$1.95
IFA	10000	5000-0-5000	1.95
IFB	15000	7500-0-7500	2.20
IFC	20000	10000-0-10000	2.20
IFD	30000	15000-0-15000	2.20
IFE	40000	20000-0-20000	2.50
IFF	50000	25000-0-25000	2.50
IFG	100000	50000-0-50000	2.50

150 WATTS—Size 9½" x 1"

Type	Ohmage	Resistance	List
IG	5000	2500-0-2500	$2.20
IGA	10000	5000-0-5000	2.20
IGB	20000	10000-0-10000	2.20
IGC	50000	25000-0-25000	2.45
IGD	100000	50000-0-50000	2.80

200 WATTS Size 11" x 1⅛"

Type	Ohmage	Resistance	List
IH	5000	2500-0-2500	2.50
IHA	10000	5000-0-5000	2.50
IHB	15000	7500-0-7500	2.50
IHC	20000	10000-0-10000	2.50
IHD	30000	15000-0-15000	2.50
IHE	40000	20000-0-20000	2.70
IHF	50000	25000-0-25000	2.70
IHG	100000	50000-0-50000	3.10

Add 40c for Non-Inductive

ATLAS RESISTORS

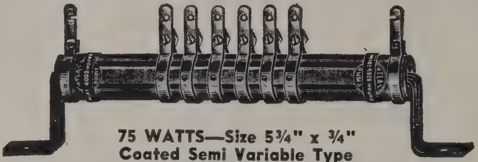
Atlas Heavy Duty Adjustalble Voltage Dividers

S-I-X OUTSTANDING REASONS W-H-Y

You Get Far More for Your Money When You Buy Atlas Variable Resistors . . .

1—Fully pack wire wound—not space-wound
2—Heavier wire and more of it—full safe wattage rating
3—Heavy duty iron-oxide coating—safely dissipating high heat
4—One band supplied free with every resistor
5—Accurately wound resistance values—well within 5% tolerance
6—Large, oversize non-hydroscopic tubing—affording plenty of area for heat dissipation

All Adjustable Resistors Are Supplied with



75 WATTS—Size 5¾" x ¾"
Coated Semi Variable Type

Mounting Brackets at No Extra Charge

10 WATTS Type 1AT 2" x ½" List $0.60
Ohms
1
2
3
5
7.5
10
15
20
25
50
75
100
150
200
250
300
350
400
500
600
750
800
1,000
1,250
1.450
1,500
2,000
2.250
2,500
3,000
3,500
4,000
4,500
5,000
List $0.65
6,000
7,000
7,500
8,000
8,500
9,000
10,000

20 WATTS Type 2AT 2½" x 9/16" List $0.75
Ohms
1
3
5
10
15
25
50
75
100
150
200
250
500
750
800
1,000
1,500
2,000
2,500
3,000
3,500
4,000
5,000
List $0.80
6,000
7,500
10,000
12,000
15,000

25 WATTS Type 3AT 3" x ⅝" List $0.85
Ohms
1
3
5
10
15
25
50
75
100
150
200
250
300
400
500
750
800
1,000
1,250
1,500
2,000
2.250
2,500
3,000
3,500
4,000
5,000
List $0.95
6,000
7,500
8,000
9,000
10,000
12,000
15,000
List $1.05
20,000
25,000

50 WATTS Type 4AT 5" x ¾" List $1.35
Ohms
5
10
25
50
75
100
150
200
250
300
400
500
750
800
1,000
1,250
1.500
2,000
2.500
3,000
4,000
5,000
List $1.50
6,000
7,500
8,000
10,000
12.000
15,000
20,000
25,000
List $1.70
30,000
40,000
50,000
List $2.00
60,000
75,000
0.1 meg.

Type 5AT 75 WATTS 5¾" x ¾" List $1.75
Ohms
5
10
15
25
50
100
200
250
300
400
500
750
800
1,000
1,500
2,000
2,500
3,000
3,500
4,000
5,000
List $2.00
6,000
7,500
8.000
10,000
15,000
20,000
25,000
List $2.25
30,000
35,000
40,000
45,000
50,000
List $2.50
60.000
80,000
0.1 meg.

100 WATTS Type 6AT 6½" x 1⅛" List $2.00
Ohms
100
200
400
500
750
1,000
1,500
2,000
2,500
3,000
4,000
5,000
List $2.25
6,000
7,500
8,000
10,000
15,000
20,000
25,000
List $2.50
30,000
40,000
50,000
List $2.75
60,000
75,000
0.1 meg.

160 WATTS Type 7AT 8½" x 1⅛" List $2.60
Ohms
100
500
1,000
1,500
2,000
2,500
3,000
5,000
List $2.75
10,000
15,000
List $3.00
20,000
25,000
30,000
40,000
50,000
List $3.25
60,000
75,000
0.1 meg.

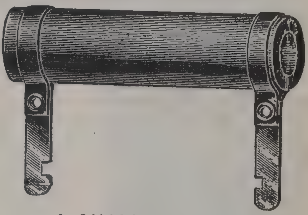
200 WATTS Type 8AT 11" x 1⅛" List $3.15
Ohms
100
500
1,000
1,500
2,000
2,500
3,000
5,000
10,000
List $3.80
15,000
20,000
25,000
30,000
40,000
50,000
60,000
75,000
0.1 meg.

IMPORTANT: Do not order values above maximum ohmages listed. Higher values not possible at specified wattage ratings.

ATLAS RESISTORS

Atlas Fixed Resistors

5-10-20-25-50-75-100-160-200 WATT RATINGS



Atlas Pack-Wound Heavy-Duty Iron-Oxide Coated Resistors are the very best for Ship Instruments, Meters, Laboratory equipment, Transmitting and Radio Receivers or any requirement where dependable resistors are essential.

Every mechanical and electrical construction to produce the highest efficiency possible is represented in these specially designed types.

- A QUALITY PRODUCT
- NON-POROUS
- ACCURATE
- 5% TOLERANCE

5 WATTS

Type 1FT
1" x 9/16"
List $0.35

Ohms	Max. m. a.
1	2240
2	1580
3	1290
4	1110
5	1000
10	707
15	575
20	500
25	447
30	408
35	374
40	346
50	316
75	258
100	222
125	200
150	182
200	158
225	149
250	141
300	129
350	119
400	111
500	100
600	91
700	84
750	81
800	79
900	74
1,000	70
1,100	64
1,200	60
1,250	59
1,500	54
1,750	50
2,000	44
2,500	40
3,000	36
4,000	31
5,000	28

10 WATTS

Type 2FT
2" x 9/16"
List $0.50

Ohms	Max. m. a.
1	3150
2	2230
3	1825
5	1415
7.5	1155
10	1000
15	815
20	707
25	630
50	447
75	365
100	315
150	258
200	223
250	200
300	182
350	169
400	158
500	141
600	129
700	119
750	115
800	111
900	105
1,000	100
1,200	91
1,250	89
1,500	79
1,750	74
2,000	69
2,250	64
2,500	61
3,000	56
3,500	51
4,000	47
4,500	44
5,000	40
6,000	36
7,000	33
7,500	32
8,000	31
8,500	30
10,000	24
List $0.55	
12,000	20
12,500	20
15,000	18
17,500	17
18,000	16
20,000	15
22,500	15
25,500	14
30,000	8
40,000	7
45,000	6
50,000	6

20 WATTS

Type 3FT
2" x ⅝"
List $0.60

Ohms	Max. m. a.
5	2000
10	1414
15	1153
20	1000
25	894
40	707
50	633
60	574
75	517
100	448
125	400
150	365
200	316
250	283
300	258
350	238
400	223
500	200
600	182
700	169
750	163
800	158
1,000	141
1,100	134
1,250	126
1,500	115
2,000	100
2,500	89
3,000	81
4,000	70
5,000	63
6,000	57
7,000	53
7,500	51
8,000	50
10,000	43
12,500	39
15,000	39
List $0.70	
20,000	24
25,000	21
30,000	21
35,000	18
40,000	17
45,000	13
50,000	11
List $1.00	
55,000	11
60,000	10
65,000	10
70,000	9
75,000	9
80,000	8
85,000	7
90,000	6.5
95,000	8
100.000	6

25 WATTS

Type 4FT
3" x ⅝"
List $0.80

Ohms	Max. m. a.
5	2240
10	1580
25	1000
50	707
75	577
100	500
150	410
200	354
250	316
500	224
750	182
800	177
1,000	158
1,500	129
2,000	112
2,500	100
3,000	91
3,500	84
4,000	79
5,000	70
6,000	64
7,500	57
10,000	50
12,000	44
15,000	34
List $1.00	
20,000	26
25,000	23
30,000	20
35,000	16
40,000	14
45,000	13
50,000	12
List $1.10	
60,000	9
70,000	8
80,000	8
90,000	7
100,000	7

50 WATTS

Type 5FT
4" x 15/16"
List $1.10

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
100	700
200	500
250	440
500	300
750	250
1,000	215
1,500	175
2,000	155
2.500	135
3,000	120
4,000	105
5,000	95
List $1.20	
6.000	85
7,000	78
7,500	77
8,000	75
10,000	66
12,000	63
12,500	60
15,000	56
20,000	48
25,000	43
List $1.40	
30,000	39
40,000	34
50,000	30
List $1.60	
60,000	28
75,000	25
100 000	21

75 WATTS

Type 6FT
6" x 15/16"
List $1.40

Ohms	Max. m. a.
5	4000
10	2730
25	1780
50	1220
100	865
200	612
250	545
500	387
750	316
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
4,000	137
5,000	122
List $1.65	
6,000	112
7.500	100
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
30.000	50
List $1.90	
40,000	43
50.000	39
List $2.15	
60,000	35
75.000	31
List $2.40	
100,000	27

100 WATTS

Type 7FT
6½" x 1⅓"
List $1.65

Ohms	Max. m. a.
25	2000
50	1414
75	1155
100	1000
150	815
250	632
500	447
750	365
1,000	315
1,250	280
1,500	250
2,000	220
2,500	200
3,000	180
5,000	140
List $1.95	
7,500	115
10,000	100
15,000	80
20,000	70
25,000	63
List $2.25	
30,000	58
40,000	50
50,000	44
List $2.55	
60,000	41
75,000	36
List $2.85	
100,000	31

160 WATTS

Type 8FT
8½ x 1⅛"
List $2.00

Ohms	Max. m. a.
5	5660
10	4000
25	2530
50	1788
75	1460
100	1260
200	900
500	570
1,000	400
1,500	330
2,000	280
2,500	250
3,000	230
3,500	215
4,000	200
4,500	185
5,000	180
List $2.25	
7,500	145
10,000	125
15,000	105
20,000	90
25,000	80
List $2.50	
30,000	67
35,000	57
40,000	50
50,000	40
List $2.75	
60,000	33
70,000	28
80,000	25
List $3.00	
100,000	20

200 WATTS

Type 9FT
11" x 1⅛"
List $2.50

Ohms	Max. m. a.
5	6310
10	4470
25	2830
50	2000
75	1635
100	1400
250	900
500	630
1,000	450
1,500	365
2,000	315
2,500	280
3,000	260
3,500	240
4,000	225
4,500	210
5,000	200
7,500	165
10,000	140
List $3.00	
15,000	115
20,000	100
25,000	90
30,000	82
35.000	71
40,000	62
50,000	50
60.000	42
75.000	33
100,000	25

AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

AUTOMATIC
REGULATOR
AMPERITE
BALLAST TUBE
FOR AUTOMATIC REGU
LATION OF CURRE
AND VOLTAGE

110 Volts—A.C. Sets

AMPERITE IS A REAL REGULATOR—Its resistance automatically varies to compensate for supply voltage variations. It should not be confused with ordinary resistors.

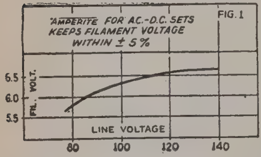
For 110-V. A.C. Sets—The proper Amperite is determined by the line current. A set drawing 0.7A requires Amperite 7A10, 1.2A requires Amperite 12A10, etc. Depending upon the line voltage, the voltage drop across an Amperite of—A10 series will vary from 8 to 30 volts and will control line voltages of 100 to 140 volts.

HOW TO DETERMINE PROPER AMPERITE FOR A.C. SETS

Line Voltage	110 V	220 V
No. of Tubes in Set	Use Amperite No.	Use Amperite No.
4 or 5	5-A-5	2H-5
6 or 7	7-A-5	3H-5
8, 9 or 10	9-A-5	4H-5
11 or 12	11-A-5	5H-5

The line current drain of most 110 Volt A.C. Sets—except those using 6L6 or '50 tubes—average approximately 0.1 amp. per tube. A 7-tube set will draw 0.7A—use Amperite 7A10, etc. 220 Volt A.C sets have half the current drain of similar 110 A.C. sets. For proper Amperite see Chart at left.

A. C. - D. C. SETS

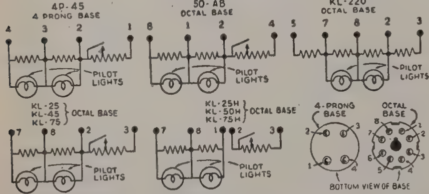


For A.C.-D.C. Sets

The Amperite Regulators are designed to pass only 0.3A through tube filaments. Filament voltages will be kept within ±5% with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prongs and 2 with octal bases will replace 150—90% of all—o-called ballasts or resistors used in AC.-D.C. sets. No extra resistor equired.

Pilot Lights—None, one or two of either 0.150A or 0.250A can be used with same Amperite. Should a pilot light burn out, the set will continue to operate properly without any damage to the Amperite, tubes or other parts. The patented starting resistor in the Amperite prevents overloading and premature burning-out of tubes and pilot lights.
In some sets the ballast socket is purposely wired in such a way that the Pilot Light Resistors of standard ballasts would be burned out is inserted. In such sets special Amperites are required, as shown in table. Avoid burnouts—use proper Amperite.

BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



AMPERITES
FOR 2-VOLT BATTERY SETS

Two-volt tube filaments are delicate and easily overloaded. Keeping the tube filaments at their proper voltage with a real regulator like Amperite invariably results in considerably more battery and tube life. The same Amperite can be used for dry cell, air cell, or 2 volt storage battery operation. The proper Amperite is determined by the total filament-current drain of the set. e.g.—for 0.5A use Amperite 5E1, etc

REPLACEMENT REGULATORS—A.C.-D.C. SETS. **List $1.25**

Amperite No.	Amperite Numbers Shown Replace All A.C.-D.C. Ballasts		
	Starting With Letter	With Numbers From	Ending In
KL.25 # **KL.45** **KL.75**	K, L, M or BK BL or BM	10 to 36 36 " 67 67 " 105	A, B, C, or D " "
KL.25H **KL.50H** **KL.75H**	K, L, M, or BK " "	11 to 26 36 " 67 67 " 105	F, G, or H " "
KL.50S1 **KL.50S2** **KL.50S3**	K or L " "	40 to 100 " "	S1 S2 S3
KL.50E	"	36 " 67	E

Except K18B, use Amperite K18B—4Prong Base.

For	*	Use Amperite	For	*	Use Amperite	For	*	Use Amperite	For	*	Use Amperit
.0C2	a	R300	3MZ-419	a	3MZ-419	9A10	c	9A10	40	a	3-40
.03G	a	.03G	3MZ419A	a	3MZ419A	9-20	r	9-20	40W	a	3-40
.038	r	11-20				9-150	c	9-150	40A2	a	4P45
.042	b	5E1	4		4	9-220	c	9-220	40B2	a	4P45
			4-1	a	1G1	9V10	c	8A5	40X300	a	4P45
1-1	r	1-1	4A1	b	4A1						
1A1	b	5E1	4A 10	b	4A10	10-1	b	10-1	42A	a	3-40
1A2	b	30	4-20	c	4-20	10A 10	c	10A10	42A1	a	50AB
1A5	c	1A5	4-150	r	4-150	10A	a	10A	42A2	a	50AB
1B1	b	3H1		c		10AB	b	5H-1	42B2	a	50AB
1B2	b	31	4-220	c	4-220	10-10	r	10-10	42HA	a	
1C1	b	7H1	4H-1	b	4H-1	10V10	c	10V10			
1C2	b	52	4H-10	c	4H-10	10-20	r	10-20	45W	a	4P45
1D1	b	2H-1	4H-10	r	4H-10	10-23A	a	KL-25			
1D2	b	1D2	4H-20	c	4H-20	10-25	r	10-25	46A1	a	46A1
1E1	b	5E1	4H-150	c	4H-150				46B1	a	46B1
1E2	b	1E2				10-150	c	10-150	49A	a	4P45
1F1	b	7-1	4H-220	c	4H-220	10-220	c	10-220	49A1	a	50AB
1G1	b	4-1	4SR311	a	4SR311	10-610	a	10-610	49A2	a	50AB
1H-1	b	1H-1	4-TU-9	a	KL-45	10-500			49B2	a	50AB
1H-5	c	1H-5				10-800			50MG	a	KL50S1
1J1	b	6-1	5	a	5						
1K1	b	5H-1	5B	a	3-40	11A10	c	11A10	50W	a	4P45
1L1	b	1L1	5-1	b	5E1	11-20	r	11-20	50A2	a	4P45
1N1	b	1N1	5A10	c	5A10	11-150	c	11-150	50A2MG	a	KL50S2
1P1	b	1P1	5-10	r	5-10	11-220	c	11-220	50B2	a	4P45
1Q1	b	1Q1	5-16	c	5-16				50B2MG	a	KL50S1
1R1	b	1R1	5-20	r	5-20	12A10	c	12A10	50X3	a	4P45
1S1	b	1S1	5-150	c	5-150	12-20	r	12-20	50X3T	a	4P45
1T1	b	1T1	5-220	c	5-220	12-150	c	12-150	50X300	a	4P45
1U1	b	1U1	5E1	b	5E1	12-220	c	12-220			
1V1	b	5H-1	5H-1	b	5H-1				52	b	1C2
1W1	b	1W1	5H-3	s	5H-3	13A10	c	13A 10			
1Y1	b		5H-10	c	5H-10	13-20	r	13-20	55A	a	KL45
1Z1	b	9-1	5H-20	r	5H-20				55H	a	KL50H
			5H-150	c	5H-150	14A10	c	14A10	55LB	a	L55B
			5H-220	c	5H-220	14-20	r	14-20	55KB	a	KL-45
2	a	2									
2-1	b	2-1	6	r	1F1	15A10	c	15A10	60-92A	a	KL-75
2A10	c	2A10	6-1	r	1J1	15-10	r	15-10	60R30	a	60R30G
2-10	r	2-10	6A10	c	6A10	15-20	r	15-20	60R30G	a	60R30G
2-20	r	2-20	6-20	c	6-20				64.23		
2CR-241	a	KL-45	6-150	c	6-150	16A10	c	16A10	67A	a	KL45
2LR-212	a	50AB	6-220	c	6-220						
2M2	s	2M2	6AA	b	5E1	17-2	s	17-2	69-2027	a	3-40
2UR-215	a	KL-45	6B	a	4P45	17A10	c	17A10	69-2028	h	3-220
2UR-224	a	KL-45	6.125	a	KL-45J				69-2033	a	KL-45
2H-1	b	1D1	6.126	a	KL-45J	18			66-2037	a	KL-45
2H-2E	b	2H-2E				18-10	r	18-10			
2H-10	c	2H-10	6-128	a	KL-45J				70	r	70
2H-10	r	2H-10	6-129	a	KL-45J	20-1	s	20-1	75	a	KL-75
2H-20	r	2H-20	6-130	a	6-130	20A5	c	20A5	77-109	a	77-109
3	a	4P45	6-133	a	KL-45J	20-10	r	20-10	77-126	a	77-126
			6-134	a		22-10	r	22-10	77-127	a	77-127
3-1	b	3-1	6-135	a	KL-45J				77-128	a	77-128
3A10	c	3A10				23-55A	a	KL-45	77-181	a	77-181
3A20	c	3A20	7	a	7	23-55F	a	KL-50H	80	a	4P45
3-25	a	3-25	7-1	b	1F1	23-3	s	23-3	80R	a	80R
3-40	a	3-40	7A10	c	7A10	23-55A	a	KL25	85L75CC	h	85L75C
3-150	c	3-150	7-20	r	7-20	23-55B	a	KL45			
3-220	h	3-220	7-150	c	7-150	23-55C	a	KL45	90	r	90
3CR-241	a	KL-45	7-220	c	7-220	23-55D	a	KL45	92A	a	4P45
3ER-248	a	KL-45J				24-4	s	24-4	95K2	a	KL-45
3ER-249	h	3ER-249	8	a	4P45				98	r	9-20
3H-1	b	1B1	8-1	b	8-1	30	b	1A2			
3H-2E	b	3H-2E	8A10	c	8A10	30A	a	3-25	100	r	9-20
3H-5	c	3H-5	8-20	r	8-20	31	b	1B2	100.R8	a	4P45
3H-10	r	3H-10	8-150	c	8-150	32	a	KL-50H	100-33	a	
3H-20	r	3H-20	8-220	c	8-220	33AG	a	KL-25	100-37	a	KL-45J
3H-150	c	3H-150				33-310			100-38	a	KL-45J
3H-220	c	3H-220	9	a	4P45	3,6D5	a	3,6D5	100-46	a	100-46
3MR-253	a	3MR-253	9-1	b	1Z1	36A	a	KL-25	100-47	a	100-47

(Continued on next page)

PRICES

The proper AMPERITE Replacement may be determined by looking up the number under column "FOR" and noting corresponding Amperite in the column "USE AMPERITE". Numbers in "FOR" column run consecutively and then alphabetically.

★The letter code in the center column is interpreted as follows:

	List Price
a—For 110V. A.C.-D.C. Sets	**$1.25**
b—For 2V. Battery Sets	**2.25**
c—For 110V. A.C. Sets	**2.25**
h—For 220V. A.C.-D.C.Sets	**2.25**
r—For 110V. A.C. Sets having 70-95V. Primary	**1.25**
s—For special apparatus.	

For	*	Use Amperite
00-48	h	3ER249
00-49	h	3ER-249
00-52	b	1D2
00-53	b	1E2
00-55	a	100- 55
00-56	a	100-56
00-57	h	3ER-249
00-58	h	3ER-249
00-59	h	3ER-249
00-60	h	3ER-249
00-61	a	100-61
00-62	a	100-62
00-63	a	100-63
00-64	h	3ER-249
00-65	h	3ER-249
00-66	h	3ER-249
00-70	a	KL-45J
00-71	a	KL-45J
00-76	a	100-76
00-77	a	100-77
00-79	a	100-79
00-81	a	100-81
01	r	9-20
05	r	9-20
10	r	11-20
15-14	a	KL-75
15-17	a	115- 17
15-1S	a	115-17
15-18	a	115-18
15-19	a	115-19
15-20	a	115-20
15-22	a	KL-45
15-24	a	115-24
15-25	a	115-25
15-26	a	115-26
15-27	a	115-27
15-28	a	KL-45
15-40	a	KL-45
15-41	a	KL-45
15-42	a	KL-25
15-42A	a	115-42A
15-43	h	3ER-249
15-44	h	3ER-249
15-46	a	115-46
15-47	a	
15-49	a	115-49
	a	KL-45
18	c	11A5
20R8	a	4P45
25	c	10A5
26	r	12-20
30R	a	4P45
30R8	a	4P45
30-35		
35K1	a	KL-45
35K1A	a	KL-45
35T380		
40	a	4P45
40R4	a	4P45
40R8	a	4P45
40L4	a	4P45
40L44	a	4P45
40M4	a	4P45
40M8	a	4P45
40KB	a	4P45
40KC	a	4P45
45A	a	145A
50	c	15A5
55	c	
58	r	18-10
60-32	a	KL-45
60-36	a	L55B
60-37	a	160-37
60-40	a	KL-45
60-41	a	
60-42	a	
60-43	a	
60KB	a	4P45
60R4	a	4P45
64	c	7A5
65A	a	4P45
65KB	a	4P45
165KC	a	4P45
165LB	a	4P45
165LC	a	4P45
165L4	a	4P45
165L8	a	4P45
165L44	a	4P45
165M4	a	4P45
165M8	a	4P45
165R	a	4P45
165R4	a	4P45
165R8	a	4P45
165R44	a	4P45
169	c	10A5
185A	a	4P45
185KB	a	4P45
185KC	a	4P45
185L4	a	4P45
185L8	a	4P45
185L44	a	4P45
185LB	a	4P45
185LC	a	4P45
185M4	a	4P45
185M8	a	4P45
185R	a	4P45
185R4	a	4P45
185R8	a	4P45
185R44	a	4P45
192A	a	MT650
200R	a	200R
200R4	a	4P45
200R8	a	4P45
203	c	12A5
216	c	11A5
218	r	18-10
245A	a	4P45
245KB	a	4P45
245KC	a	4P45
250A	a	4P45
250KB	a	4P45
250KC	a	4P45
250L4	a	4P45
250L8	a	4P45
250M4	a	4P45
250M8	a	4P45
250R	a	250R
250R4	a	4P45
250R8	a	4P45
250T		
260		
270L4	a	4P45
270L8	a	4P45
270M4	a	4P45
270M8	a	4P45
270R4	a	4P45
270R8	a	4P45
275		
300R	a	4P45
300R4	a	4P45
313	r	13-20
314	r	14-20
315	r	15-20
320R	a	4P45
320R4	a	320R4
380	c	380
400R	a	400R
410		
415	r	11-20
424-90	r	6-20
425	r	13-20
439	r	3H-20
444-90	r	3-20
449	r	14-20
454	r	5-20
460	r	13-20
464-90	r	8-20
464-200	r	3H-20
484-90	r	16-20
484-200	r	7-20
495K1	a	495K1
538	r	9-20
610-10	a	610-10
808-1	a	808-5
808-2	a	808-2
808-4	a	808-4
808-5	a	808-5
838	r	9-20
874		
874-R48	a	874-R48
878R48	a	878R48
1916	a	1916
2342		
2342-1		
2917		
2918		
2919		
3271	a	3271
3313	a	KL-45
3326	a	KL-45
3334	a	KL-45
3334A	a	KL-45
3614	a	KL-45
5134	a	5184
5459	c	5459
8593	a	KL-45
8595	a	L55B
8598	a	KL-45
8600	a	KL-25
8601	a	KL-50E
8663		
8664	a	KL-50E
8717		
8850		
81963	a	81963
81966	a	KL-45
81973	a	81973
84152	a	84152
86892-9	a	86892-9
26871	a	26871
35000	a	35000
84428	a	84428
022337-1	a	022337-1
33R	c	33R
BK42D	a	KL-45
BK49B	a	BK49B
BK49D	a	KL-45
BK55B	a	KL-45
BK55D	a	KL-45
Bkv51dj	a	Bkv51dj
BL42B	a	KL-45
BL42C	a	KL-45
BL42D	a	KL-45
BL49B	a	KL-45
BL49D	a	KL-45
BL55B	a	KL-45
BL55D	a	KL-45
BM42B	a	KL-45
BM42D	a	KL-45
BM49B	a	KL-45
BM49D	a	KL-45
BM55B	a	KL-45
BM55D	a	KL-45
C-9266	a	C-9266
D30	a	D-35
D35	a	D35
D140	a	200R
D150	a	200R
D200	a	200R
D740	a	D740
D4851A		
D5468		
E157		E-157
FBE-5324	a	FBE-5324
FL-55C	a	FL-55C
FM-370		
H5531	a	KL-45
K11A	a	KL-25
K11B	a	KL-25
K11B2	a	25B2
K11D	a	KL-25
K11E	a	KL-25E
K11E1	a	KL-25E
K11F	a	KL-25H
K11G	a	KL-25H
K11H	a	KL-25H
K11J	a	KL-25J
K17AJ	a	K17AJ
K17BJ	a	K17BJ
K17E	a	KL25E
K17R	a	K17R
K18A	a	KL25
K18B	a	K18B
K18B2	a	25B2
K18C	a	KL-25
K18D	a	KL-25
K18E	a	KL-25E
K18E1	a	KL-25E
K18F	a	KL-25H
K18G	a	KL-25H
K18H	a	KL-25H
K18J	a	KL-25J
K22A	a	KL-25
K22B	a	KL-25
K22B2	a	K22B2
K22C	a	KL-25
K22D	a	KL-25
K22E	a	KL-25E
K22E1	a	KL-25E
K22F	a	KL-25H
K22G	a	KL-25H
K22H	a	KL-25H
K22J	a	KL-25J
K23E	a	KL-25E
K23AJ	a	KL-45J
K23C	a	KL-25
K26J218	a	K26J218
K30B	a	KL-25
K30B2	a	25B2
K30C	a	KL-25
K30D	a	KL-25
K30E	a	KL-25E
K30E1	a	KL-25E
K30F	a	KL-25H
K30G	a	KL-25H
K30H	a	KL-25H
K30J	a	KL-25J
K36A	a	KL-45
K36B	a	KL-45
K36B2	a	50AB
K36C	a	KL-45
K36D	a	KL-45
K36E	a	KL-50E
K36E1	a	KL-50E
K36F	a	KL-50H
K36G	a	KL-50H
K36H	a	KL-50H
K36J	a	KL-50J
K38B2	a	K38B2
K40B	a	KL-45
K40X	a	4P45
K40Y	a	4P45
K42A	a	KL-45
K42B	a	KL-45
K42B2	a	50AB
K42B-K4	a	K42B-K4
K42C	a	KL-45
K42D	a	KL-45
K42E	a	KL-50E
K42E1	a	KL-50E
K42F	a	KL-50H
K42G	a	KL-50H
K42H	a	KL-50H
K42J	a	KL-50J
K42CG	a	4P45
K43B-2	a	KL-45
K49A	a	KL-45
K49B	a	KL-45
K49B2	a	50AB
K49C	a	KL-45
K49D	a	KL-45
K49D-10	a	KL-45
K49E	a	KL-50E
K49E1	a	KL-50E
K49F	a	KL-50H
K49G	a	KL-50H
K49H	a	KL-50H
K49J	a	KL-50J
K49CG	a	4P45
K49X	a	4P45
K49Y	a	4P45
K49S1	a	KL50S1
K49S2	a	KL-50S2
K49S3	a	KL-50S3
K52H	a	KL-50H
K55A	a	KL-45
K55B	a	L-55B
K55B2	a	50AB
K55C	a	KL-45
K55CP	a	K55CP
K55CPR	a	K55CP
K55D	a	KL-45
K55E	a	KL-50E
K55E1	a	KL-50E
K55F	a	KL-50H
K55G	a	KL-50H
K55H	a	KL-50H
K55J	a	KL-50J
K55S1	a	KL-50S1
K55S2	a	KL-50S2
K55S3	a	KL-50S3
K67A	a	KL-45
K67B	a	KL-45
K67B2	a	50AB
K67BJ	a	K67BJ
K67D	a	KL-45
K67E	a	KL-50E
K67E1	a	KL-50E
K67F	a	KL-50H
K67G	a	KL-50H
K67H	a	KL-50H
K67J	a	KL-50J
K67S1	a	KL-50S1
K67S2	a	KL-50S2
K67S3	a	KL-50S3
K72B	a	KL-75
K74A	a	KL-45
K74B	a	KL-45
K74B2	a	50AB
K74C	a	KL-45
K74D	a	KL-45
K74E	a	KL-50E
K74E1	a	KL-50E
K74F	a	KL-50H
K74G	a	KL-50H
K74H	a	KL-50H
K74J	a	KL-50J
K74S1	a	KL-50S1
K74S2	a	KL-50S2
K74S3	a	KL-50S3
K75B	a	KL-75
K78B	a	KL-75
K79B	a	KL-75
K80A	a	KL-75
K80B	a	KL-75
K80B2	a	50AB
K80C	a	KL-75
K80D	a	KL-75
K80E	a	KL-50E
K80E1	a	KL-50E
K80F	a	KL-75H
K80G	a	KL-75H
K80H	a	KL-75H
K80J	a	KL-75J
K80S1	a	KL-50S1
K80S2	a	KL-50S2
K80S3	a	KL-50S3
K83747-6	a	K83747-6
K87A	a	KL-75
K87B	a	KL-75
K87B2	a	75B2
K87C	a	KL-75
K87D	a	KL-75
K87E	a	KL-75E
K87E1	a	KL-75E
K87F	a	KL-75H
K87G	a	KL-75H
K87H	a	KL-75H
K87J	a	KL-75J
K87S1	a	KL-75S1
K87S2	a	KL-75S2
K87S3	a	KL-75S3
K90B	a	KL-75
K90F	a	KL-75H
K92A	a	KL-75
K92B	a	KL-75
K92B2	a	75B2
K92C	a	KL-75
K92D	a	KL-75
K92E	a	KL-75E
K92E1	a	KL-75E
K92F	a	KL-75H
K92G	a	KL-75H
K92H	a	KL-75H
K92J	a	KL-75J
K92S1	a	KL-75S1
K92S2	a	KL-75S2
K92S3	a	KL-75S3
K95B	a	KL-75
K99A	a	KL-75
K99B	a	KL-75
K99B2	a	75B2
K99C	a	KL-75
K99D	a	KL-75
K99E	a	KL-75E
K99E1	a	KL-75E
K99F	a	KL-50H
K99G	a	KL-50H
K99H	a	KL-75H
K99J	a	KL-75J
K99S1	a	KL-75S1
K99S2	a	KL-75S2
K99S3	a	KL-75S3
K1336	a	KL-45
K150A	a	K150A
KX23B	a	60R30G
KX23R	a	878R48
KX42A	a	4P45
KX42B	a	4P45
KX42C	a	4P45
KX46A	a	4P45
KX49C	a	4P45
KX55A	a	4P45
KX55B	a	4P45
KX55C	a	4P45
KX55D	a	4P45
KX74A	a	4P45
KX74B	a	4P45
KX74C	a	4P45
KY42A	a	50AB
KY42B	a	50AB
KY42C	a	50AB
KY55A	a	50AB
KY55B	a	50AB
KY55C	a	50AB
KZ49A	a	KL-50S1
KZ49B	a	KL-50S1
KZ49C	a	KL-50S2
L11A	a	KL-25
L11B	a	KL-25
L11B2	a	25B2
L11C	a	KL-25
L11D	a	KL-25
L11E	a	KL-25E
L11E1	a	KL-25E
L11F	a	KL-25H
L11G	a	KL-25H
L11H	a	KL-25H
L11J	a	KL-25J
L18A	a	KL-25
L18B	a	KL-25
L18B2	a	25B2
L18C	a	KL-25
L18D	a	KL-25
L18E	a	KL-25E
L18E1	a	KL-25E
L18F	a	KL-25H
L18G	a	KL-25H
L18H	a	KL-25H
L18J	a	KL-25J
L22A	a	KL-25
L22B	a	KL-25
L22B2	a	25B2
L22C	a	KL-25
L22D	a	KL-25
L22E	a	KL-25E
L22E1	a	KL-25E
L22F	a	KL-25H
L22G	a	KL-25H
L22H	a	KL-25H
L22J	a	KL-25J
L26CC	a	KL-25
L26CC-159	h	L26CC-159
L30A	a	KL-25
L30B	a	KL-25
L30B2	a	25B2
L30C	a	KL-25
L30CC	a	L30CC
L30D	a	KL-25
L30E	a	KL-50E
L30E1	a	KL-50E
L30F	a	KL-25H
L30G	a	KL-25H
L30H	a	KL-25H
L30J	a	KL-25J
L36A	a	KL-25
L36B	a	KL-45
L36BG	a	4P45
L36B2	a	50AB
L36C	a	KL-45
L36D	a	KL-45
L36E	a	KL-50E
L36E1	a	KL-50E
L36F	a	KL-50H
L36G	a	KL-50H
L36H	a	KL-50H
L36J	a	KL-50J
L36DJ	a	KL-45J
L40CT	a	KL-45
L40D	a	KL-45
L40E	a	KL-50E
L40S1	a	KL-50S1
L40S2	a	KL-50S2
L40S3	a	KL-50S3
L42A	a	KL-45
L42B	a	KL-45
L42BG	a	4P-45
L42B2	a	50AB
L42BX	a	L42BX
L42SX	a	220SX
L42C	a	KL-45
L42CJ	a	KL-45J
L42CS4	a	L42CS4
L42D	a	KL-45
L42DX	a	L42BX
L42DSX	h	220SX
L42DJ	a	KL-45J
L42E	a	KL-50E
L42E1	a	KL-50E
L42F	a	KL-50H
L42G	a	KL-50H
L42H	a	KL-50H
L42J	a	KL-50J
L42S1	a	KL-50S1
L42S2	a	KL-50S2
L42S3	a	KL-50S3
L49A	a	KL-45
L49B	a	KL-45
L49B2	a	50AB
L49BJ	a	L49BJ
L49BX	a	L49BX
L49BSX	h	220SX
L49C	a	KL-45
L49CJ	a	KL-45J
L49D	a	KL-45
L49DJ	a	KL-45J
L49DX	a	L49BX
L49DSX	h	220SX
L49E	a	KL-50E
L49 .55E	a	KL-50E
L49E1	a	KL-50E
L49G	a	KL-50H
L49H	a	KL-50H
L49J	a	KL-50J
L49S1	a	KL-50S1
L49S2	a	KL-50S2
L49S3	a	KL-50S3
L55A	a	KL-45
L55B	a	L55B
L55B2	a	50AB
L55C	a	KL-45
L555 .5C	a	KL-45
L55CP	a	K55CP
L55CPR	a	K55CP
L55D	a	KL-45
L55E	a	KL-50E
L55E1	a	KL-50E
L55F	a	KL-50H
L55G	a	KL-50H
L55H	a	KL-50H
L55J	a	KL-50J
L55S1	a	KL-50S1
L55S2	a	KL-50S2
L55S3	a	KL-50S3
L66B	a	KL-45
L67A	a	KL-45
L67B	a	KL-45
L67B2	a	50AB
L67C	a	KL-45
L67D	a	KL-45
L67E	a	KL-50E
L67E1	a	KL-50E
L67F	a	KL-50H
L67G	a	KL-50H
L67H	a	KL-50H
L67J	a	KL-50J
L67S1	a	KL-50S1
L67S2	a	KL-50S2
L67S3	a	KL-50S3
L74A	a	KL-45
L74B	a	KL-75
L74B2	a	50AB
L74C	a	KL-75
L74D	a	KL-75
L74E	a	KL-50E
L74F	a	KL-75H
L74G	a	KL-75H
L74H	a	KL-75H
L74J	a	KL-75J
L74S1	a	KL-50S1
L74S2	a	KL-50S2
L74S3	a	KL-50S3
L75CC	a	KL-45
L150B	h	L150B
L159B	h	L159B
L80A	a	KL-75
L80B	a	KL-75
L80B2	a	72B2
L80C	a	KL-75
L80D	a	KL-75
L80E	a	KL-50E
L80F	a	KL-75H
L80G	a	KL-75H
L80H	a	KL-75H
L80J	a	KL-75J
L80S1	a	KL-50S1
L80S2	a	KL-50S2
L80S3	a	KL-50S3
L85CC	a	KL-75
L87A	a	KL-75
L87B	a	KL-75
L87C	a	KL-75
L87D	a	KL-75
L87E	a	KL-50E
L87F	a	KL-75H
L87G	a	KL-75H
L87H	a	KL-75H
L87J	a	KL-50J
L90CC	a	L90CC
L90S1	a	KL-50S1
L90S2	a	KL-50S2
L90S3	a	KL-50S3
L92A	a	KL-75
L92B	a	KL-75
L92D	a	KL-75
L92E	a	KL-75E
L92F	a	KL-75H
L92G	a	KL-75H
L92H	a	KL-75H
L92J	a	KL-75J
L99D	a	KL-75
L100D	a	KL-75
L120-75CC	a	KL-45
L122B	a	KL-75
LLL25	b	5H1
LLL-225	b	5E1
LX42B	a	4P45
LX42C	a	4P45
LX42D	a	4P45
LX49B	a	4P45
LX49C	a	4P45
LX49D	a	4P45
LX55B	a	4P45
LX55C	a	4P45
M17HG	a	KL-25H
M27HG	a	KL-25H
M30HG	a	KL-25H
M36C	a	KL-25
M36H	a	KL-25H
M42B	a	KL-45
M42C	a	KL-45
M42D	a	KL-45
M42HG	a	KL-50H
M42H	a	KL-50H
M45R	a	KL-45
M49B	a	KL-45
M49E1	a	KL-50E
M49H	a	KL-50H
M49HG	a	KL-50H
M50R	a	KL-45
M52H	a	KL-50H
M55B	a	L55B
M55D	a	KL-45
M55E	a	KL-50E
M55E1	a	KL-50E
M55H	a	KL-50H
M55HG	a	KL-50H
M61B	a	KL-45
M80B	a	KL-75
M80H	a	KL-75H
M80HG	a	KL-75H
MT-650	a	MT-650
NB-1	b	NB-1
NB-2	b	NB-2
NB-3	b	NB-3
NB-4	b	NB-4
NB-5	b	NB-5
NB-6	b	NB-6
NB-7	b	NB-7
NB-8	b	NB-8
NTH	a	MT-650
NUA	a	KL-45
NUB	a	KL-45
PB57	a	PB57
P27287	a	KL-50E
P26871	a	P26871
R6V	r	R6V
R-3003	a	R-3003
R1100	a	BBR
R43B2	a	R43B2
R130-180		
R161-300		
T-5	a	T-5
TU-34	a	KL-45
TU-83	a	KL-45
WRL5		
W-41187	s	W-41187
W-42105	b	3H-1C
W-42520	a	W-42520
W-43251	b	5E1
W-43357	a	KL-45
W-43282	b	6-1
W-44118	b	1G1
W-44338	a	W-44338
W-45788	a	KL-45
W-46773	a	KL-45
W-46416	a	KL-45
W46773	a	KL-45
X35-35	a	KL-45
X55B	a	KL-25
Y-TU-9	a	KL-45

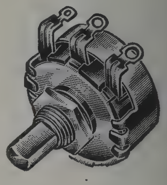
CLAROSTAT

SERIES "M" COMPOSITION-ELEMENT CONTROLS

★ Compactness—yet without sacrificing operating efficiency and long service life. Only 1⅛″ dia. by $\frac{9}{16}$″ deep (with switch, ⅞″ deep).

Utilizes the exclusive Clarostat stabilized element, insuring the control's constancy in all weather and in all climates. Many years of painstaking research and experience are incorporated into the design of Clarostat Series "M" controls, assuring the user of the best results at all times.

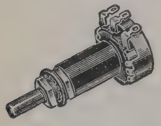
The original Clarostat "Ad-A-Switch" feature makes it possible to adapt any of the Series "A" switches quickly to any of the "M" controls. Furthermore, for high-voltage television, oscillograph or other electronic circuits, the new Clarostat Series 55-110 High-Voltage Coupling Unit can be attached to all Clarostat controls (illustrated below) to assure safety at elevated voltages. The cost of this added feature is quite moderate. High-voltage couplers are installed at factory only. List price 3000v. **$1.25**; 10000 v. **$1.85**.



WITH Original "Ad-A-Switch" Feature

Cat. No.	Ohms	Curve	Suggested Use	Cat. No.	Ohms	Curve	Suggested Use
M-5-S	500	S	Std. Pot.	M-45-W	50000	W	Sc. Grid & Phono.
M-8-S	1000	S	Std. Pot.	M-46-Z	50000	Z	Auto Grid & Tone
M-11-S	2000	S	Std. Pot.	M-47-S	75000	S	Std. Pot.
M-15-S	3000	S	Std. Pot.	M-48-V	75000	V	C Bias Rheo.
M-19-S	5000	S	Std. Pot.	M-49-S	100000	S	Std. Pot.
M-20-U	5000	U	Ant. & C — tube	M-51-Z	100000	Z	Audio & Tone
M-23-S	75000	S	Std. Pot.	M-52-S	200000	S	Std. Pot.
M-27-S	10000	S	Std. Pot.	H-55-S	250000	S	Std. Pot.
M-29-U	10000	U	Ant. & C — tube	M-64-Z	250000	Z	Audio & Tone
M-30-V	10000	V	C Bias Rheo.	M-58-S	500000	S	Std. Pot.
M-31-W	10000	W	Sc. Grid & Phono.	M-59	500000	Y	Audio 8one
M-81-Z	10000	Z	Ant. Shunt	M-60-Z	500000	Z	Audio & Tone
H-32-S	15000	S	Std. Pot.	M-61-S	1000000	S	Std. Pot.
M-33-U	15000	U	Ant. & C — 1 tube	M-63-Z	1000000	Z	Audio & Tone
M-34-V	15000	V	C. Bias Rheo.	M-66-Z	2000000	Z	Tone & AVC
M-35-W	15000	W	Sc. Grid & Phono.	M-67-Z	3000000	Z	Tone & AVC
M-37	20000	U	Ant. & C — 1 tube	M 68-Z	4000000	Z	Tone & AVC
M-40-S	25000	S	Std. Pot.	M-69-Z	5000000	Z	Tone & AVC
M-41-W	25000	W	Sc. Grid & Phono.	M-72	25000	V	C Bias Rheo.
M-44-S	50000	S	Std. Pot.	M-99-Z	10000000	Z	Tone & AVC

LIST PRICE $1.25 (Standard Packing—10 (ten) per carton.)



High-voltage coupler fitted to any Clarostat control at the factory, on special order.

THE ORIGINAL "AD-A-SWITCH" FEATURE FOR SERIES "M", "AM", "T" "AT" CONTROLS

Cat. No.	Wiring	List Price
SW-A	Single-Pole Single-Throw	$0.60
SW-A1	Three-Way. No "Off" position S.P.D.T.	.60
SW-A2	Double-Pole Single-Throw	.60
SW-A4	Four-wire (to control A, B and C voltages)	.60
SW-A5	S.P.S.T. (closes at full clockwise rotation)	.75
SW-A6	S.P.S.T. with dummy lug	.75

Ad-A-Switch is used in place of usual dust-protection cover, and lugs bent over to hold it in place.

POWER RESISTOR DECADE BOX

★ A "Must" for Every Laboratory. Power resistance measurements under actual load conditions are made possible by this welcome new addition to the Clarostat line.

Just imagine being able to obtain ANY VALUE OF RESISTANCE from 1 ohm to 999,999 ohms IN STEPS OF ONE OHM, and at a POWER RATING OF 225 WATTS using a maximum of 1000 volts DC (660 volts AC)!

Intended primarily for laboratory use and development engineering, this instrument simplifies and expedites the selection of correct resistance values for given circuits and functions. Many of these instruments are already in daily use in laboratories, engineering offices, plants, maintenance and service departments, and in schools.

Finish: The heavy-gauge metal case is finished in frosted gray wrinkle, with an etched black-and-aluminum front panel.

Dimensions: 13 in. long; 8½ in. deep; 5¾ in. high. Weight, 11 lbs.

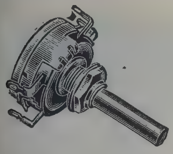
POWER RESISTOR
CLAROSTAT MFG. CO. INC.

Suggested Uses: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters.

Providing any desired ohmage as a universal power resistor.

NET PRICE . . . $90.00*

CLAROSTAT



SERIES "T" TAPPED CONTROLS

(Formerly Series TCP)

With the Original Ad-A-Switch Feature

★ There are many circuits in which the use of a tapped control affords special functional operation not possible or attainable with any other type of control. These standard units listed herewith permit replacement of tapped units with the assurance that the total overall resistance value as well as the taps satisfactorily substitute for the original.

Cat. No.	Ohms	Tap No. 1	Tap No. 2	Tap No. 3
T-25	50,000		25,000	
T-38	200,000			100,000
T-39	250,000		25,000	
T-42	250,000		125,0000	
T-43	250,000			50,000
T-44	250,000	60,000		125,000
T-45	250,000	30,000	60,000	
T-60	350,000		25,000	
T-69	350,000	75,000		
T-70	350,000		75,000	
T-78	500,000		100,000	
T-80	500,000			100,000
T-81	500,000	25,000		
T-82	500,000			200,000
T-88	500,000		50,000	
T-90	500,000		250,000	
T-92	500,000	100,000		300,000
T-98	1,000,000	250,000		
T-101	1,000,000		50,000	
T-102	1,000,000	100,000		500,000
T-103	1,000,000		100,000	
T-109	1,000,000		225,000	
T-110	1,000,000		170,000	
T-111	1,000,000			200,000
T-112	1,000,000		500,000	
T-95	1,500,000	250,000 @ 25% Rotation		500,000
T-125	1,500,000		350,000	
T-114	2,000,000		100,000	
T-115	2,000,000		500,000	
T-116	2,000,000		1,000,000	
T-118	2,000,000	20,000		
T-119	2,000,000		200,000	
T-120	2,000,000		400,000	
T-121	2,000,000	250,000		500,000
T-124	2,000,000	5,000 @ 25% Rotation		
T-126	2,000,000	200,000		400,000
T-129	2,000.000	15,000		
T-123	2,500,000	250,000		500,000
T-128	4,000,000		500,000	

LIST PRICE $1.85 (Without Switch)
For Power Switch, See Series "SW" listings
Standard Packing—10 (ten) per carton

Dual Series DC Controls

The Series DC controls are dual units—Two controls of the same resistance values and tapers, connected in tandem for joint operation.

Cat. No.	Panel Unit	Rear Unit
DC- 5-S	50,000-S	50,000-S
DC- 6-Z	100,000-Z	100,000-Z
DC- 8-Z	250,000-Z	250,000-Z
DC-10-Z	500,000-Z	500,000-Z
DC-11-Z	1,000,000-Z	1,000,000-Z
DC-29-S	250,000-S	250,000-S

LIST PRICE **$3.10**

Standard packing—Individual carton

Rotary Switches

Compact, positive contact, bakelite molded Underwriter's approved. Rated 1 Amp. 250 volt., 3 Amp. 125 volt. The physical dimensions of the switch are as follows:

Diameter $1\frac{3}{32}$", body depth $\frac{9}{16}$", lug protrusion ¼", locking projection on a $\frac{17}{32}$" radius, rotation for actuation 30 degrees.

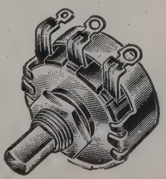
All standard stock numbers have ⅜" bushing, 1½" length shaft, and one locking projection.

Cat. No.	Switch Description	List Price
8590	Single pole Single Throw	**$0.60**
8591	Single Pole Bushing Lug	.60
8592	Double Pole Single Throw	.75
8593	Single Pole Double Throw	.75
8594	Single Pole Reversed Action	.60
8595	Four Wire Single Throw	.75

Individual Packing 10 (ten) per carton.

SERIES 43 MIDGET WIRE-WOUND CONTROLS

★ A space-saving control of the wire-wound type. Similar in mechanical details and dimensions to the composition-element Series M control (page R-6). Precision-wound alloy wire on bakelite strip. Rotor sweeps over inside face of winding. Special lubricant for minimized frictional drag and wear. Molded bakelite casing—high resistance to leakage. Protective metal cover (as shown in illustration). Only 1⅛" dia. Body Depth, $\frac{9}{16}$"; ⅞" deep with switch. ⅜" bushing. Shaft 1½" long.



Resistance Ohms	Current-carrying Capacity in Ma.	Type No. Without Switch	Type No. With Switch
10	450	43-10	43S-10
20	320	43-20	43S-20
30	260	43-30	43S-30
40	225	43-40	43S-40
50	200	43-50	43S-50
75	165	43-75	43S-75
100	140	43-100	43S-100
150	115	43-150	43S-150
200	100	43-200	43S-200
500	65	43-500	43S-500
750	55	43-750	43S-750
1,000	45	43-1000	43S-1000
2,000	31	43-2000	43S-2000
3,000	26	43-3000	43S-3000
4,000	22	43,4000	43S-4000
5,000	20	43-5000	43S-5000
7,500	16	43-7500	43S-7500
10,000	14	43-10000	43S-10000

LIST PRICE **$1.25.** With switch **$1.85**
Standard packing — 10 (ten) per carton.

SERIES "AM" AND "AT" UNIVERSAL AD-A-SHAFT CONTROLS

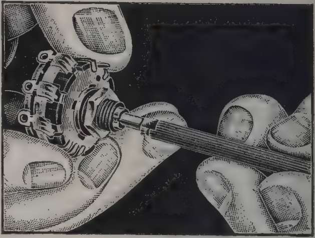
Standard and Tapped for Every Service Need

★ These universal controls are built to the same exacting specifications as Series "M" and "T". However, instead of having the usual integral shaft, these controls include the Clarostat "Ad-A-Shaft" feature whereby a choice of shafts may be used with any of these controls. This ingenious feature eliminates the stocking of special-shaft units. Instead, the Series "AM" or Series "AT" (tapped unit) takes the particular type of shaft desired by merely inserting such a shaft and holding it permanently and firmly in place with a C-washer supplied for the purpose.

Choice of AD-A-Shafts

★ A choice of four types of Ad-A-Shafts covers all requirements, as follows:

Cat. No.	Description	List Price
FS-3	Flatted shaft, 3″ long	$0.30
RS-2	Round shaft 2″ long	.30
RS-3	Round shaft 3″ long	.30
KSS-3	Knurled, split shaft 3″ long....	.30
DFS-½	Philco shaft ½″ long.............	.30



One selected shaft furnished FREE with each Ad-A-Shaft control.

SERIES "AM" OR STANDARD AD-A-SHAFT CONTROLS

Cat. No.	Ohms	Curve	Suggested Use
AM-5-S	500	S	Std. Pot.
AM-8-S	1,000	S	Std. Pot.
AM-11-S	2,000	S	Std. Pot.
M-15-S	3,000	S	Std. Pot.
AM-19-S	5,000	S	Std. Pot.
AM-20-U	5,000	U	Ant. & C—1 Tube
AM-23-S	7,500	S	Std. Pot.
AM-27-S	10,000	S	Std. Pot.
AM-29-U	10,000	U	Ant. & C—1 Tube
AM-30-V	10,000	V	C Bias Rheo.
AM-31-W	10,000	W	Sc. Grid & Phono.
AM-81-Z	10,000	Z	Ant. Shunt
AM-32-S	15,000	S	Std. Uot.
AM-33-U	15,000	U	Ant. & C—1 Tube
AM-34-V	15,000	V	C Bias Rheo.
AM-35-W	15,000	W	Sc. Grid & Phono.
AM-37	20,000	U	Ant. & C—1 Hube
AM-40-S	25,000	S	Std. Pot.
AM-41-W	25,000	W	Sc. Grid & Phono.
AM-72	25,000	V	C Bias Rheo.
AM-44-S	50,000	S	Std. Pot.
AM-45-W	50,000	W	Sc. Grid & Phono.
AM-46-Z	50,000	Z	Audio Grid & Tone
AM-47-S	75,000	S	Std. Pot.
AM-48-V	75,000	V	C Bias Rheo.
AM-49-S	100,000	S	Std. Pot.
AM-51-Z	100,000	Z	Audio & Tone
AM-52-S	200,000	S	Std. Pot.
AM-55-S	250,000	S	Std. Pot.
AM-64-Z	250,000	Z	Audio & Tone
AM-58-S	500,000	S	Std. Pot.
AM-59	500,000	Y	Audio Shunt
AM-60-Z	500,000	Z	Audio & Tone
AM-61-S	1,000,000	S	Std. Pot.
AM-63-Z	1,000,000	Z	Audio & Tone
AM-66-Z	2,000,000	Z	Tone & AVC
AM-67-Z	2.000.000	Z	Tone & AVC
AM-68-Z	4,000,000	Z	Tone & AVC
AM-69-Z	5,000,000	Z	Tone & AVC
AM-99-Z	10,000,000	Z	Tone & AVC

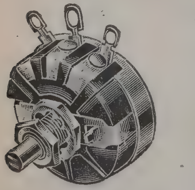
LIST PRICE $1.25 (Without Switch)

SERIES "AT" OR TAPPED AD-A-SHAFT CONTROLS

Cat. No.	Ohms	Tap No. 1	Tap No. 3	Tap No. 3
AT-25	50,000		25,000	
AT-38	200,000			100,000
AT-39	250,000		25,000	
AT-42	250,000		125,000	
AT-43	250,000			50,000
AT-44	250,000	60,000		125,000
AT-45	250,000	30,000	60,000	
AT-60	350,000		25,000	
AT-69	350,000	75,000		
AT-70	350,000		75,000	
AT-78	500,000		100,000	
AT-80	500,000			100,000
AT-81	500,000	25,000		
AT-82	500,000			200,000
AT-88	500,000		50,000	
AT-90	500,000		250,000	
AT-92	500,000	100,000		300,000
AT-98	1,000,000	250,000		
AT-101	1,000,000		50,000	
AT-102	1,000,000	100,000		500,000
AT-103	1,000,000		100,000	
AT-109	1,000,000		225,000	
AT-110	1,000,000		170,000	
AT-111	1,000,000			200,000
AT-112	1,000,000		500,000	
AT-95	1,500,000	250,000 @ 25% Rotation		500,000
AT-125	1,500,000		350,000	
AT-114	2,000,000		100,000	
AT-115	2,000,000		500,000	
AT-116	2,000,000		1,000,000	
AT-118	2,000,000	20,000		
AT-119	2,000,000		200,000	
AT-120	2,000,000		400,000	
AT-121	2,000,000	250,000		500,000
AT-124	2,000,000	5,000 @ 25% Rotation		
AT-126	2,000,000	200,000		400,000
AT-129	2,000,000	15,000		
AT-128	2,500,000	250,000		500,000
AT-128	4,000,000		500,000	

LIST PRICE $1.85 (Without Switch)

Standard Packing—10 (ten) per carton.
For Power Switch, see Series "SW" listings.



SERIES 58 WIRE-WOUND CONTROLS

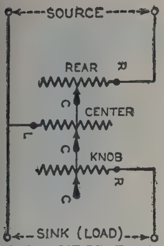
★ Sturdy and reliable in construction yet capable of use for delicate control work, Series 58 Controls are without equal. Noiseless in operation, these units are standard equipment in laboratories, fine instruments, electronic equipment, and especially in the control rooms of radio stations and networks. If power switch is desired, specify switch type and order as 58-S. Add to list the price of switch selected. S.P.S.T. switch is supplied where no type is specified. All switches permanently fastened to control at factory.

Cat. No.	Res. in Ohms	List Price	Cat. No.	Res. in Ohms	List Price	Cat. No.	Res. in Ohms	List Price
58-1	1	$1.25	58-60	60	1.25	58-5000	5000	1.25
58-2	2	1.25	58-75	75	1.25	58-7500	7500	1.25
58-4	4	1.25	58-100	100	1.25	58-10K	10000	1.25
58-6	6	1.25	58-200	200	1.25	58-15K	15000	1.25
58-10	10	1.25	58-300	300	1.25	58-20K	20000	1.25
58-15	15	1.25	58-400	400	1.25	58-25K	25000	1.60
58-20	20	1.25	58-500	500	1.25	58-30K	30000	1.60
58-25	25	1.25	58-750	750	1.25	58-40K	40000	1.60
58-30	30	1.25	58-1000	1000	1.25	58-50K	50000	1.60
58-40	40	1.25	58-2000	2000	1.25	10-75K*	75000	2.50
58-50	50	1.25	58-3000	3000	1.25	10-100K*	100000	2.50

Standard packing—10 (ten) per carton.
*These units are 1″ in depth and are the Clarostat Series 10.

CLAROSTAT

CONSTANT IMPEDANCE CONTROLS

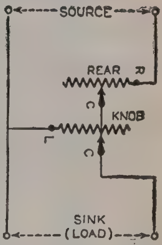


Series CIT-58 T-pads are connected as here shown.

★ To provide for the highest quality of sound reproduction, whether in broadcast transmission, sound recording, or public address systems in which a multiplicity of loudspeakers are employed, it is essential that the proper type of self-compensating volume controls or attenuators be used in eliminating the distortion that would arise from the mismatching of impedances.

Therefore, volume controls or attenuators for this purpose must be of the so-called "constant-impedance" type. By the of these "T" and "L" pads it is possible to keep the input or output impedance of associated equipment in a circuit within the limits of a constant required value.

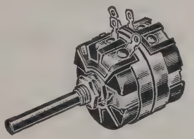
Safety rated at a maximum power dissipation of 2.5 watts, these "T" and "L" pads have a continuous range from 0.5 to 30 decibels attenuation in 90% of rotation, the last 10% affording infinite attenuation. Employable at either the source or the load in a circuit, these units are readily mounted by a one-hole mounting, and afford a wide range of use as mixers, faders, multiple-speaker controls, etc. Such controls can be used as individual volume controls for multiple speakers without affecting or changing the source impedance.



Series CIL-58 L-pads are connected as here shown.

SERIES CIT
Wire-Wound T-Pads

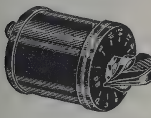
CIT-8	8	$4.25
CIT-15	15	4.25
CIT-200	200	4.25
CIT-500	500	4.25
CIT-600	600	4.25
CIT-1000	1000	4.25
CIT-2000	2000	4.25



SERIES CIL
Wire-Wound L-Pads

CIL-8	8	$3.75
CIL-15	15	3.75
CIL-200	200	3.75
CIL-500	500	3.75
CIL-600	600	3.75
CIL-1000	1000	3.75
CIL-2000	2000	3.75

CONSTANT IMPEDANCE OUTPUT ATTENUATORS



db steps are 3, 6, 9, 12, 15, 18, 21, 24 and 30. Absolutely noiseless and distortionless in operation.

★ Developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss, Series CIB attenuators provide linear attenuation with ample power-handling capacity. Compact. Safely dissipate 10 watts at any dial setting. Recommended as output level control for power amplifiers or as an input attenuator for loudspeakers in P-A system. Unit furnished in black baked-enamel metal casing 2" in dia. by 2¾" long, equipped with dial plate and bar knob. Not available with power switch. One-hole mounting. ⅜" dia. bushing. Shaft 1" long.

Series CIB—10 Watts

Ct. No.	Resistance in Ohms
CIB-8	8
CIB-15	15
CIB-50	50
CIB-200	200
CIB-250	250
CIB-500	500

NET PRICE $6.50

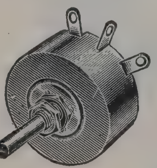
Series PW-25

Cat. No.	Total Resis. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to ⅓ Res. Amps.	List Price
PW-25-1	1	5.000	7.500	$4.50
PW-25-2	2	3.450	5.175	4.00
PW-25-3	3	2.830	4.320	4.00
PW-25-6	6	2.040	3.060	4.00
PW-25-8	8	1.770	2.655	4.00
PW-25-10	10	1.580	2.370	4.00
PW-25-15	15	1.290	1.935	4.00
PW-25-25	25	1.000	1.500	4.00
PW-25-35	35	.845	1.317	4.00
PW-25-50	50	.707	1.060	4.00
PW-25-75	75	.575	.862	4.00
PW-25-100	100	.500	.750	4.00
PW-25-125	125	.445	.667	4.00
PW-25-175	175	.375	.562	4.00
PW-25-250	250	.316	.474	4.00
PW-25-350	350	.267	.400	4.00
PW-25-500	500	.222	.333	4.00
PW-25-750	750	.182	.273	4.00
PW-25-1000	1000	.155	.232	4.50
PW-25-1500	1500	.129	.193	4.50
PW-25-2500	2500	.100	.150	4.50
PW-25-3500	3500	.084	.126	4.75

Standard Packing—Individual Carton

POWER RHEOSTATS

★Exceptionally rugged. Trouble-free design. Withstand severe overloading without smoking, burning, charring. Element imbedded in cold-setting cement. Resistance winding supported on insulated metal core for maximum heat conduction and radiation, even at partial rotation settings. Single-hole mounting. Adjustable locking pin firmly anchors unit against bodily rotation. Shaft and bushing insulated from current-carrying arm for safety. 25 and 50 watt sizes.



Series PW-50

Cat. No.	Total Resis. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to ⅓ Res. Amps.	List Price
PW-50-0.5	0.5	10.000	15.000	$5.00
PW-50-1	1	7.070	10.605	5.00
PW-50-2	2	5.000	7.500	5.00
PW-50-4	4	3.530	5.295	4.50
PW-50-6	6	2.880	5.320	4.50
PW-50-8	8	2.500	3.750	4.50
PW-50-12	12	2.040	3.060	4.50
PW-50-16	16	1.760	2.640	4.50
PW-50-22	22	1.500	2.250	4.50
PW-50-35	35	1.190	1.785	4.50
PW-50-50	50	1.000	1.500	4.50
PW-50-80	80	.790	1.185	4.50
PW-50-125	125	.630	.945	4.50
PW-50-150	150	.575	.863	4.50
PW-50-225	225	.470	.705	4.50
PW-50-300	300	.408	.612	4.50
PW-50-500	500	.316	.474	4.50
PW-50-800	800	.250	.375	4.75
PW-50-1000	1000	.224	.346	4.75
PW-50-1600	1600	.176	.264	4.75
PW-50-2500	2500	.141	.212	4.75
PW-50-3500	3500	.119	.179	5.00
PW-50-5000	5000	.100	.150	5.00

Standard Packing—Individual Carton

CLAROSTAT

TUBE-TYPE WIRE-WOUND RESISTORS

Standard Resistor Tubes

Cat. No.
BK-29-B
BK-29-D
BK-32-D
BK-36-D
BK-36-H
BK-49-B
BK-42-B
BK-55-B
BL-42-B
BL-42-D
BM-55-B
K-36-D
K-42-A
K-42-B
K-42-D
K-49-A
K-49-C
K-49-D
K-49-H
K-55-A
K-55-B
K-55-C
K-55-D
K-55-H
K-67-BJ

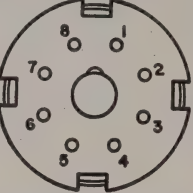
Cat. No.
K-80-B
K-90-B
K-92-B
K-26J-218
L-42-B
L-49-H
L-49-D
L-49-C
L-49-B
L-49-D
L-55-B
M-49-B
M-86892-9
10-610
100-37
100-70
100-77
5459

List Price $1.00

★ Clarostat developed and pioneered the tube-type resistor for voltage-reducing purposes, as used in AC-DC radios. Strictly non-flammable. Resistance element wound on mica form encased in metal tube and connected with base prongs.

Clarostat has selected the most popular values for so-called Universal numbers. Also the most popular types of Standard units.

Prefixes: K denotes 6.3 volt 150 ma. No. 40 pilot lamp; L, 6.3 volt 250 ma. No. 46; M, 6.3 volt 200 ma. No. 51. Numeral indicates total voltage drop across resistor tube.
Suffixes: A, no pilot lamp taps; B, 1 pilot lamp tap; C, 1 pilot lamp tap for 2 lamps; D, 2 pilot lamp taps for 2 lamps; E, 3 pilot lamp taps for 3 lamps; E1, 1 pilot lamp tap for 3 lamps; F, 1 pilot lamp tap for 1 lamp; G, 1 pilot lamp tap for 2 pilot lamps (tapped sections isolated from main reducing body); H, 2 pilot lamp taps for 2 pilot lamps (tapped sections isolated from main reducing body).



Letter "J" following any suffixes denotes shorted connection between two prongs of tube; i.e., K-49-BJ, the short is located between Nos. 3 and 4 prongs.

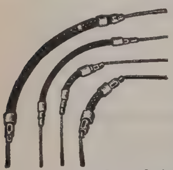
UNIVERSAL RESISTOR TUBES

Universal Tube No.	Replaces AC-DC Tubes Beginning with Letters	Having Numbers From	Ending in Letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

List Price $1.25

GLASOHMS*

Glass-Insulated Flexible Resistors



★ This is a new development in resistors which has found instant acceptance in widespread applications.

Glasohms consist of a wire winding on a fibreglass core, with a covering of braided fibre-glass. Each strand of glass is no thicker than usual cotton thread and just as flexible, so that the complete units can be bent or twisted and even knotted without breakage or weakening. Clarostat is the only manufacturer of Glasohms. These units are ideal for resistance boxes, attenuators, voltage-dividers, multipliers, step-by-step rheostats, and for use in point-to-point wiring jobs. Handy, inexpensive and very durable, these units can withstand heavy overloads without damage. There is nothing in them to burn or char. Glasohms are also suitable for use as miniature heating elements serving in hair curlers, immersion heaters, soldering irons, electrically-heated ovens for crystal oscillators, etc., especially in longer lengths obtained on special orders.

*Registered trade-mark.

Standard Glasohm Resistors

TYPE FYG — 2-WATT
1" Fabric Length with 2" Pigtails
⅛" dia. core. RMA Color-coded

Cat. No.	Ohms	Cat. No.	Ohms
FYG5	5	FYG350	350
FYG10	10	FYG375	375
FYG15	15	FYG400	400
FYG25	25	FYG500	500
FYG40	40	FYG600	600
FYG50	50	FYG700	700
FYG60	60	FYG750	750
FYG75	75	FYG800	800
FYG100	100	FYG850	850
FYG125	125	FYG900	900
FYG150	150	FYG1000	1000
FYG200	200	FYG1250	1250
FYG225	225	FYG1500	1500
FYG250	250	FYG1600	1600
FGY300	300	FGY1750	1750
		FYG2000	2000

List Price $0.25
Standard Packing—10 (ten) per carton

AUTOMATIC LINE VOLTAGE REGULATORS

★ To maintain constant line voltage and thus prevent burning out the tubes of a radio receiver or other tube-using device, this handy unit, operating effectively on 110-volt A.C. or D.C. by simply plugging into the usual socket or outlet, safeguards against line voltage surges or increases even up to 140 volts. At the normal 110-volt, the resistance of the unit is low and the voltage drop across it is negligible. However, as the line voltage increases the resistance of the unit increases proportionately, with a constant increase in voltage drop across it. This automatic voltage control or ballast action insures a steady, practically constant and always safe operating potential.

Dimensions are 1¾" dia. x 1¾" long.
Prongs ⅝" long.

Type No.	Rating Watts	For Use With Sets Consuming	No. of Tubes Used
O	50	Up to 60 watts	4
A	100	60 to 100 watts	5, 6, 7
B	150	100 to 150 watts	8, 9, 10
C	200	150 to 200 watts	11, 12
D	250	200 to 250 watts	2 Type 60
E*	100	60 to 100 watts	

*Note: For use with 220-volt receivers

List Price $1.25
Standard Packing — 10 (ten) per carton

CLAROSTAT

GREENOHMS

SERIES A-5-F—5-WATT

Dimensions: 5/16″ dia. x 7/8″ long.

The baby members of the famous Clarostat Greenohm family. Available in standard resistance values from 1 ohm to 7500 ohms (See exact values in listings for Series A-10-F up to 7500).

All ohmages ....**List Price $0.40**

Standard Packing — 10 (ten) per carton.

SERIES A-10-F—10-WATT

Dimensions: 5/16″ dia. x 1¾″ long

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	700	3500	14500
2	75	750	4000	15000
3	100	800	4500	16000
4	125	900	5000	17500
5	150	1000	6000	18000
7.5	200	1100	7000	20000
10	225	1200	7500	22500
12	250	1250	8000	25000
15	300	1500	8500	30000
20	350	1750	10000	35000
25	400	2000	11000	40000
30	450	2250	12000	50000
35	500	2500	12500	
40	600	3000	13500	

All ohmages — **List Price $0.45**

Standard Packing — 10 (ten) per carton

SERIES A-20-K—20-WATT

Dimensions: 9/16″ dia. x 2″ long

Ohms	Ohms	Ohms	Ohms	Ohms
1	400	1850	7500	50000
5	500	2000	8000	55000
10	650	2250	9000	60000
25	700	2500	10000	65000
50	750	2750	12500	70000
75	800	3000	15000	75000
100	850	3500	20000	80000
150	1000	4000	25000	85000
200	1200	4500	30000	90000
250	1250	5000	35000	95000
300	1500	6000	40000	100000
350	1750	7000	45000	

List Prices:

1 to 15,000 ohms $0.65

20,000 to 50,000 ohms .... .75

55,000 to 100,000 ohms 1.00

Standard Packing — 10 (ten) per carton

SERIES A-25-K—25-WATT

Dimensions: 9/16″ dia. x 2½″ long

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1500	7500	40000
2	150	2000	8000	45000
3	200	2250	9000	50000
5	250	2500	10000	60000
7.5	300	3000	12000	70000
10	400	3500	15000	75000
15	500	4000	20000	80000
20	750	4500	25000	85000
25	800	5000	30000	90000
50	1000	6000	35000	100000
75	1250	7000		

LIST PRICES:

1 to 5,000 ohms................$0.75

6000 to 15,000 ohms................ .85

20000 to 50,000 ohms................ 1.00

60000 ohms 1.15

70000 ohms 1.25

75000 ohms 1.30

80000 ohms 1.35

85000 ohms 1.50

90000 ohms 1.60

100000 ohms 1.75

Supplied with Mounting Brackets at No Extra Cost

Standard Packing—5 (five) per carton

SERIES K-40-N—40-WATT

Dimensions: ¾″ dia. x 3½″ long

Ohms	Ohms	Ohms	Ohms	Ohms
5	150	2000	12500	70000
10	200	2500	15000	80000
15	250	3000	20000	90000
20	300	4000	25000	100000
25	400	5000	30000	125000
50	500	6000	35000	150000
75	750	7500	40000	175000
100	1000	8500	50000	200000
125	1500	10000	60000	

LIST PRICES:

5 to 5000 ohms $0.90

6000 to 25000 ohms 1.00

30000 to 100000 ohms 1.20

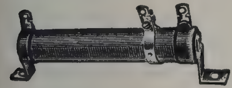
125000 to 150000 ohms 1.40

175000 ohms 1.50

200000 ohms 1.60

Supplied with Mounting Brackets at No Extra Cost

Standard Packing—Individually Boxed



SERIES A-10-FA—10-WATT

Dimensions: 5/16″ dia. x 1¾″ long

Ohms	Ohms	Ohms	Ohms
1	100	1000	6000
2	150	1250	7000
3	200	1500	7500
5	250	2000	8000
7.5	300	2250	8500
10	350	2500	9000
15	400	3000	10000
20	500	3500	
25	600	4000	
50	750	4500	
75	800	5000	

LIST PRICE, All Sizes: $0.70

Standard Packing — 10 (ten) per carton

GREENOHM

SERIES A-25-KA—25-WATT

Dimensions: /16″ dia. x 2½″

Ohms	Ohms	Ohms	Ohms
1	100	1500	7500
2	150	2000	8000
3	200	2250	9000
5	250	2500	10000
7.5	300	3000	12000
10	400	3500	15000
15	500	4000	20000
20	750	4500	25000
25	800	5000	50000
50	1000	6000	
75	1250	7000	

LIST PRICES:

1 to 5000 ohms $0.85

6000 to 15000 ohms .... .95

20000 to 25000 ohms 1.10

50000 ohms 1.25

Supplied with Mounting Brackets at No Extra Cost.

Extra Slider Bands .... **$0.10 each**

Standard Packing — 5 (five) per carton

DIMENSIONS

★ Fixed and Adjustable Greenohms are of the same dimensions, wattage for wattage, as follows:

Rating	Length		Diameter
10-watt	1¾″	x	5/16″
20-watt	2″	x	½″
25-watt	2½″	x	½″
40-watt	3½″	x	¾″
50-watt	4½″	x	¾″
80-watt	6½″	x	¾″
100-watt	6½″	x	1⅛″
160-watt	8½″	x	1⅛″
200-watt	10½″	x	1⅛″

Fixed Power Resistors

Ohms	Series K-50-N ¾″ dia. x 4½″ l. 50-watt List Price	Series K-80-N ¾″ dia. x 6½″ l. 80-watt List Price	Series K-100-W 1⅛″ dia. x 6½″ l. 115-watt List Price	Series K-160-W 1⅛″ dia. x 8½″ l. 160-watt List Price	Series K-200-W 1⅛″ dia. x 10½″ l. 200-watt List Price
5	$1.10	$1.25	$1.50	$2.00	$2.50
10	1.10	1.25	1.50	2.00	2.50
25	1.10	1.25	1.50	2.00	2.50
50	1.10	1.25	1.50	2.00	2.50
75	1.10	1.25	1.50	2.00	2.50
100	1.10	1.25	1.50	2.00	2.50
150	1.10	1.25	1.50	2.00	2.50
200	1.10	1.25	1.50	2.00	2.50
250	1.10	1.25	1.50	2.00	2.50
300	1.10	1.25	1.50	2.00	2.50
400	1.10	1.25	1.50	2.00	2.50
500	1.10	1.25	1.50	2.00	2.50
750	1.10	1.25	1.50	2.00	2.50
1000	1.10	1.25	1.50	2.00	2.50
1250	1.10	1.25	1.50	2.00	2.50
1500	1.10	1.25	1.50	2.00	2.50
2000	1.10	1.25	1.50	2.00	2.50
2250	1.10	1.25	1.50	2.00	2.50
2500	1.10	1.25	1.50	2.00	2.50
3000	1.10	1.25	1.60	2.00	2.50
3500	1.10	1.25	1.60	2.00	2.50
4000	1.10	1.25	1.60	2.00	2.50
4500	1.10	1.25	1.75	2.00	2.50
5000	1.10	1.25	1.75	2.00	2.50
6000	1.25	1.50	1.75	2.00	2.50
7500	1.25	1.50	1.75	2.00	2.50
8000	1.25	1.50	1.75	2.00	2.50
9000	1.25	1.50	1.75	2.00	2.50
10000	1.25	1.50	1.75	2.00	2.50
12000	1.25	1.50	1.75	2.20	2.75
12500	1.25	1.50	1.75	2.30	2.85
15000	1.25	1.50	1.75	2.40	3.00
20000	1.25	1.50	1.75	2.40	3.00
25000	1.25	1.50	1.75	2.40	3.00
30000	1.45	1.75	2.00	2.40	3.00
35000	1.45	1.75	2.00	2.40	3.00
40000	1.45	1.75	2.00	2.40	3.00
50000	1.45	1.75	2.00	2.40	3.00
60000	1.45	2.00	2.25	2.70	3.00
70000	1.45	2.00	2.25	2.70	3.00
75000	1.45	2.00	2.25	2.70	3.00
80000	1.45	2.10	2.35	2.70	3.00
100000	1.45	2.25	2.50	2.70	3.00
125000	2.00		2.75	3.00	3.50
150000	2.25		3.00	3.25	3.50
175000	2.25		3.25		
200000	2.50		3.50		

All resistors furnished with mounting brackets at no extra cost.

Standard Packing — Individually Boxed.

Adustable Power Resistors

Ohms Ohms	Series K-50-NA ¾″ dia. x 4½″ l. 50-watt List Price	Series K-80-NA ¾″ dia. x 6½″ l. 80-watt List Price	Series K-100-WA 1⅛″ dia. x 6½″ l. 115-watt List Price	Series K-160-WA 1⅛″ dia. x 8½″ l. 160-watt List Price	Series K-200-WA 1⅛″ dia. x 10½″ l. 200-watt List Price
5	$1.35	$1.75	$2.00	$2.50	$3.00
10	1.35	1.75	2.00	2.50	3.00
15	1.35	1.75	2.00	2.50	3.00
20	1.35	1.75	2.00	2.50	3.00
25	1.35	1.75	2.00	2.50	3.00
50	1.35	1.75	2.00	2.50	3.00
75	1.35	1.75	2.00	2.50	3.00
100	1.35	1.75	2.00	2.50	3.00
150	1.35	1.75	2.00	2.50	3.00
200	1.35	1.75	2.00	2.50	3.00
250	1.35	1.75	2.00	2.50	3.00
300	1.35	1.75	2.00	2.50	3.00
400	1.35	1.75	2.00	2.50	3.00
500	1.35	1.75	2.00	2.50	3.00
750	1.35	1.75	2.00	2.50	3.00
1000	1.35	1.75	2.00	2.50	3.00
1250	1.35	1.75	2.00	2.50	3.00
1500	1.35	1.75	2.00	2.50	3.00
2000	1.35	1.75	2.00	2.50	3.00
2500	1.35	1.75	2.00	2.50	3.00
3500	1.35	1.75	2.00	2.50	3.00
4000	1.35	1.75	2.00	2.50	3.00
4500	1.35	1.75	2.00	2.50	3.00
5000	1.35	1.75	2.00	2.50	3.00
6000	1.50	2.00	2.25	2.50	3.00
7000	1.50	2.00	2.25	2.50	3.00
7500	1.50	2.00	2.25	2.50	3.00
8000	1.50	2.00	2.25	2.50	3.00
9000	1.50	2.00	2.25	2.50	3.00
10000	1.50	2.00	2.25	2.50	3.00
12000	1.50	2.00	2.25	2.65	3.25
15000	1.50	2.00	2.25	2.90	3.50
20000	1.50	2.00	2.25	2.90	3.50
25000	1.50	2.00	2.25	2.90	3.50
30000	1.70	2.25	2.50	2.90	3.50
35000	1.70	2.25	2.50	2.90	3.50
40000	1.70	2.25	2.50	2.90	3.50
45000	1.70	2.25	2.50	2.90	3.50
50000	1.70	2.25	2.50	2.90	3.50
60000	2.00	2.50	2.75	3.25	3.50
75000	2.00	2.50	2.75	3.25	3.50
80000	2.00	2.50	2.75	3.25	3.50
100000	2.00	2.50	2.75	3.25	3.50
125000			3.00	3.75	
150000			3.00	3.75	

All resistors furnished with mounting brackets at no extra cost.

Standard Packing — Individually Boxed.

COMPOSITION RESISTOR

CONTINENTAL M-Type Insulated Composition Resistors

CONTINENTAL
"CERTIFIED"
RESISTOR

M2-2 WATT

CONTINENTAL
"CERTIFIED"
RESISTOR

M1-1 WATT

M½-½ WATT

M¼-¼ WATT

- **Labeled or Stamped with Value**
- **Color Coded**
- **High Insulation**

The M-Type resistor with axial leads consists of solid molded carbon core with molded-in leads. A outer insulating shell surrounds the carbon core an is impregnated with a waterproofing compound t seal the unit against humidity. These resistors, bein well insulated, can be mounted side by side or agains any metal surface without shorting or grounding They are recommended where space limits and insulating quality require a rugged reliable and small resistor capable of withstanding severe service. Al sizes made in the standard stock values.

			List Price —Tolerance—	
Type	Wattage	Size	±5%	±10%
M ¼	¼ Watt	$\frac{13}{32}$" x $\frac{5}{32}$"	$0.25	$0.1
M ½	½ Watt	⅝" x $\frac{7}{32}$"	.25	.1
M 1	1 Watt	⅞" x $\frac{9}{32}$"	.30	.2
M 2	2 Watt	1$\frac{13}{16}$" x $\frac{11}{32}$"	.40	.3

Type M ¼ supplied with No. 21 tinned copper wire leads 1⅛" long; all other M types supplied with No. 20 wire.

JOBBERS STOCK IN PREFERRED R.M.A. RANGES

OHMS	OHMS	OHMS	OHMS	MEGOHMS	MEGOHMS
	110	1100	11,000	.11	
	120	**1200**	**12,000**	**.12**	**1.2**
	130	1300	13,000	.13	
	150	**1500**	**15,000**	**.15**	**1.5**
	160	1600	16,000	.16	
	180	**1800**	**18,000**	**.18**	**1.8**
	200	2000	20,000	.20	
	220	**2200**	**22,000**	**.22**	**2.2**
	240	2400	24,000	.24	
	270	**2700**	**27,000**	**.27**	**2.7**
	300	3000	30,000	.30	
	330	**3300**	**33,000**	**.33**	**3.3**
	360	3600	36,000	.36	
	390	**3900**	**39,000**	**.39**	**3.9**
	430	4300	43,000	.43	
47	**470**	**4700**	**47,000**	**.47**	**4.7**
51	510	5100	51,000	.51	
56	**560**	**5600**	**56,000**	**.56**	**5.6**
62	620	6200	62,000	.62	
68	**680**	**6800**	**68,000**	**.68**	**6.8**
75	750	7500	75,000	.75	
82	**820**	**8200**	**82,000**	**.82**	**8.2**
91	910	9100	91,000	.91	
100	**1000**	**10,000**	**100,000**	**1.00**	**10.0**

Continental now stocks all the values listed above and suggests your stocking only the values shown in heavy faced type. a total of sixty-five different values for minimum stock requirements.

The intermediate values shown in light faced type, consisting of fifty-two additional values are essential for a complete stock.

USE THIS CIRCLE FOR BODY COLOR
USE THIS CIRCLE FOR END COLOR
USE THIS CIRCLE FOR DOT COLOR
CONTINENTAL
0
1
2
3
4
5
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9
00
000
0000

COLOR CODE SELECTOR

Resistor Values Read at a glance. Very useful.

Price $0.2

Lucky Sevens "777" Cabinet Deal

One Large 4-Drawer Imitation Leather Cardboard Cabinet and One Valuable Resistor Chart that tells what resistor to use with purchase of 70 Continental Certified Resistors **FREE**

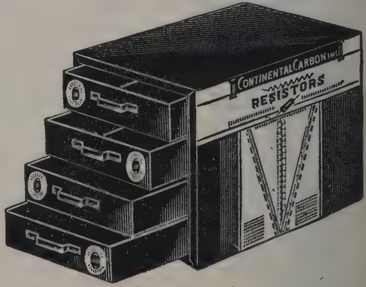
TOTAL VALUE COMPLETE $15.95—YOUR PRICE $7.77

You get a four-drawer resistor cabinet 10" x 6" x 7" finished in imitation leather with a color code chart. The color code is an invaluable aid in resistor service problems as are Continental Certified resistors.

One each of these 35 resistors in 1 watt and 1 each in ½ watt supplied in the following values:

Ohms	Ohms	Ohms	Ohms	Meg-Ohms	Meg-Ohms
	150	1500	15,000	.15	1.5
	220	2200	22,000	.22	
	270	2700	27,000	.27	
	330	3300	33,000	.83	3.3
47	470	4700	47,000	.47	4.7
68	680	6800	68,000	.68	
100	1000	10,000	100,000	1.0	10.0

Code	List Price
777M—70 M-Type resistors with Cabinet and Chart...............	$12.95



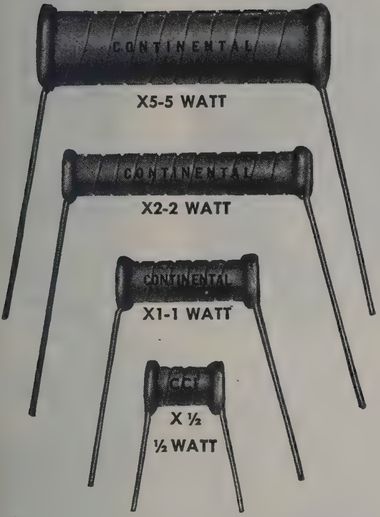
CONTINENTAL CARBON INC.

13900 Lorain Avenue
Cleveland 11, Ohio, U.S.A.

PRECISION RESISTORS

"Nobleloy" X-Type Resistors

Trade Mark Reg.



- **A new Continental Development!**
- **Not Wire Wound**
- **Not carbon!**
- **Stability of Wire Wound and Equivalent**

After several years of research work CONTINENTAL engineers have developed a new resistor involving the metal film principle, having the accuracy of a wire wound unit. Absolutely no carbon whatever is used in the fabrication of these resistors. The metallic resistance film is formed on the surface of a low loss ceramic tube using a patented pyrochemic process.

The metal film thus formed is hermetically sealed by a layer of vitreous enamel specially developed and patented by CONTINENTAL. The ceramic tube with its associated film is then spiralled to give a long resistance path and to accurately calibrate the unit to value.

Since the ceramic tubes are hollow they allow a larger surface for heat radiation, thus permitting the resistor to withstand overloads of 200% or better.

The copper-tinned lead terminals are soldered to extremely low resistance metal contact films which in turn are integral with the resistance film, thereby reducing contact resistance to a minimum. This type of construction produces a resistor unit having not only excellent resistance stability but also a negligible noise characteristic.

ELECTRICAL CHARACTERISTICS OF CONTINENTAL "NOBLELOY X" TYPE RESISTORS

VOLTAGE

The recommended voltage rating of Continental "NOBLELOY X" type resistors is the maximum r.m.s. voltage which the resistor is expected to withstand in continuous use and is determined from the formula $E = \sqrt{PR}$ Where E = rated D.C. or r.m.s. A. C. Voltage P = watts rating, R = resistance.

In no case shall the D.C. or r.m.s. A.C. voltage be greater than the maximum voltage shown in the table.

LOAD CHARACTERISTICS

Irrespective of value, Continental "NOBLELOY X" type resistors will not change more than 5.0% when the load is increased from 2% of rated wattage to 200% of rated wattage, and on cooling to room temperature returns to the original value. This is practically the temperature coefficient effect.

VOLTAGE CHARACTERISTICS

The voltage coefficient is so low that it is negligable.

NORMAL LOAD LIFE CHARACTERISTICS (All Values)

The permanent change in resistance will not be more than 1.0% when the resistor is subjected to a normal life test of 1000 hours.

OVERLOAD LIFE CHARACTERISTICS (All Values)

The permanent change in resistance will not be more than 2.0% when the resistor is subject to 200% of rated wattage for a period of 1000 hours.

TEMPERATURE COEFFICIENT (All Values)

The temperature coefficient of resistance will not exceed 0.0005 negative.

HUMIDITY CHARACTERISTICS (All Values 1.0 Ohm to 15 Megohms)

Continental "NOBLELOY X" type resistors will not change more than 1.5% when conditioned in an atmosphere of 100% relative humidity at 40° C. ambient, for a period of 1000 hours.

SHELF LIFE

When stored under normal conditions, the resistance will not change more than 0.1% during a period of 2000 hours. This is a negligable change.

NOISE CHARACTERISTIC

When tested for noise according to standard R.M.A. procedure, the inherent noise level will not exceed ¼ microvolt per volt, irrespective of resistance value. This level is equal to wire wounds.

FINISH

All "X" type resistors possess a smooth, uniform coating of a special rubberized enamel capable of resisting deterioration up to and including 400°F.

					List Prices		
Type	Wattage	Size	Values	Max. Voltage	±1%	±2%	±5%
X-½	½ Watt	9/32" x ⅝"	1 ohm to 1 megohm	700	$1.00	$0.90	$0.85
X-1	1 Watt	9/32" x 1"	1 ohm to 3 megohm	1000	1.00	0.90	0.85
X-2	2 Watt	9/32" x 1¾"	4 ohm to 5 megohm	1500	1.20	1.10	1.05
X-5	5 Watt	½" x 2"	5 ohm to 15 megohm	2000	1.40	1.30	1.25

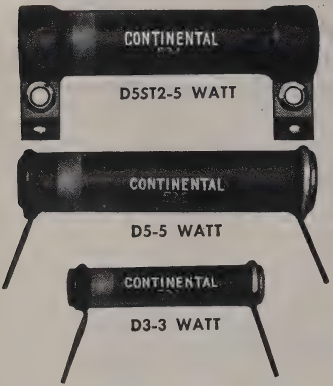
No. 18 tinned copper leads 1½" long.

CONTINENTAL CARBON INC.

13900 Lorain Avenue **Cleveland 11, Ohio, U.S.A.**

CONTINENTAL D-TYPE

- Heavy Duty Carbon
- Operate safely on overloads
- Non-inductive



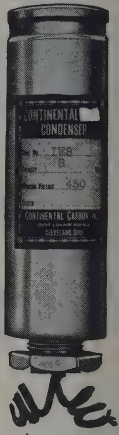
The D-Type resistor with radial leads is made with solid molded carbon rods, copper sprayed on the ends to which are soldered No. 18 copper tinned leads. The soldered contact construction gives a resistor noise-free and stable. They are known as the heavy duty type units because of their size—having a larger radiating area they operate safely on overloads. A baked-on insulation is a protection against shorts to subpanel and wiring.

			List Price —Tolerance—	
Type	Wattage	Size	±5%	±10%
D 3	3 Watt	2" x ⅜"	$0.50	$0.30
D 5	5 Watt	3" x 9/16"	.75	.50
D 5ST2*	5 Watt	3" x 9/16"	1.25	1.00

*D5ST2 units have heavy copper eyeletted and soldered strap terminals ⅜" wide with holes of 2 9/16" spacing. The outer holes can be used with either 6-32 screw mounting or solder wire loops, while the inner holes are for 8-32 screw mounting. The outer section of the terminal can be cut off or bent to any angle desired.

CONTINENTAL Paper Condensers

EE TYPE



IE TYPE

CONTINENTAL Carbon Model E condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. They are flash tested at 3 times their d-c working voltage and have the advantage of low power factor at 60 cycles. They are non-inductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations at right show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d-c working volts, 600; peak volts, 1000.

Data and Prices on Type E Condensers

Cardboard Containers
Furnished with Six-Inch Wire Leads

E-Type—600 Volts dc

Code	Capacity in Mfds.	Equivalent Electrolytic	Size	List Price
EE2	1.2	2	4⅜x1⅜x 11/16	$1.35
EE4	2.4	4	4⅜x1⅜x 15/16	1.65
EE8	4.8	8	4⅜x1⅜x1⅛	2.00

Condensers in Metal Cans
Inverted Stud Mounting, Six-Inch Leads
Insulated from Can

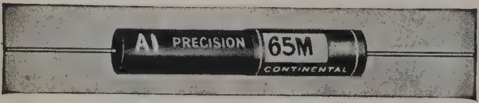
Code	Capacity in Mfds.	Equivalent Electrolytic	Size	List Price
1E4	2.4	4	3⅜x1⅜ Dia.	$2.00
1E8	4.8	8	4⅜x1½ Dia.	2.35

CONTINENTAL A-TYPE PRECISION CARBON RESISTORS

- New Type of Carbon Resistor
- Hermetically Sealed in Glass

MADE IN ALL STANDARD STOCK RESISTOR VALUES

Type A½—½ Watt—1" x ¼" dia.   Type A1—1 Watt—1½" x ¼" dia.



	List Price
Types A1 and A½—Tolerance ±2%	$0.50
Types A1 and A½—Tolerance ±5%	.30

A new type of carbon resistor, impregnated, hermetically sealed in glass, impervious to moisture, of the utmost stability. The A Type sets a new high standard of perfection for precision applications. Suitable for any 1-watt or ½-watt application, the A type is particularly recommended for high resistance voltmeter multipliers, critical photo-electric circuits, which must be extremely stable, and in military and naval applications where the dependability of each component is most vital.

ILTERNOYS CONTINENTAL RADIO Certified COMPONENTS CARBON INC FILTERNOYS

For Elimination of Electrical Radio Interference

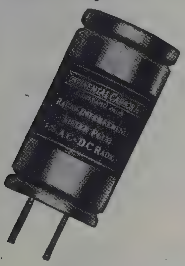
Filternoys units reduce or eliminate man-made static! With the development of ultra sensitive receivers, the problem of interference elimination has become a major factor in the sale and servicing of these radios. Vacuum sweepers, electric refrigerators, cake mixers, and other kitchen gadgets, electric shavers, sewing machines, and a host of other items all contribute their share to spoiling good reception. Every buzz, snap, or crackle heard on a new radio lessens the chances of a sale, but these same disturbances open the path for the alert dealer to sell "noise elimination service" along with the radio—and at a profit!

The offices of doctors, lawyers, dentists, and professional men—where radio provides entertainment and relaxation for waiting clientele—offer a lucrative market to radio servicemen who have the ability to locate man-made radio interference and quiet it with CONTINENTAL CARBON Filternoys devices. Filternoys are simple to install and profitable to sell. Never be without them in stock.

Filternoys F01DH

Most Popular and Universal Plug-in Type

for Radios and Electric Razors



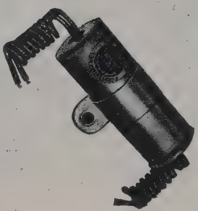
F01DH

Handy plug-in type suppressor with two r-f chokes and two condensers for use on electrical devices of 300 watts or less, creating interference of intermittent or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding machines, or electric typewriters. Size 2⅝″ by 1⅜″ diameter. 300-Watt capacity on 120 volts, a.c. or d.c.

Filternoys F01DH .... List Price $1.40

Filternoys G01DH

Suppression Type



G01DH

A wire-in suppressor with dual chokes and two condensers with a grounded frame. Suitable for equipment having grounded frame or a connection to metal BX wiring conduit. For diathermy and dental machines where the G01DH unit may be mounted within the interfering device and for small motors of exhaust fans, pumps, and compressors. Size 2¼″ by 1¼″ diameter, 6-inch leads, 300 watts, a.c. or d.c., 110-130 v.

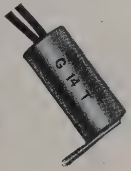
Filternoys G01DH .... List Price $1.40

Filternoys G01D and G14T

Designed to Be Mounted Directly on Small Electrical Devices

Filternoys Diverter G01D—Dual capacitors in a grounded container for any size electric motor operating on 120 v. or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size 2⅛″ by ¾″ diameter.

G01D..List Price $0.60



Filternoys Diverter G14T—Triple capacitors in a circuit which permits its use with all hand-operated motor driven devices without danger of shock. Particularly applicable to vacuum cleaners, flat-irons, etc. Size 1½″ by ⅝″. Flexible leads for direct connection.

G14T.................................List Price $0.60

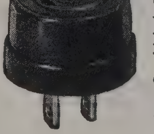
Oil Burner Suppressor

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3½″ x $\frac{13}{16}$″ diameter. Universal connections at both ends for solderless contact.

OB15..............................List Price $1.80

FILTERNOYS F18

Filternoys Diverter F18 is a compact 0.1 mfd capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which



the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

F18 .... List Price $0.70

CONTINENTAL CARBON INC.

13900 Lorain Avenue Cleveland 11, Ohio, U.S.A.

AUTO-RADIO SUPPRESSORS AND FILTER UNITS

CONTINENTAL Suppressors have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value has been scientifically determined and is not changed after years of the most adverse conditions. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

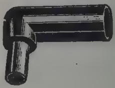
SPARK PLUG SUPPRESSORS Each—List Price $0.30 SPARK PLUG SUPPRESSORS

Code S-23 Spark Plug Suppressor—Flexo-Terminal type. Can be bent to any angle, snaps on to spark plug.

Code S-27 Suppressor—Thread will fit all spark plugs. Most universal type yet devised.

CONTINENTAL

Code S-19 Spark Plug Suppressor—Snaps on to spark plug. Vertical mounting.



Code S-20A Spark Plug Suppressor—For Buick, Packard and Chrysler cars. Takes place of terminal on ignition cable.

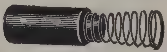
DISTRIBUTOR SUPPRESSORS Each—List Price $0.30 DISTRIBUTOR SUPPRESSORS

Code T-24 Distributor Suppressor—Is an angle type with screw in cable. The spring brass insert has two rolled bosses, one to hold suppressor rigid and the other to snap into the groove of the distributor well.

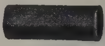
Code C-11 Cable Suppressor—Meets requirements where it is necessary to cut ignition cable.

Code T-20 Distributor Suppressor—Cable clip snaps into suppressor. Not necessary to remove clip on cable and therefore suppressor can be quickly removed for ignition testing purposes.

FORD DISTRIBUTOR SUPPRESSOR



Brush



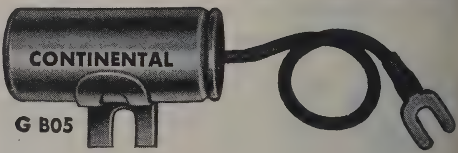
Sleeve

CODE T-17: Brush and Sleeve Supplied Together

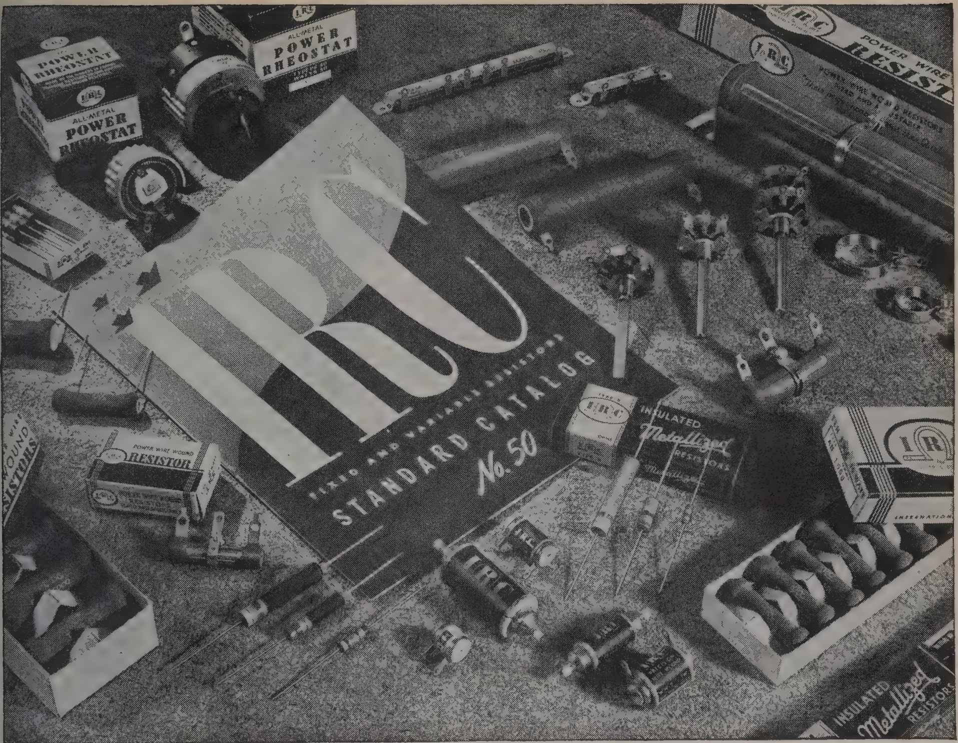
Distributor Brush Suppressor of the right resistance to suppress interference from the spark at the rotor.

Universal Type: the brush can be inserted in the bakelite sleeve to fit models using the larger size brush.

THIS LINE OF EQUIPMENT HAS BEEN SPECIALLY DESIGNED TO GIVE THE SERVICEMAN A MEANS OF EASILY ELIMINATING EVERY CAUSE OF NOISE INTERFERENCE IN AUTO-RADIO INSTALLATION—AT THE ACTUAL SOURCE OF INTERFERENCE.



Code	Application	Capacity	Size	List Price
GB05	Generator and coil	.5 mfd	2⅛" x ¾"	$0.60
GB05F	Ford V-8 coil	.5 mfd	2⅛" x ¾"	.75


POWER RHEOSTAT
ALL-METAL POWER RHEOSTAT
IRC
FIXED AND VARIABLE RESISTORS
STANDARD CATALOG
No. 50
INSULATED Metallized RESISTORS
POWER WIRE WOUND RESISTOR
WIRE WOUND RESISTORS
POWER WIRE RESIST

IRC INSULATED RESISTORS

TYPE BTS INSULATED FILAMENT RESISTOR

(½ watt)

13/32" x 1/8"—470 ohms to 22 meg
350 volts max.

List 13¢ **Net 8¢ each**

TYPE BTA INSULATED FILAMENT RESISTOR

(1 watt)

23/32" x 1/4"—330 ohms to 22 meg
500 volts max.

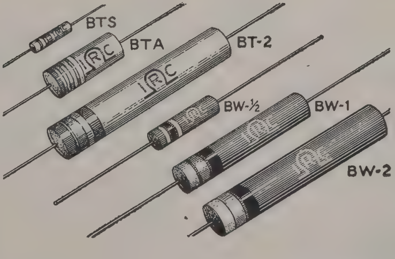
List 17¢ **Net 10¢ each**

TYPE BT-2 INSULATED FILAMENT RESISTOR

(2 watt)

1¾"x21/64"—470 ohms to 22 meg
500 volts max.

List 25¢ **Net 15¢ each**


BTS
BTA
BT-2
BW-½
BW-1
BW-2
IRC

TYPE BT INSULATED FILAMENT RESISTORS are completely insulated with bakelite and unexcelled for stability, low-noise level, low voltage coefficient and mechanical strength. Insulation breakdown of Type BTS is 750 volts to ground; all other type BT's, 1000 volts. Standard tolerance ±10%. Special tolerance ±5% at slightly higher cost.

TYPE BW INSULATED WIRE WOUND RESISTORS are furnished with the same bakelite insulation as BT resistors. The wire resistance element is wound tightly around a special insulated core. Standard tolerance ±10%. Special tolerance ±5% at slightly higher cost.

Type BW-½ Insulated Wire Wound Resistor

(½ watt)

5/8" x 3/16"—0.47 to 820 ohms

List 15¢ **Net 9¢ each**

Type BW-1 Insulated Wire Wound Resistor

(1 watt)

1¼" x 1/4"—0.47 to 4,700 ohms

List 17¢ **Net 10¢ each**

Type BW-2 Insulated Wire Wound Resistor

(2 watt)

1¾" x 21/64"—1.0 to 6,800 ohms

List 25¢ **Net 15¢ each**

INSULATED RESISTORS

Preferred for Performance

NOW!...RMA RANGES

Standardization pays dividends! It can be an important profit factor for you, too.

The great majority of manufacturers were quick to see the advantages in standardization and adopted the RMA Preferred Ranges some years ago. IRC has pioneered standardization of resistors because close contact with the radio industry has convinced us that such standardization is not only desirable but **absolutely** essential to carry out the tremendous development and production program of the industry.

This IRC policy will help servicemen prepare for better, faster and more profitable business.

Type BT and BW Resistors, in 10% tolerance, are carried in stock in the RMA ranges listed below. Figures in heavy type are the standard RMA 10% tolerance values. Using 10% tolerance BT's and BW's, these 93 ranges give complete coverage of all values with the smallest resistor stock. Standardization of your stock on these values is recommended for economical, complete coverage, faster turnover . . . more profit for you!

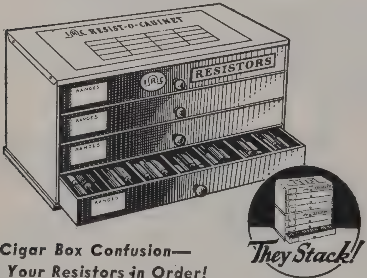
However, the intermediate values listed below also are carried in the IRC stockroom, so that every RMA value is available to servicemen when desired.

JOBBERS' STOCK IN PREFERRED RMA RANGES

Subject to the minimum and maximum values for each of the various types of BT and BW Resistors.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
0.47	3.0	**18**	110	**680**	4,300	**27,000**	**0.1**	0.62	**3.9**
0.51	**3.3**	20	**120**	750	**4,700**	30,000	0.11	**0.68**	4.3
0.56	3.6	**22**	130	**820**	5,100	**33,000**	**0.12**	0.75	**4.7**
0.62	**3.9**	24	**150**	910	**5,600**	36,000	0.13	**0.82**	5.1
0.68	4.3	**27**	160	**1,000**	6,200	**39,000**	**0.15**	0.91	**5.6**
0.75	**4.7**	30	**180**	1,100	**6,800**	43,000	0.16	**1.0**	6.2
0.82	5.1	**33**	200	**1,200**	7,500	**47,000**	**0.18**	1.1	**6.8**
0.91	**5.6**	36	**220**	1,300	**8,200**	51,000	0.20	**1.2**	7.5
1.0	6.2	**39**	240	**1,500**	9,100	**56,000**	**0.22**	1.3	**8.2**
1.1	**6.8**	43	**270**	1,600	**10,000**	62,000	0.24	**1.5**	9.1
1.2	7.5	**47**	300	**1,800**	11,000	**68,000**	**0.27**	1.6	**10.0**
1.3	**8.2**	51	**330**	2,000	**12,000**	75,000	0.30	**1.8**	11.0
1.5	9.1	**56**	360	**2,200**	13,000	**82,000**	**0.33**	2.0	**12.0**
1.6	**10**	62	**390**	2,400	**15,000**	91,000	0.36	**2.2**	13.0
1.8	11	**68**	430	**2,700**	16,000		**0.39**	2.4	**15.0**
2.0	**12**	75	**470**	3,000	**18,000**		0.43	**2.7**	16.0
2.2	13	**82**	510	**3,300**	20,000		**0.47**	3.0	**18.0**
2.4	**15**	91	**560**	3,600	**22,000**		0.51	**3.3**	20.0
2.7	16	**100**	620	**3,900**	24,000		**0.56**	3.6	**22.0**

RESIST-O-CABINET



End Cigar Box Confusion—
Keep Your Resistors in Order!

The sturdy, IRC Resist-O-Cabinet is specifically designed to hold resistors systematically and safely without the bending of leads. It puts an end to "cigar box confusion!" Its four "non-spill" drawers have seven ample-sized compartments in each which readily accommodate resistor sizes from ½ to 10 watts.

Attractively finished in blue, yellow and silver. Ohm's Law formulas neatly and permanently lithographed on top of cabinet for handy reference. Cabinet measures 11" long, 5½" high and 5½" deep. Bases of Resisto-O-Cabinets are arranged for stacking so that several cabinets may be used to increase stock capacity. This handy Resist-O-Cabinet is FREE with the purchase of any of the three well-balanced IRC resistor assortments listed. (Cabinet is not sold separately.)

ASSORTMENT No. 1—59 Resistors

Type BTS—One each 1,000, 4,700, 10,000, 27,000, 47,000 ohms; 0.1 meg, 0.27, 0.47 megs.

Type BTA—One each 39,000, 68,000 ohms; 0.15, 0.22 megs. Two each 1,000, 1,500, 2,200, 2,700, 4,700, 15,000, 27,000 ohms; 1.0, 2.2 megs. Three each 10,000, 47,000 ohms; 0.1 meg, 0.27 0.47 megs.

Type AB 10 Watt—One each 1,000, 1,500, 2,500, 5,000 ohms. Two each 10,000 and 25,000 ohms.

Type ABA, 10 Watt Adjustable—One each 1,000, 2,500, 5,000 10,000.

List price of Resistors, $15.03. **Net Price $9.02** (Cabinet Free)

ASSORTMENT No. 2—100 Resistors

Type BW-½—Two each 47, 100, 270 ohms.

Type BTS—Two each 3,300, 6,800, 33,000, 68,000, 82,000 ohms; 0.22, 0.33 megs. Three each 470, 1,500, 15,000, 22,000, 39,000 ohms; 0.15, 1.0, 2.2 megs. Five each 2,200, 2,700, 27,000 ohms; 0.27 megs. Six each 1,000, 4,700, 10,000, 47,000 ohms; 0.1, 0.47 megs.

List price of Resistors, $13.12. **Net Price $7.87** (Cabinet Free)

ASSORTMENT No. 3—83 Resistors

Type BW-1—Two each 47, 100, 270 ohms.

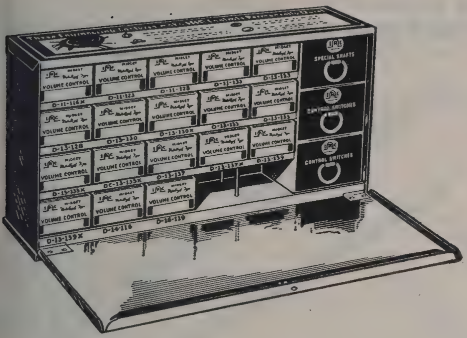
TYPE BTA—Two each 470, 1,500, 2,700, 3,300, 6,800, 33,000 39,000, 68,000, 82,000 ohms; 0.15, 0.22, 0.33, 1.0, 2.2 megs. Three each 15,000, 22,000, 27,000 ohms. Five each 1,000, 2,200, 4,700, 10,000, 47,000 ohms; 0.1, 0.27, 0.47 megs.

List price of Resistors, $14.11. **Net Price $8.47** (Cabinet Free)

VOLUME CONTROLS

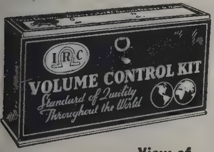
Preferred for Performance

IRC



ATTRACTIVE ALL-STEEL CABINET

The IRC Control Cabinet is sturdily built of all-metal construction and attractively finished in yellow, blue and silver. It provides individual compartments for 20 IRC Controls; 18 compartments indicate the control types included—you see at a glance what types should be reordered. Three handy drawers accommodate switches, special shafts, and spare parts. The hinged front cover snaps securely shut, so the cabinet may be carried in your car or truck, or it may be removed entirely for shop use. Cabinet measures 14½" long, 7⅜" high, and 4½" wide. Base is arranged for stacking where additional cabinets are required. This handsome cabinet is furnished FREE when packed with the IRC Type D Controls, Switches and Shafts indicated below. It is not sold separately.


IRC
VOLUME CONTROL KIT
Standard of Quality Throughout the World

View of Cabinet closed

Check this fast-selling stock!

The IRC Volume Control Cabinet is factory-packed with the following 18 Type D All-Purpose Controls, switches and special shafts.

IRC Control Type No.	Resistance	Purpose
2–D13-133	500,000	A
1–D11-116	10,000	B
1–D11-123	50,000	C
1–D11-128	100,000	C
1–D11-133	500,000	C
1–D13-123	50,000	D
1–D13-128	100,000	A
1–D13-130	250,000	A
1–D13-130X	250,000	E
1–D13-133X	500,000	F
1–DC13-133X	500,000	G
1–D13-137	1.0	A
1–D13-137X	1.0	F
1–D13-139	2.0	A
1–D13-139X	2.0	F
1–D14-116	10,000	H
1–D16-119	20,000	B

A—Tone or Audio Circuit Control
B—Antenna Grid Bias Control
C—Potentiometer Voltage Divider
D—Tone Control
E—Tapped for A. V. C.
F—Tapped for Tone Compensation
G—Friction Clutch Auto Radio Type
H—Antenna Grid Bias of 2 Tubes

Switches: 5—No. 41 S.P.S.T.; 1—No. 42 D.P.S.T.

Shafts: 1—Type B Auto Radio; 4—Type E knurled and slotted—with thin web

87% of all Control Replacements may be handled with the

IRC

VOLUME CONTROL CABINET

Save Time and Money . . .

Give Better Service . . .

with these 18 TYPE D

UNIVERSAL CONTROLS!

The wide scope of replacement utility of this practical stock of Type D Universal Controls with their quickly attached switches and easily installed shafts will save you time, money and effort. Proved by IRC Service Records to contain the most popular controls, it allows you to service 87% of all replacements immediately.

Render quicker, more efficient service. Avoid delays in getting needed controls. Eliminate more costly special replacements. Simplify installations because IRC D Controls with their handy Tap-in Shafts are easier to install in crowded receivers and may be used universally to replace "midgets" or larger, old-style controls. Avoid costly call-backs by using these "husky" small controls which have an enviable reputation for quiet operation and long service.

This practical IRC Control Cabinet will solve your volume control inventory problem. It permits you to reduce your stock and your investment. This first real move toward volume control standardization gives you an adequate stock of dependable controls at a minimum investment.

ORDER YOUR IRC VOLUME CONTROL CABINET TODAY

List Price: $30.90 **Net Price: $18.54**

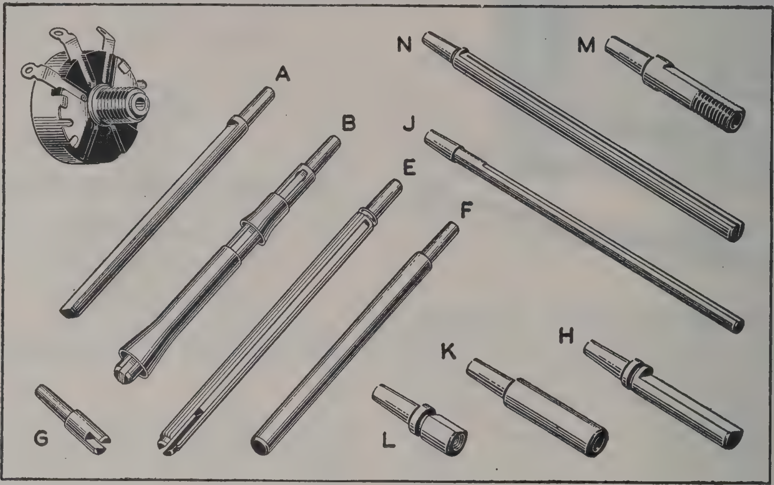
The all-metal cabinet is factory-packed with the merchandise listed above. It is not sold separately.

VOLUME CONTROLS

Preferred for Performance

THE IRC "CENTURY" LINE

112 IRC CONTROLS THAT SOLVE 90% OF YOUR REPLACEMENT PROBLEMS



For miscellaneous service needs, 70 all-purpose controls are available for use with the popular IRC tap-in shafts. An A shaft is included with each control and shafts B, E, F, G, H, J, K, L, M and N may be had at slight extra cost.

Each D Control accommodates any of the eleven Tap-in Shaft types shown. Shaft flats may be located in any position. A few extra shafts greatly increase the utility of your D Control stock at a small investment. Of unusual convenience is the "Double-Flatted" A shaft, included with each D Control. Accommodates popular push-on knobs requiring either $\frac{1}{32}$″ or $\frac{3}{32}$″ flats and all set-screw knobs without filing of shaft or use of inserts. Dimensions: 1⅛″ x $\frac{17}{32}$″.

Single Control—Without switch ....List $1.25 **Net $0.75**
Tapped Control—Without switch ....List 1.85 **Net 1.11**
Prices include **Shaft A** packed with each control

Easily Installed "Tap-in" Shafts

Type B, M—List $0.45, **Net $0.27**
Types E, F, G, H, J, K, L, N—List $0.30, **Net $0.18**

70 UNIVERSAL TYPE D CONTROLS

with 11 easily installed Tap-In Shafts

Resistance Ohms	Tap	IRC Stock No.	Taper	Usual Application
500	—	**D11-103**	A	Potentiometer Voltage Divider
1M	—	**D11-108**	A	Potentiometer Voltage Divider
2M	—	**D11-110**	A	Potentiometer Voltage Divider
3M	—	**D11-112**	A	Potentiometer Voltage Divider
4M	—	**D11-113**	A	Potentiometer Voltage Divider
5M	—	**D11-114**	A	Potentiometer Voltage Divider
5M	—	**D13-114**	C	Antenna Control
5M	—	**D14-114**	D	*Antenna C Bias Control
7,500	—	**D11-115**	A	Potentiometer Voltage Divider
10M	—	**D11-116**	A	*Antenna Grid Bias Control
10M	—	**D13-116**	C	Antenna Control
10M	—	**D14-116**	D	*Antenna Grid Bias of 2 Tubes
10M	—	**D16-116**	F	*Antenna Grid Bias of 1 Tube
13M	3M	**D18-117X**	H	I. F. Shunting Control
15M	—	**D14-118**	D	*Antenna Grid Bias Control
15M	—	**D16-118**	F	*Antenna Grid Bias Control
20M	—	**D16-119**	F	*Antenna Grid Bias Control
25M	—	**D11-120**	A	Potentiometer Voltage Divider
25M	—	**D14-120**	D	*Grid Bias Control
25M	—	**D16-120**	F	Antenna Control
30M	6M	**D18-122X**	H	Audio Control with Tone Tap
44M	7M–14M	**D18-123XX**	Spec.	Audio Control with 2 Tone Taps
50M	—	**D11-123**	A	Potentiometer Voltage Divider
50M	—	**D13-123**	C	Tone Control
50M	—	**D14-123**	D	*Antenna Grid Bias Control
75M	—	**D13-125**	C	Tone Control
75M	—	**D14-125**	D	*Grid Bias Control
100M	—	**D11-128**	A	Potentiometer Voltage Divider
100M	—	**D13-128**	C	Tone or Audio Circuit Control
200M	—	**D11-129**	A	Potentiometer Voltage Divider
200M	—	**D14-129**	D	*Grid Bias Control
250M	—	**D11-130**	A	Potentiometer Voltage Divider
250M	—	**D13-130**	C	Tone or Audio Circuit Control
250M	125M	**D13-130X**	Spec.	Audio Control with A.V.C. Tap
250M	—	**D14-130**	D	*Grid Bias Control
250M	25M	**D17-130X**	Spec.	Audio Control with Tone Tap
250M	60M	**D18-130X**	H	Audio Control with Tone Tap
250M	60M–120M	**D18-130XX**	Spec.	Audio Control with 2 Tone Taps
350M	—	**D13-132**	C	Tone or Audio Circuit Control
350M	35M	**D17-132X**	Spec.	Audio Control with Tone Tap
350M	75M	**D18-132X**	H	Audio Control with Tone Tap
500M	—	**D11-133**	A	Potentiometer Voltage Divider
500M	—	**D13-133**	C	Tone or Audio Circuit Control
500M	125M	**D13-133X**	H	Audio Control with Tone Tap
500M	—	**D14-133**	D	R.F. Plate Control
500M	25M	**D17-133X**	Spec.	Audio Control with Tone Tap
500M	50M	**D18-133X**	Spec.	Audio Control with Tone Tap
500M	250M	**D19-133X**	Spec.	Audio Control with Tone Tap
500M	100M–200M	**D18-133XX**	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	—	**D11-137**	A	Potentiometer Voltage Divider
1.0 meg.	—	**D13-137**	C	Tone or Audio Circuit Control
1.0 meg.	250M	**D13-137X**	H	Audio Control with Tone Tap
1.0 meg.	—	**D14-137**	D	Tone Control
1.0 meg.	35M	**D17-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	50M–100M	**D17-137XX**	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	100M	**D18-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	250M–500M	**D18-137XX**	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	100M	**D19-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	500M	**DVC-539X**	Spec.	Fader control for fading one circuit into another
2.0 meg.	—	**D13-139**	C	Tone or Audio Circuit Control
2.0 meg.	500M	**D13-139X**	H	Audio Control with Tone Tap
2.0 meg.	5M	**D15-139X**	Spec.	Audio Control with Tone Tap
2.0 meg.	500M–1.0 meg.	**D13-139XX**	Spec.	Audio Control with 2 Tone Taps
2.0 meg.	150M	**D17-139X**	Spec.	Audio Control with Tone Tap
2.0 meg.	1.0 meg.	**D18-139X**	Spec.	Audio Control with Tone Tap
2.0 meg.	250M–500M	**D18-139XX**	Spec.	Audio Control with 2 Tone Taps
2.0 meg.	50M	**D19-139X**	Spec.	Audio Control with Tone Tap
3.0 meg.	—	**D13-140**	C	Audio Control
5.0 meg.	—	**D11-141**	A	Potentiometer Voltage Divider
10.0 meg.	—	**D11-143**	A	Potentiometer Voltage Divider

* Supplied with 270 ohm BW½ (½ Watt) Insulated Wire Wound Resistor.

VOLUME CONTROLS

IRC

Preferred for Performance

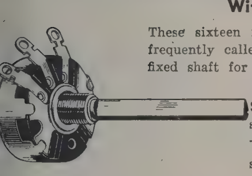
THE IRC "CENTURY" LINE

112 QUALITY CONTROLS THAT OFFER YOU THESE EXCLUSIVE FEATURES

- METALLIZED ELEMENT — harder, smoother, moisture-proof, permanent.
- FIVE FINGER CONTACTOR—assures positive, more uniform contact.
- SILENT SPIRAL CONNECTOR—a positive connection between contactor and its terminal.
- STEEL COIL SPRING THRUST WASHER — eliminates shaft wobble and end-play.

16 POPULAR DS TYPES

With Fixed Shafts



These sixteen numbers have been the most frequently called for and are furnished with fixed shaft for convenient, easy use. Dimensions: 1⅛" x $\frac{17}{32}$".

Single Control—Without switch, List $1.25, **Net $0.75**

Tapped Control—Without switch, List $1.85, **Net $1.11**

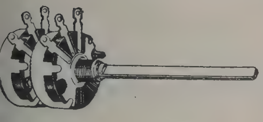
Resistance Ohms	Tap	I R C Stock No.	Taper	Usual Application
10M	—	**DS11-116**	A	Antenna Grid Bias Control
10M	—	**DS14-116**	D	*Antenna Grid Bias of 2 Tubes
25M	—	**DS14-120**	D	*Grid Bias Control
50M	—	**DS11-123**	A	Potentiometer Voltage Divider
100M	—	**DS11-128**	A	Potentiometer Voltage Divider
100M	—	**DS13-128**	C	Tone or Audio Circuit Control
250M	—	**DS11-130**	A	Potentiometer Voltage Divider
250M	—	**DS13-130**	C	Tone or Audio Circuit Control
250M	125M	**DS13-130X**	Spec.	Audio Control with AVC Tap
250M	60M	**DS18-130X**	H	Audio Control with Tone Tap
500M	—	**DS13-133**	C	Tone or Audio Circuit Control
500M	125M	**DS13-133X**	H	Audio Control with Tone Tap
1.0 meg.	—	**DS13-137**	C	Tone or Audio Circuit Control
1.0 meg.	250M	**DS13-137X**	H	Audio Control with Tone Tap
2.0 meg.	—	**DS13-139**	C	Tone or Audio Circuit Control
2.0 meg.	500M	**DS13-139X**	H	Audio Control with Tone Tap

Supplied with 270 ohm BW-½ (½ Watt) Insulated Wire Wound Resistor.

11 TYPE J CONTROLS for SPECIAL APPLICATIONS

For a wide variety of sets with specific requirements, you'll find hese eleven numbers extremely useful. To play safe your stock hould include at least one of each. (See list of Type J Controls, ses and prices on Page R-22.)

7 DUAL CONTROLS



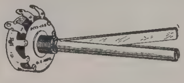
Seven popular Dual Controls are included in IRC's new Century Line. Here is a small but carefully selected group of "duals" that will speed many an important repair job! Standard No. 20 series switches can be attached. 1¼" x 1¼".

List price $3.10 each, **Net $1.86** each

I R C Stock No.	Unit	Resistance Ohms	Taper
35-1620	Panel Rear	10,000 25,000	C E
61-1623	Panel Rear	10,000 50,000	F A
33-2828	Panel Rear	0.1 meg. 0.1 meg.	C C
33-3030	Panel Rear	0.25 meg. 0.25 meg.	C C
33-3333	Panel Rear	0.5 meg. 0.5 meg.	C C
33-3737	Panel Rear	1.0 meg. 1.0 meg.	C C
33-3939	Panel Rear	2.0 meg. 2.0 meg.	C C

8 CLUTCH-TYPE DC CONTROLS

With Fixed Shafts



Practical for auto radio use and many other applications. Controls have friction clutch drive-arm and are equipped with a special shaft for use where either a slotted or tongued type shaft is required. Instructions tell how to cut shaft for either application. **Switches cannot be used with friction clutch controls. Size same as Type D.**

List Price $1.85 each, **Net $1.11** each

I R C Stock No.	Resistance Ohms	Resistance to Tap
DC13-130	250M	—
DC18-130X	250M	Tap 50M
DC13-133	500M	—
DC13-133X	500M	Tap 125M
DC13-137	1.0 meg.	—
DC13-137X	1.0 meg.	Tap 250M
DC13-139	2.0 meg.	—
DC13-139X	2.0 meg.	Tap 500M

2 TYPE S SPECIAL POWER CONTROLS

With Tap-in Shafts

Designed for power requirements of plate circuit tone controls, Type S Controls should be used where the audio output exceeds 2 watts. 1¼" in diameter, they employ the Tap-in Shaft feature. Use No. 20 series switches listed below.

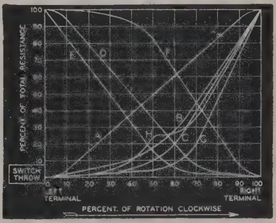
List price $1.25 each, **Net $0.75** each

I R C Stock No.	Resistance Ohms	Taper
S11-128	0.1 meg.	A
S13-128	0.1 meg.	C

QUICKLY ATTACHED SWITCHES

	For D and DS Controls	For S and Dual Controls	List	**Net**
SP., ST.	No. 41	No. 21	$0.60	**$0.36**
DP., ST.	No. 42	No. 22	0.75	**0.45**
SP., DT.	No. 43	No. 23	0.75	**0.45**
Three Point	—	No. 24	0.75	**0.45**
Four Point	No. 45	No. 25	0.75	**0.45**
SP., DT. at clockwise position.	—	No. 26	0.75	**0.45**
SP., ST. with dummy lug	No. 47	No. 27	0.75	**0.45**

8 STANDARD TAPERS



A—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

B—A semi-logarithmic curve used as tone control or audio circuit control.

C—A logarithmic curve. Used as audio circuit control or antenna shunt control.

D—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

E—Used as a rheostat in cathode circuit to control grid bias.

F—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is essential in controlling volume. Generally used where the control changes the grid bias of only one or two tubes. Must not be used with heavy currents.

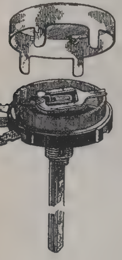
G—A logarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenna shunt control.

H—A tapped logarithmic curve used as audio level control for automatic bass compensation.

VOLUME CONTROLS

Preferred for Performance

TYPE W WIRE WOUND CONTROLS



A dependable wire wound control of uniform resistance change for power requirements up to 2 watts. Tight, uniform windings assure utmost accuracy. Spiral Spring Connector between rotor arm and center terminal eliminates noise. Diameter 1¼"; depth behind panel $\frac{9}{16}$"; shaft length 2$\frac{15}{16}$" from control face. Illustration shows cover removed, although covers are supplied with controls.

List without switch, $1.25; **Net 75c**

IRC Control No.	Resistance Ohms	Max. Current (Amps.)	IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000	W-100	100	.142
W-3	3	.815	W-200	200	.100
W-5	5	.630	W-300	300	.083
W-6	6	.560	W-400	400	.071
W-8	8	.500	W-500	500	.063
W-10	10	.450	W-750	750	.052
W-15	15	.370	W-1000	1000	.045
W-20	20	.320	W-2000	2000	.032
W-25	25	.285	W-3000	3000	.026
W-30	30	.260	W-4000	4000	.022
W-40	40	.225	W-5000	5000	.020
W-50	50	.200	W-7500	7500	.016
W-60	60	.183	W-10000	10000	.014
W-75	75	.164			

Type W Switches

For Type W Controls

	List	Net
No. 51—S. P., S. T.	$0.60	**$0.36**
No. 52—D. P., S. T.	.75	**.45**
No. 53—S. P., D. T.	.75	**.45**
No. 54—Three Point	.75	**.45**
No. 55—Four Point	.75	**.45**
No. 56—S. P., D. T. at clockwise position	.75	**.45**
No. 57—S. P., S. T., with dummy lug	.75	**.45**

Plain and Insulated Shaft Couplers

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection.

TYPE C2—Insulated coupler for use with square type shaft used by Motorola. List $0.30, **Net $0.18**

TYPE C3—Plain coupler to couple ¼" shafts; insert allows coupling of ¼" shaft to $\frac{3}{16}$" shaft.

List $0.30, **Net $0.18**

IRC VOLUME CONTROL

REPLACEMENT MANUAL

Edition No. 4

First post-war edition of the IRC Volume Control Replacement Manual. Large 8½" x 11" size with 156 pages. Includes original manufacturers' part numbers, Rider's Schematic Reference, and special shaft requirements. Models and chassis cross-indexed. Trade and brand names in alphabetical order. A comprehensive handbook of control replacement. **Net $0.25**

IRC
VOLUME CONTROL
Replacement Manual

11 IRC TYPE J CONTROLS FOR MANY SPECIAL REQUIREMENTS!

IRC sales records show that these 9 most popular special controls will handle nearly one-third of your requirements for exact duplicate controls. The group includes concentric duals, and special shaft units. For a more complete stock, carry at least one of each:

DJ-4—2.0 meg (tap 500M ohms)/1.0 meg. RCA: RC-351, A, B, C, D, E, F, M, R, RC-352, A, B, C, RC-386, B ch. Sears-Roebuck: 126.208 Ch. Westinghouse Elec. Supply: WR-264. List $3.75, **Net $2.25**

DJ-5—2.0 meg/1.0 meg. Zenith: 5637, 5803 Chassis (Dual Control). List $3.75, **Net $2.25**

J-15—32M ohms. Stewart-Warner: R-100A, B, E, (AC), 950 series (AC) List $1.85, **Net $1.11**

J-107—10M/50M ohms. General Electric: T-41. Graybar: GB-678. Pilot: K-117. RCA: R14, R15, RE17, 42 (Radiola), 48 (Radiola). Westinghouse Elec. & Mfg.: WR-4. List $3.10, **Net $1.86**

J-127—3800/3800 ohms. RCA: R32, RE45, R52, RE75, 145. List $3.10, **Net $1.86**

J-296—225M/5M ohms. Philco: 70, 70A below B22,000, 90, 90A (Two 45's), 270, 270A, 370, 470, 470A, 570. List $3.10, **Net $1.86**

J-777—350M ohms. Chrysler: C1423. Ford: T9, FT9, FT9X, F1440, F1442. Graham: G1418, G1435. Lincoln: L1420, L1424, L1425, L1427, L1429, L1460. Nash: T12-NT 12X, NT 12 X2, T15 NT 15, NT15X, N1418, N1433 H, N1434 H, N1514. Packard: P1417, P1517. Philco: 811 PA, PB, PV, 816, 817, 818, 821P, 821PV, 826, 827, 827K, 828, 828K. Reo: R1415. Studebaker: T12-ST12, T15-ST15, S1431, S1437, S1516. Willys Overland: W1419. List $1.85, **Net $1.11**

J-823—150M/250M ohms (Tap 125M ohms). General Elec.: A-82, A-86, A-87. List $3.10, **Net $1.86**

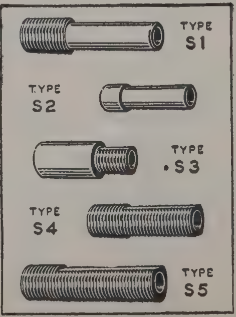
J-843—350M ohms (tap 75M ohms). Chrysler T10-CT10, T11-CT11, C1450, C1452. DeSoto: T10-CT10, T11-CT11. Dodge: T11-CT11. Hupmobile: HT11X. Lincoln: LT 14X3. Packard: T14-PT14, P1422, P1430, P1432 H, P1439. Pierce-Arrow: T14-MT14X4. Reo: T11-CT11, T14-R14X. List $1.85, **Net $1.11**

EXTENSION SHAFTS

These shafts attach to regular shafts, thus extending length to any needed size, and frequently make it possible to use standard controls for "special" jobs.

	List	Net
Shaft No. 441—4" x ¼" dia. x $\frac{1}{32}$" flat	$0.40	**$0.24**
Shaft No. 442—4" x ¼" dia. x $\frac{3}{32}$" flat	.40	**.24**
Shaft No. 443—4" x $\frac{3}{16}$" dia. x $\frac{1}{64}$" flat	.40	**.24**
Shaft No. 444—8" x ¼" dia. x $\frac{3}{32}$" flat for 4" length	.40	**.24**

SLEEVE BUSHINGS



TYPE S1—For use with standard controls.

TYPE S2—To provide bearing for switching mechanism.

	S1	S2
List	$0.45	$0.30
Net	**.27**	**.18**

TYPE S3—For use with standard controls to set control back from chassis or mounting bracket. 1½"—⅛" dia. for 1" unthd—⅜" dia. for ½" 32 thd—.344 flat.
List $0.60............**Net $0.36**

TYPE S4—For use with standard controls to provide $\frac{7}{16}$" dia. bushing. 1⅝"—thd $\frac{7}{16}$"—28 full length—1.375 dbl flat.
List $0.60............**Net $0.36**

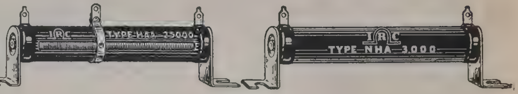
TYPE S5—For use with standard controls to provide ½" dia. bushing. 2¼"—½"—28 full length—.437 flat.
List $0.60............**Net $0.36**

POWER RESISTORS

Preferred for Performance

"PREFERRED FOR PERFORMANCE"

ot only do these famous resistors excel electrically, but their “cli- ate-proofed” cement coating provides the most dependable pro- ection yet devised for resistors for heavy duty work. Both fixed and djustable types are available. Mounting Brackets are packed with ll resistors from 25 watts and up. One Adjustable Band is fur- ished with each adjustable resistor. The new Type X Band (de- cribed below) is included as standard on units of 25 watts and bove. Extra bands supplied at prices indicated.



FIXED TYPES

10 WATTS

Type AB

1¾" x 5/16"

List $0.59

Net $0.35

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	169
400	157
500	140
600	125
750	115
800	112
1,000	100
1,250	90
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31
List $0.65	
Net $0.39	
11,000	30
12,000	28
12,500	28
14,300	25
15,000	25
20,000	22
25,000	20

20 WATTS

Type DG

2" x 9/16"

List $0.91

Net $0.55

Ohms	Max. m. a.
1	4400
5	2000
10	1415
25	895
50	633
75	517
100	447

(Continued)

20 WATTS

Type DG

(Continued)

Ohms	Max. m. a.
150	365
200	316
250	282
300	258
350	238
400	224
500	200
750	163
800	158
850	153
1,000	141
1,200	129
1,250	126
1,500	115
1,750	107
1,850	104
2,000	100
2,250	94
2,500	89
3,000	81
3,500	75
4,000	70
4,500	66
5,000	63
6,000	57
7,000	53
7,500	51
8,000	50
8,500	48
9,000	46
10,000	43
11,000	41
12,000	40
12,500	39
15,000	35
List $1.11	
Net $0.67	
20,000	30
25,000	28
30,000	25
35,000	23
40,000	22
50,000	20

50 WATTS

Type EP

4½" x ¾"

List $1.56

Net $0.94

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
100	700
200	500
250	440
500	300
750	250
1,000	215
1,500	175
2,000	155
2,500	135

(Continued)

50 WATTS

Type EP

(Continued)

Ohms	Max. m. a.
3,000	120
4,000	105
5,000	95
List $1.82	
Net $1.09	
6,000	85
7,000	78
7,500	77
8,000	75
10,000	66
12,000	63
12,500	60
15,000	56
20,000	48
25,000	43
List $2.08	
Net $1.25	
30,000	39
40,000	34
50,000	30
60,000	28
75,000	25
0.1 meg.	21

80 WATTS

Type ES

6½" x ¾"

List $1.82

Net $1.09

Ohms	Max. m. a.
5	4000
10	2730
25	1730
50	1220
100	865
200	612
250	545
500	387
750	316
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
4,000	137
5,000	122
List $2.15	
Net $1.29	
6,000	112
7,500	100
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
List $2.54	
Net $1.52	
30,000	50
40,000	43
50,000	39
List $2.86	
Net $1.72	
60,000	35
75,000	31
List $3.25	
Net $1.95	
0.1 meg.	27

100 WATTS

Type HA

6½" x 1⅛"

List $2.15

Net $1.29

Ohms	Max. m. a.
25	2000
50	1414
75	1155
100	1000
150	815
250	632
500	447
750	365
1,000	315
1,250	280
1,500	250
2,000	220
2,500	200
3,000	180
5,000	140
List $2.54	
Net $1.52	
7,500	115
10,000	100
15,000	80
20,000	70
25,000	63
List $2.86	
Net $1.72	
30,000	58
40,000	50
50,000	44
List $3.25	
Net $1.95	
60,000	41
75,000	36
List $3.58	
Net $2.15	
0.1 meg.	31

200 WATTS

Type HO

10½" x 1⅛"

List $3.58

Net $2.15

Ohms	Max. m. a.
25	2830
50	2000
100	1414
250	804
500	632
750	515
1,000	447
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
7,500	163
10,000	141
List $4.29	
Net $2.57	
15,000	115
20,000	100
25,000	90
30,000	81
40,000	70
50,000	63
60,000	57
75,000	51
0.1 meg.	44

ADJUSTABLE TYPES

10 WATTS

Type ABA

1¾" x 5/16"

List $0.98

Net $0.59

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	160
400	157
500	140
600	125
750	115
800	112
1,000	100
1,250	99
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31

25 WATTS

Type DHA

2½" x 9/16"

List $1.24

Net $0.74

Ohms	Max. m. a.
1	5000
3	2850
5	2200
10	1580
15	1290
25	1000
50	710
75	575
100	500
150	400
200	353
250	320

(Continued)

25 WATTS

Type DHA

(Continued)

Ohms	Max. m. a.
300	289
400	250
500	224
750	182
800	177
1,000	158
1,250	141
1,500	129
2,000	112
2,250	105
2,500	100
3,000	91
3,500	84
4,000	79
5,000	71
List $1.43	
Net $0.86	
6,000	64
7,500	58
8,000	56
9,000	53
10,000	50
12,000	45
15,000	41
List $1.56	
Net $0.94	
20,000	35
25,000	32

50 WATTS

Type EPA

4½" x ¾"

List $1.95

Net $1.17

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
75	810
100	700
150	550
200	500
250	440
300	375
400	350
500	300
750	250
800	248
1,000	215
1,250	195
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $2.15	
Net $1.29	
6,000	85
7,500	77
8,000	75

(Continued)

50 WATTS

Type EPA

(Continued)

Ohms	Max. m. a.
10,000	66
12,000	63
15,000	56
20,000	48
25,000	43
List $2.47	
Net $1.48	
30,000	39
40,000	34
50,000	30
List $2.86	
Net $1.72	
60,000	28
75,000	25
0.1 meg.	21

80 WATTS

Type ESA

6½" x ¾"

List $2.54

Net $1.52

Ohms	Max. m. a.
5	4000
10	2730
15	2230
25	1730
50	1220
100	865
200	612
250	545
300	500
400	430
500	387
750	316
800	305
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
3,500	145
4,000	137
5,000	122
List $2.86	
Net $1.72	
6,000	112
7,500	110
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
List $3.25	
Net $1.95	
30,000	50
35,000	47
40,000	43
45,000	41
50,000	39
List $3.58	
Net $2.15	
60,000	35
80,000	30
0.1 meg.	27

100 WATTS

Type HAA

6½" x 1⅛"

List $2.86

Net $1.72

Ohms	Max. m. a.
100	1000
200	710
400	500
500	447
750	365
1,000	315
1,500	250
2,000	220
2,500	200
3,000	180
4,000	155
5,000	140
List $3.25	
Net $1.95	
6,000	130
7,500	115
8,000	110
10,000	100
15,000	80
20,000	70
25,000	63
List $3.58	
Net $2.15	
30,000	58
40,000	50
50,000	44
List $3.90	
Net $2.34	
60,000	41
75,000	36
0.1 meg.	31

200 WATTS

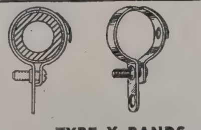
Type HOA

10½" x 1⅛"

List $4.29

Net $2.57

Ohms	Max. m. a.
100	1414
500	632
1,000	447
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
10,000	141
List $5.01	
Net $3.01	
15,000	115
20,000	100
25,000	90
30,000	81
40,000	70
50,000	63
60,000	57
75,000	51
0.1 meg.	44



No more wire damage when the sliding contact band is moved on adjustable resistors. No corrosion at point of contact! The new IRC Type X Positive Pressure Contact Band removes these troubles once and for all. Silver contact button is attached to constant-pressure steel spring.

TYPE X BANDS

Resistor	Band	List	Net
DHA	"X2"	$0.26	$0.16
EPA-ESA	"X3"	.26	.16
HAA-HOA	"X4"	.33	.20

(No Type X Band available for ABA)

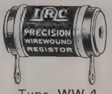
STANDARD BAND

Resistor	Band	List	Net
ABA	"A"	$0.13	$0.08

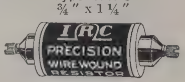
RESISTORS

Preferred for Performance

PRECISION Wire Wound RESISTORS



Type WW-4
9/16″ x 1″
Type WW-5
¾″ x 1¼″



Type WW-1
9/16″ x 2⅛″
Type WW-2
⅞″ x 2 15/16″

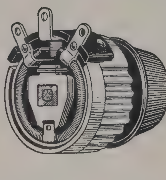
IRC Precision Wire Wound Resistors are scientifically designed and constructed of highest quality materials to combine the utmost in accuracy with dependability. Winding forms are of a non-hygroscopic ceramic having high insulation qualities, high mechanical strength and low-coefficient of expansion. Because of the special sectional construction which permits the winding of adjacent sections in opposite directions, a noninductive winding is made possible. This insures constant resistance at all frequencies up to 50,000 cycles.

These units are used by the leading instrument manufacturers for dependable precision meter multipliers and shunts, decade boxes and calibrated gain controls. 1% accuracy is standard. Closer tolerances available at slightly higher prices as follows: for ½% tolerance, add 10%; for ¼% accuracy, add 15%; and for 1/10 of 1%, add 25% to list prices.

	WW-4		WW-1	
	List	Net	List	Net
0.1, 0.5, 1, 10, 25, 50, 100, 200, 250, 300 and 500 ohms	$1.11	$0.67	$1.50	$0.90
1,000, 1,500 and 2,000 ohms	1.17	.70	1.50	.90
2,500 ohms	1.17	.70	1.63	.98
4,000, 5,000, 7,500 and 10,000 ohms	1.30	.78	1.63	.98
12,500 and 15,000 ohms	1.43	.86	1.76	1.06
20,000, 22,500, 25,000, 30,000, 40,000 and 50,000 ohms	1.76	1.06	2.08	1.25
60,000 and 75,000 ohms	2.08	1.25	2.47	1.48
0.1 meg.	2.41	1.45	2.73	1.64
0.125 meg.	2.73	1.64	3.12	1.87
0.15, 0.175 and 0.2 meg.	3.06	1.84	3.45	2.07
0.225 and 0.25 meg.	3.38	2.03	3.77	2.26
0.3 meg.	3.71	2.23	4.10	2.45
0.4 meg.	3.90	2.34	4.10	2.46
0.5 meg.	4.42	2.65	4.75	2.85
	WW-5		WW-2	
0.6 meg.	5.53	3.32	5.53	3.32
0.75 meg.	5.85	3.51	5.85	3.51
0.9 meg.	6.18	3.71	6.18	3.71
1.0 meg.	6.83	4.10	6.83	4.10
1.5 meg.			9.75	5.85
2.0 meg.			13.00	7.80
2.5 meg.			16.25	9.75

For list prices of odd ranges not shown, use same price as given for next higher range. Type WW-3 (9/16″ x 9/16″) with wire leads or lug terminals obtainable on special order at same price as WW-4. Made in all ranges from 1 ohm to 0.15 meg. WW-4 and WW-5 with wire lead terminals instead of lugs are available on special order at no increase in cost.

ALL-METAL RHEOSTATS



PR-25 (25 Watts)
1 21/32″ diam. Depth
behind panel, 31/32″

PR-50 (50 Watts)
2⅜″ diam. Depth
behind panel, 1⅜″

Operating temperatures are cut almost in half by the unique, all-metal aluminum construction of these new IRC Rheostats. They dissipate heat more rapidly—give ample safety factor. Ratings based on hottest spot temp. rise of only 140 degrees C. with max. load distributed over entire element. With full load applied to as little as 25% of element, rise is only 160 degrees C. Exclusive IRC Spiral Connector gives positive contact between rotor arm and center terminal.

PR-25—25 Watts

Ohms	Max. m.a.	List Price	Net Price
0.5	7,000	$5.85	$3.51
1	5,000	5.85	3.51
2	3,450	5.20	3.12
3	2,880	5.20	3.12
6	2,040	5.20	3.12
8	1,770	5.20	3.12
10	1,580	5.20	3.12
15	1,290	5.20	3.12
25	1,000	5.20	3.12
35	845	5.20	3.12
50	709	5.20	3.12
75	575	5.20	3.12
100	500	5.20	3.12
125	445	5.20	3.12
175	375	5.20	3.12
250	315	5.20	3.12
350	267	5.20	3.12
500	222	5.20	3.12
750	173	5.20	3.12
1,000	155	5.85	3.51
1,500	129	5.85	3.51
2,500	100	5.85	3.51
3,500	84	6.18	3.71
5,000	70	6.18	3.71

PR-50—50 Watts

Ohms	Max. m.a.	List Price	Net Price
0.5	10,000	$6.50	$3.90
1	7,070	6.50	3.90
2	5,000	5.85	3.51
4	3,520	5.85	3.51
6	2,880	5.85	3.51
8	2,500	5.85	3.51
12	2,040	5.85	3.51
16	1,770	5.85	3.51
22	1,500	5.85	3.51
35	1,190	5.85	3.51
50	1,000	5.85	3.51
80	790	5.85	3.51
125	630	5.85	3.51
150	575	5.85	3.51
225	470	5.85	3.51
300	407	5.85	3.51
500	315	5.85	3.51
800	250	6.18	3.71
1,000	223	6.18	3.71
1,600	177	6.18	3.71
2,500	140	6.18	3.71
3,500	120	6.50	3.90
5,000	100	6.50	3.90
8,000	79	6.50	3.90
10,000	70	6.50	3.90

Type NAB Parasitic Suppressors

IRC Type NAB Non-Inductive Wire Wound Resistors are designed for use, one in each grid of audio driver or power amplifier tubes when paralleled, to prevent parasitic oscillations. 10 watts.

Type NAB—50 ohms.

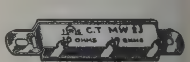
List $1.17 each...**Net $0.70 each**

Bleeder Resistor

Type M-1034—25,000 ohms, overall resistance, tapped at 7,500, 10,000, 12,500 and 15,000 ohms. 18 watts rating attached flat to chassis, 9 watts free air rating. Used as bleeder in any power supply up to 500 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Bracket supplied.

M-1034—IRC Bleeder Resistor. List $1.25 each. **Net 75c each.**

Center Tap Insulated Wire Wounds

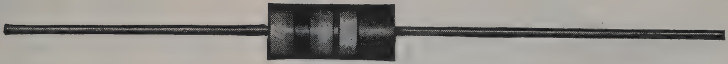


Completely enclosed in molded bakelite and capable of standing high temperatures. Due to high power rating, these resistors may be used in balancing circuits for radio receivers or transmitters. They will carry up to five watts if mounted on chassis, using the detachable mounting bracket and heat-dissipating metal strip; or two and one-half watts if mounted in open air. May be mounted anywhere without danger to units from heat or grounding. **Dimensions:** Length of molded unit 2″. With bracket mounting centers 2½″. Six standard ranges: 10 ohms, 20 ohms, 50 ohms, 75 ohms, 100 ohms and 200 ohms.

Type MW-2J—Center Tap Resistors. List 35c each. **Net 21c each.**

GENERAL ELECTRIC

COMPOSITION RESISTORS



½ WATT • 1 WATT • 2 WATTS

Meeting the rigid BF characteristics (most exacting requirements) of the joint Army-Navy Specification JAN-R-11, these Resistors will add that extra "plus" to any electronic equipment.

The allowance of a generous safety factor, a combination of small size, sturdy construction, excellent stability, high resistance to humidity, and more than ample insulation, make these resistors first choice on any list.

Specially engineered pigtail leads are constructed to increase their resistance to breakage, at the point where they enter the resistor body. Secure anchoring and heavy tinning of the leads, permits easy soldering.

G-E Composition Resistors may be operated at full rating in ambient temperatures up to 70° (158°F). 350 volts RMS may be applied continuously to the ½ watt unit, 500 volts RMS to the 1 watt unit, and 1000 volts RMS to the 2 watt unit, provided the wattage is not exceeded.

A part of the G-E Line of Electronic Parts, these resistors have met the G-E standards that have made G-E the first and greatest name in Electronics.

All resistance values are ± 10% and in accordance with R.M.A. standard progression.

OHMS							MEGOHMS				
10	39	150	560	2,200	8,200	33,000	0.1	0.39	1.5	5.6	22.0
12	47	180	680	2,700	10,000	39,000	0.12	0.47	1.8	6.8	
15	56	220	820	3,300	12,000	47,000	0.15	0.56	2.2	8.2	
18	68	270	1.000	3,900	15,000	56,000	0.18	0.68	2.7	10.0	
22	82	330	1,200	4,700	18,000	68,000	0.22	0.82	3.3	12.0	
27	100	390	1,500	5,600	22.000	82,000	0.27	1.0	3.9	15.0	
33	120	470	1,800	6,800	27,000		0.33	1.2	4.7	18.0	

Suggested PRICES

	½ Watt	1 Watt	2 Watts
	each	each	each
List	0.13	0.17	0.25

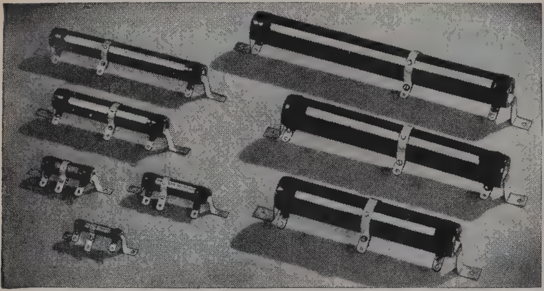
RELY ON G. E. FOR ALL RESISTOR NEEDS

- **FIXED WIRE-WOUND RESISTORS — 10 AND 20 WATTS**
- **ADJUSTABLE WIRE-WOUND RESISTORS — 10, 25, 50 AND 100 WATTS**
- **POWER RHEOSTATS — 25 AND 50 WATTS**
- **COMPOSITION VOLUME CONTROLS (ATTACHABLE SWITCHES)**
- **SMALL WIRE-WOUND CONTROLS — 2, 3 AND 4 WATTS**
- **T-PADS, L-PADS**
- **CONSTANT IMPEDANCE ATTENUATORS**
- **UNIVERSAL RESISTOR TUBES**

YOUR G-E DISTRIBUTOR WILL BE PLEASED TO GIVE YOU ADDITIONAL INFORMATION ON SPECIFICATIONS, RATINGS, PRICES AND DELIVERY

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life



WIRE WOUND ADJUSTABLE TYPES

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

TYPE 1¾EV—10-WATT

DIMENSIONS .... 5/16" x 3/16" x 1¾"
TERMINALS ....Lug Type
MAXIMUM RESISTANCE........10,000 ohms
MOUNTING BRACKET ....Centers 2¼"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.98	750	115	$0.98
2	2230	.98	800	111	.98
3	1825	.98	1000	100	.98
5	1415	.98	1250	89	.98
7.5	1155	.98	1500	79	.98
10	1000	.98	2000	69	.98
15	815	.98	2250	64	.98
20	707	.98	2500	61	.98
25	630	.98	3000	56	.98
50	447	.98	3500	51	.98
75	365	.98	4000	47	.98
100	315	.98	4500	44	.98
150	258	.98	5000	40	.98
200	223	.98	6000	36	.98
250	200	.98	7000	33	.98
300	182	.98	7500	32	.98
350	169	.98	8000	31	.98
400	158	.98	8500	30	.98
500	141	.98	10000	24	.98
600	129	.98			

TYPE 2SV—25-WATT

DIMENSIONS ....9/16" x 5/16" x 2"
TERMINALS ....Solder Lug
MAXIMUM RESISTANCE..........25,000 ohms
MOUNTING BRACKET...........Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	$1.24	1000	158	$1.24
3	2890	1.24	1250	141	1.24
5	2240	1.24	1500	129	1.24
10	1580	1.24	2000	112	1.24
15	1290	1.24	2500	100	1.24
25	1000	1.24	3000	91	1.24
50	707	1.24	3500	84	1.24
75	575	1.24	4000	79	1.24
100	500	1.24	5000	71	1.24
150	400	1.24	6000	64	1.43
200	353	1.24	7500	57	1.43
250	316	1.24	10000	50	1.43
300	288	1.24	12000	44	1.43
400	250	1.24	15000	26	1.43
500	224	1.24	20000	22	1.56
750	182	1.24	25000	20	1.56

TYPE 4½MV—50-WATT

DIMENSIONS...................¾" x ½" x 4½"
TERMINALS..............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 5½"

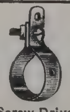
Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3160	$1.95	3000	129	$1.95
10	2230	1.95	4000	112	1.95
25	1410	1.95	5000	100	1.95
50	1000	1.95	7500	81	2.15
75	816	1.95	10000	70	2.15
100	707	1.95	12000	64	2.15
150	577	1.95	15000	57	2.15
200	500	1.95	20000	50	2.15
250	447	1.95	25000	44	2.15
300	408	1.95	30000	41	2.47
400	354	1.95	40000	35	2.47
500	316	1.95	50000	20	2.47
750	258	1.95	60000	18	2.86
1000	224	1.95	75000	17	2.86
1500	182	1.95	80000	16	2.86
2000	158	1.95	100000	14	2.86
2500	141	1.95			

TYPE 6½MV—80-WATT

DIMENSIONS...................¾" x ½" x 6½"
TERMINALS..............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	$2.54	3500	152	$2.54
15	2310	2.54	5000	126	2.54
25	1790	2.54	7500	103	2.86
50	1265	2.54	10000	89	2.86
100	894	2.54	15000	73	2.86
250	566	2.54	20000	63	2.86
300	517	2.54	25000	57	2.86
400	495	2.54	30000	51	3.25
500	400	2.54	40000	44	3.25
750	327	2.54	50000	25	3.25
1000	283	2.54	60000	23	3.58
1500	231	2.54	75000	21	3.58
2000	200	2.54	80000	20	3.58
2500	179	2.54	100000	18	3.58

ADJUSTABLE LUGS



Screw-Driver Type

Diameter of Resistor	List Price
⅜"	$0.13
⅝"	.13
⅞"	.20
1¼"	.20

TYPE 6½KV—100-WATT

DIMENSIONS...............1⅛" x ¾" x 6½"
TERMINALS..............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	$2.86	15000	81	$3.25
100	1000	2.86	20000	70	3.25
500	447	2.86	25000	63	3.25
1000	316	2.86	30000	57	3.58
2000	223	2.86	35000	53	3.58
3000	182	2.86	40000	50	3.58
4000	158	2.86	50000	44	3.58
5000	141	2.86	75000	23	3.90
7500	115	3.25	100000	20	3.90
10000	100	3.25			

TYPE 8½KV—160-WATT

DIMENSIONS.................1⅛" x ¾" x 8½"
TERMINALS.............................. Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 9½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$3.58	10000	126	$3.58
10	4000	3.58	15000	103	4.16
25	2530	3.58	20000	89	4.16
50	1788	3.58	25000	80	4.16
100	1266	3.58	30000	73	4.16
500	566	3.58	40000	55	4.16
1000	400	3.58	50000	43	4.16
2500	253	3.58	75000	27	4.55
5000	179	3.58	100000	18	4.55

TYPE 10½KV—200-WATT

DIMENSIONS...............1⅛" x ¾" x 10½"
TERMINALS..............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET..........Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	$4.29	10000	141	$4.29
100	1414	4.29	20000	100	5.00
500	632	4.29	25000	89	5.00
1000	447	4.29	30000	81	5.00
1500	361	4.29	50000	63	5.00
2000	316	4.29	75000	51	5.00
2500	283	4.29	100000	28	5.00
5000	200	4.29			

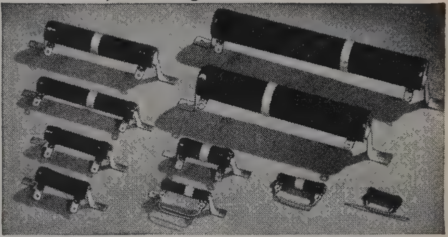
Mounting brackets and one band are furnished with all adjustable types.

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life

WIRE WOUND—FIXED TYPES

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to R.M.A. standards. LECTROHM Resistors are rugged—dependable — accurate — quality components that will give long trouble-free service. (Mounting brackets available for 20, 50, 80, 100, 160 and 200 watt units.)



TYPE 1¼L—5-WATT

DIMENSIONS....................¼" x 5/32" x 1¼"
TERMINALS....................Pig Tail
MAXIMUM RESISTANCE.........10,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	2240	$0.52	300	129	$0.52
2	1580	.52	350	119	.52
3	1290	.52	400	111	.52
4	1110	.52	500	100	.52
5	1000	.52	600	91	.52
10	707	.52	700	84	.52
15	575	.52	750	81	.52
20	500	.52	800	79	.52
25	447	.52	900	74	.52
30	408	.52	1000	70	.52
35	374	.52	1100	64	.52
40	346	.52	1200	60	.52
50	316	.52	1250	59	.52
75	258	.52	1500	54	.52
100	222	.52	1750	50	.52
125	200	.52	2000	44	.52
150	182	.52	2500	40	.52
200	158	.52	3000	36	.52
225	149	.52	4000	31	.52
250	141	.52	5000	28	.52

TYPE 1¾—10-WATT

DIMENSIONS....................5/16" x 3/16" x 1¼"
TERMINALS....................Pig Tail
MAXIMUM RESISTANCE.........40,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.59	1500	79	$0.59
2	2230	.59	1750	74	.59
3	1825	.59	2000	69	.59
5	1415	.59	2250	64	.59
7.5	1155	.59	2500	61	.59
10	1000	.59	3000	56	.59
15	815	.59	3500	51	.59
20	707	.59	4000	47	.59
25	630	.59	4500	44	.59
50	447	.59	5000	40	.59
75	365	.59	6000	36	.59
100	315	.59	7000	33	.59
150	258	.59	7500	32	.59
200	223	.59	8000	31	.59
250	200	.59	8500	30	.59
300	182	.59	10000	24	.59
350	169	.59	12000	20	.65
400	158	.59	12500	20	.65
500	141	.59	15000	18	.65
600	129	.59	17500	17	.65
700	119	.59	18000	16	.65
750	115	.59	20000	15	.65
800	111	.59	22500	15	.65
900	105	.59	25000	14	.65
1000	100	.59	30000	8	.65
1200	91	.59	40000	7	.65
1250	89	.59			

LECTROHM R. F. PLATE CHOKES

(1000 Milliamps.)

Type	RFC-1	RFC-2	RFC-3	RFC-4
Amateur Band Meters	5	10 & 20	20 & 40	20, 40 80 & 160
Microhenries	5.4	35	95	220
D. C. Ohms	0.85	2	5	9
Lgth. Overall	1¾"	3"	6"	6½"
Diameter	¼"	9/16"	9/16"	¾"
List Price	**$0.33**	**$1.04**	**$1.56**	**$2.15**

TYPE 2R—20-WATT

DIMENSIONS....................½" x 5/16" x 2"
TERMINALS....................Solder Lug
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	2000	$0.91	1100	134	$0.91
10	1414	.91	1250	126	.91
15	1153	.91	1500	115	.91
20	1000	.91	2000	100	.91
25	894	.91	2500	89	.91
40	707	.91	3000	81	.91
50	633	.91	4000	70	.91
60	574	.91	5000	63	.91
75	517	.91	6000	57	.91
100	448	.91	7000	53	.91
125	400	.91	7500	51	.91
150	365	.91	8000	50	.91
200	316	.91	10000	43	.91
250	283	.91	12500	39	.91
300	258	.91	15000	30	.91
350	238	.91	20000	24	1.11
400	223	.91	25000	21	1.11
500	200	.91	30000	21	1.11
600	182	.91	35000	18	1.11
700	169	.91	40000	17	1.11
750	163	.91	45000	13	1.11
800	158	.91	50000	11	1.11
1000	141	.91			

TYPE 4½M—50-WATT

DIMENSIONS....................¾" x ½" x 4½"
TERMINALS....................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 5½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3165	$1.56	6000	85	$1.82
10	2230	1.56	7000	78	1.82
25	1390	1.56	7500	77	1.82
50	1000	1.56	8000	75	1.82
100	700	1.56	10000	66	1.82
200	500	1.56	12000	63	1.82
250	440	1.56	12500	60	1.82
500	300	1.56	15000	56	1.82
750	250	1.56	20000	48	1.82
1000	215	1.56	25000	43	1.82
1500	175	1.56	30000	39	2.08
2000	155	1.56	40000	34	2.08
2500	135	1.56	50000	30	2.08
3000	120	1.56	60000	28	2.08
4000	105	1.56	75000	25	2.08
5000	95	1.56	100000	21	2.08

TYPE 6½M—80-WATT

DIMENSIONS....................¾" x ½" x 6½"
TERMINALS....................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	4000	$2.04	5000	122	$2.04
10	2730	2.04	6000	112	2.41
25	1730	2.04	7500	100	2.41
50	1220	2.04	8000	98	2.41
100	865	2.04	10000	86	2.41
200	612	2.04	15000	70	2.41
250	545	2.04	20000	61	2.41
500	387	2.04	25000	55	2.41
750	316	2.04	30000	50	2.72
1000	274	2.04	50000	43	2.72
1500	223	2.04	50000	39	2.72
2000	193	2.04	60000	35	3.09
2500	173	2.04	75000	31	3.09
3000	158	2.04	100000	27	3.40
4000	137	2.04			

TYPE 6½K—100-WATT

DIMENSIONS....................1⅛" x ¾" x 6½"
TERMINALS....................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
25	2000	$2.15	3000	180	$2.15
50	1414	2.15	5000	140	2.15
75	1155	2.15	7500	115	2.54
100	1100	2.15	10000	100	2.54
150	815	2.15	15000	80	2.54
250	632	2.15	20000	70	2.54
500	447	2.15	25000	63	2.54
750	365	2.15	30000	58	2.86
1000	315	2.15	40000	50	2.86
1250	280	2.15	50000	44	2.86
1500	250	2.15	60000	41	3.25
2000	220	2.15	75000	36	3.25
2500	200	2.15	100,000	31	3.58

TYPE 8½K—160-WATT

DIMENSIONS....................1⅛" x ¾" x 8½"
TERMINALS....................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 9½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$2.86	4500	185	$2.86
10	4000	2.86	5000	180	2.86
25	2530	2.86	7500	145	2.86
50	1788	2.86	10000	125	2.86
75	1460	2.86	15000	105	3.45
100	1260	2.86	20000	90	3.45
200	900	2.86	25000	80	3.45
500	570	2.86	30000	67	3.45
1000	400	2.86	35000	57	3.45
1500	330	2.86	40000	50	3.45
2000	280	2.86	50000	40	3.45
2500	250	2.86	60000	33	3.90
3000	230	2.86	70000	28	3.90
3500	215	2.86	80000	25	3.90
4000	200	2.86	100000	20	3.90

TYPE 10½K—200-WATT

DIMENSIONS....................1⅛" x ¾" x 10½"
TERMINALS....................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Onms	Max. M.A.	List Price
5	6310	$3.58	4500	210	$3.58
10	4470	3.58	5000	200	3.58
25	2830	3.58	7500	165	3.58
50	2000	3.58	10000	140	3.58
75	1635	3.58	15000	115	4.29
100	1400	3.58	20000	100	4.29
250	900	3.58	25000	90	4.29
500	630	3.58	30000	82	4.29
1000	450	3.58	35000	71	4.29
1500	365	3.58	40000	62	4.29
2000	315	3.58	50000	50	4.29
2500	280	3.58	60000	42	4.29
3000	260	3.58	75000	33	4.29
3500	240	3.58	100000	25	4.29
4000	225	3.58			

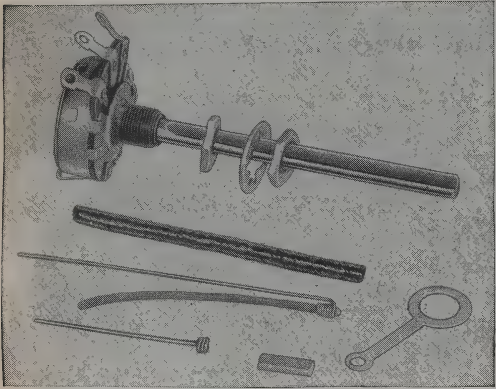
LECTROHM INSULATED WIRE-WOUND RESISTORS—1 WATT

LECTROHM
ONE WATT

Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.
100	100	750	36	2,500	20	9,000	10
125	89	800	35	3,000	18	10,000	10
150	81	900	33	3,500	16	12,500	9
200	70	1,000	31	4,000	15	15,000	8
250	63	1,100	30	4,500	14	16,000	7
300	57	1,200	28	5,000	14	17,500	7
350	53	1,250	28	6,000	12	18,000	7
400	50	1,500	25	7,000	11	20,000	7
500	44	1,750	23	7,500	11	22,500	6
600	40	2,000	22	8,000	11	25,000	6
700	37	2,250	21				

List Price, Each $0.33

MALLORY UNIVERSAL MIDGET CONTROLS AND SWITCHES



MR MIDGET CONTROLS WITH FIXED SHAFTS

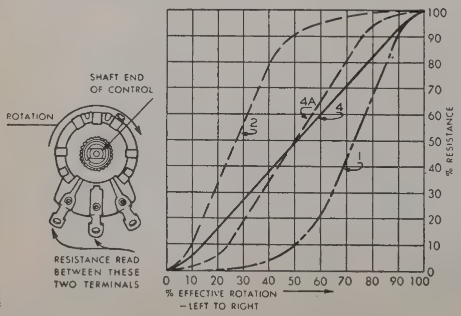
● Type MR's are midget replacement controls with fixed shaft, and are for use where special shafts and couplings are unnecessary. Channel shaft and insert fits all type knobs. Midget switches, listed at right are easily attached. Two No. 232 nuts, one No. 227 washer, and a ground terminal are included.

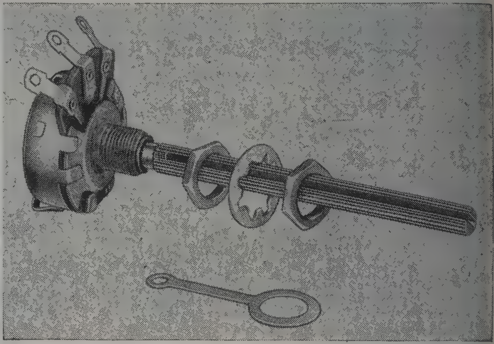
LIST PRICE $1.25 **(Switch is additional)**

Ohms Resistance	Taper	Cat. No.	Ohms Resistance	Taper	Cat. No.
5M	4A	MR14§	100M	1	MR39
10M	1	MR18§			
10M	2	MR19§	100M	2	MR40
10M	4	MR20§	100M	4	MR41
15M	1	MR21§	150M	1	MR42
15M	2	MR22§	250M	1	MR44
20M	1	MR24§	250M	2	MR45
25M	2	MR28§	500M	1	MR48
25M	4	MR29§	500M	4	MR50
50M	1	MR33	750M	1	MR51
50M	2	MR34§	1 Meg.	1	MR53
50M	4	MR35	2 Meg.	1	MR55
75M	1	MR36	3 Meg.	1	MR57
75M	2	MR37			

§External adjustable resistor included

TAPERS for MR, MK, UM Controls



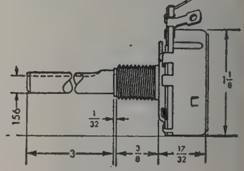


MK MIDGET CONTROLS WITH FIXED KNURLED SHAFTS

● Type MK's are midget replacement volume controls with a 3-inch universal knurled shaft for use in replacing original controls of this construction. Two No. 232 nuts, one No. 227 washer, and ground terminal are included. Attachable switches listed below.

Ohms Resistance	Taper	Catalog No.	List Price
250M	1	MK400	$1.25 (Switch is Additional)
500M	1	MK401	
1 Meg.	1	MK402	
2 Meg.	1	MK403	

Dimensions
Types
MR and MK
Controls

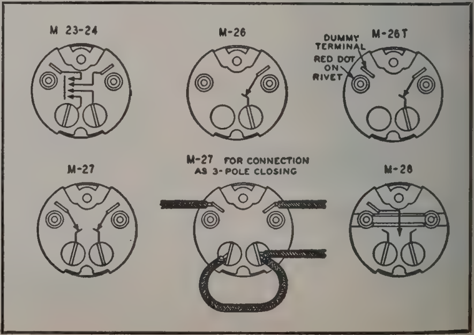


Attachable Switches for Midget Controls

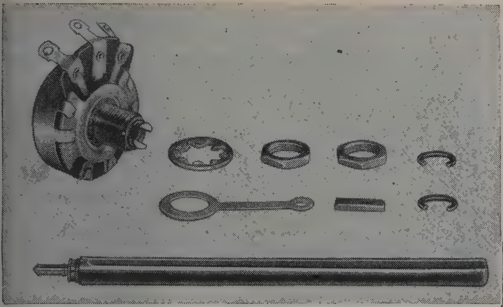
For use with MR, MK, UM, TM, MRT and DTM Controls

Cat. No.	Circuit Arrangement	List Price
M-26	Single-Pole—Single-Throw..........	$0.60
*M-26T	Single-Pole—Single-Throw..........	.75
M-27	Double-Pole—Single-Throw..........	.75
M-28	Single-Pole—Double-Throw..........	.75
M-23-24	Four-Pole—Single-Throw, Shorting...	.75

*Has dummy terminal identified by red dot.

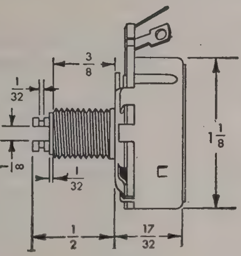


MALLORY UNIVERSAL MIDGET CONTROLS AND PLUG-IN SHAFTS



UM MIDGET CONTROLS WITH PLUG-IN SHAFT

● Type UM's offer a great advance in volume control servicing. Their usefulness is multiplied many times by a single set of the Plug-In Shafts shown at the right. One Type SS-1 shaft is packed with each control, along with two No. 232 nuts, one No. 227 washer, and a ground terminal. See page 14 for attachable switches.

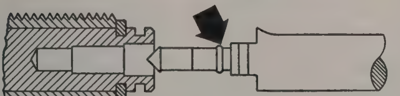

3/8
1/32
1 1/8
1/8
1/32
1/2
17/32

LIST PRICE $1.25 (Switch is additional)

Ohms Resistance	Taper	Cat. No.	Ohms Resistance	Taper	Cat. No.
5M	4A	UM114§	150M	1	UM144
10M	1	UM118§	250M	1	UM147
10M	2	UM119§			UM150*
10M	4	UM120§	250M	2	
15M	1	UM121§	250M	4	UM149
15M	2	UM122§	350M	1	UM151
20M	1	UM124§	500M	1	UM154
25M	2	UM128§			UM157*
25M	4	UM129§	500M	2	
50M	1	UM133	500M	4	UM156
50M	2	UM134§	750M	1	UM158
50M	4	UM135	1 Meg.	1	UM161
75M	1	UM137			UM162*
75M	2	UM138	1 Meg.	2	UM160
100M	1	UM140	1 Meg.	4	UM159
		UM143*	2 Meg.	Spec.	UM181‡
100M	2	UM141	2 Meg.	1	UM163
100M	4	UM142			
100M	Spec.	UM180‡	3 Meg.	1	UM165

*Clutch type controls—no provision for attachable switch.
§External adjustable resistor included.
‡Right hand switch action.

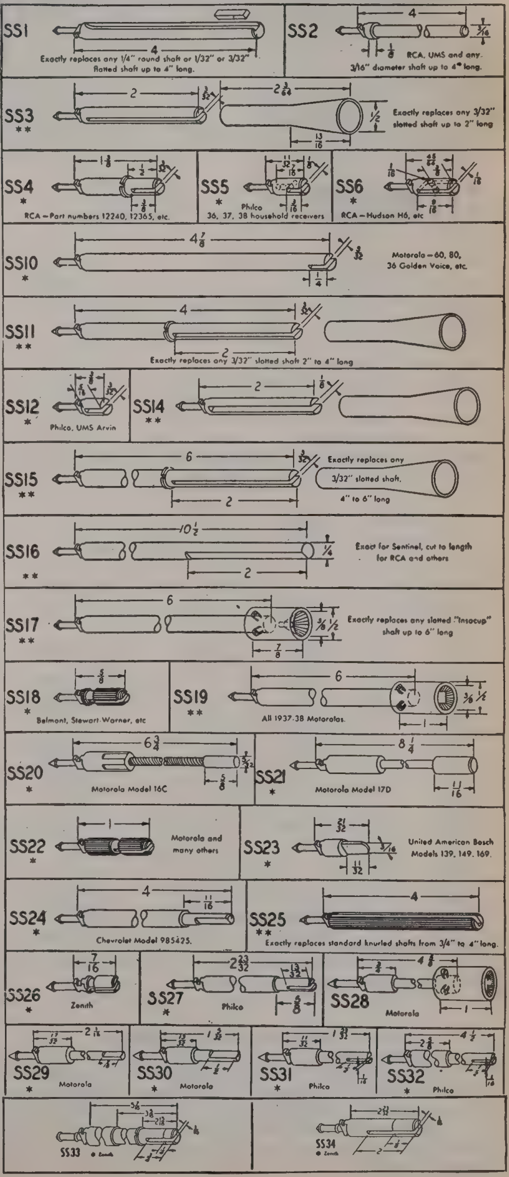
NO WOBBLE—*this ring prevents it!*



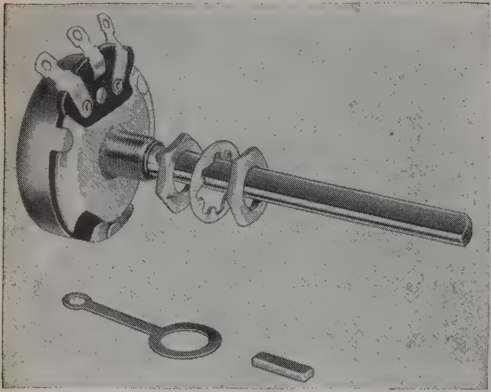
All Mallory plug-in shafts are now made with a small ring as shown in the drawing above. That's why they can't wobble or work loose—why they fit as securely as a fixed shaft.

Universal and Special Plug-In Shafts
for Use with Types UM, TM, and DTM Controls

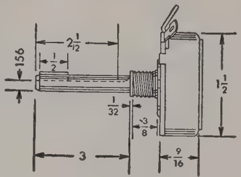
Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
SS1	$0.30	SS15	$0.45	SS25	$0.30
SS2	.30	SS16	.30	SS26	.30
SS3	.45	SS17	.65	SS27	.30
SS4	.30	SS18	.30	SS28	.65
SS5	.30	SS19	.65	SS29	.30
SS6	.30	SS20	.65	SS30	.30
SS10	.30	SS21	.45	SS31	.30
SS11	.45	SS22	.30	SS32	.30
SS12	.30	SS23	.30	SS33	.45
SS14	.45	SS24	.30	SS34	.65


SS1
4
Exactly replaces any 1/4" round shaft or 1/32" or 3/32" flatted shaft up to 4" long.
SS2
4
3/16
1/8
RCA, UMS and any 3/16" diameter shaft up to 4" long.
SS3 **
2
3/32
2 3/64
1/2
13/16
Exactly replaces any 3/32" slotted shaft up to 2" long
SS4 *
1 3/8
1/2
3/8
RCA—Part numbers 12240, 12365, etc.
SS5 *
Philco
36, 37, 38 household receivers
SS6 *
RCA—Hudson H6, etc
SS10 *
4 7/8
1/4
Motorola—60, 80, 36 Golden Voice, etc.
SS11 **
4
2
Exactly replaces any 3/32" slotted shaft 2" to 4" long
SS12 *
Philco, UMS Arvin
SS14 **
2
1/8
SS15 **
6
2
Exactly replaces any 3/32" slotted shaft. 4" to 6" long
SS16 **
10 1/2
1/4
2
Exact for Sentinel, cut to length for RCA and others
SS17 **
6
7/8
Exactly replaces any slotted "Insocup" shaft up to 6" long
SS18 *
5/8
Belmont, Stewart-Warner, etc
SS19 **
6
1
All 1937-38 Motorolas.
SS20 *
6 3/4
5/8
Motorola Model 16C
SS21 *
8 1/4
11/16
Motorola Model 17D
SS22 *
1
Motorola and many others
SS23 *
21/32
11/32
United American Bosch Models 139, 149, 169.
SS24 *
4
11/16
Chevrolet Model 985475.
SS25 **
4
Exactly replaces standard knurled shafts from 3/4" to 4" long.
SS26 *
7/16
Zenith
SS27 *
2 23/32
13/32
3/8
Philco
SS28
4 3/8
1
Motorola
SS29 *
2 1/16
Motorola
SS30 *
1 3/8
Motorola
SS31 *
1 31/32
Philco
SS32 *
4 1/2
2 3/8
Philco
SS33 ● Zenith
SS34 ● Zenith

MALLORY UNIVERSAL STANDARD CONTROLS AND SWITCHES



STANDARD CARBON CONTROLS



● Mallory standard (1½-inch diameter) controls have detachable end cover plates, 3-inch channel shaft which may be easily cut to desired length, and knob adapter. In common with other Mallory controls, they have the features that assure satisfaction: quiet, smooth operation . . . gradual attenuation and long life . . . easy installation. Supplied with two No. 232 nuts, one No. 227 washer, and ground terminal.

LIST PRICE $1.25 **(Switch is additional)**

Ohms Resistance	Taper	Cat. No.	Ohms Resistance	Taper	Cat. No.
5M	1	**E12§**	200M	4	**Y200MP**
5M	4	**Y5MP**	250M	1	**M** **UC511†**
7500	1	**F12§**			
10M	1	**G12§**	250M	2	**UC509§**
10M	2	**UC501§**	250M	4	**Y250MP**
10M	4	**Y10MP**	500M	1	**N** **UC512†**
15M	1	**H12§**			
20M	1	**Y§**	500M	2	**UC513**
25M	2	**J§**	500M	4	**Y500MP**
25M	4	**Y25MP**	750M	1	**UC503**
50M	1	**K12**	1 Meg.	1	**O** **UC514†**
50M	2	**K§**			
50M	4	**Y50MP**	1 Meg.	4	**Y1000MP**
75M	1	**Z12**	2 Meg.	1	**P**
75M	2	**Z§**			
100M	1	**L**	3 Meg.	1	**UC504**
			4 Meg.	1	**UC505**
100M	2	**UC510§**	5 Meg.	1	**UC506**
100M	4	**Y100MP**	5 Meg.	2	**UC507**
150M	1	**UC502**	9 Meg.	1	**UC508**

§External adjustable resistor included.
†Has slotted shaft for automobile receivers.

EXPLANATION OF TAPERS

● Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire wound type. This taper should always be used in shunt circuits as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

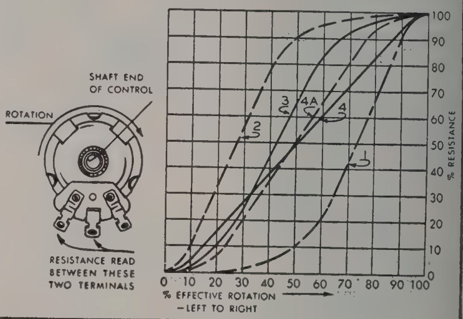
Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.

Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage is proportional to the degree of rotation.

Taper Number 4A is a modification of the regular linear taper Number 4.

Taper Number 7 is made only in the wire wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.

TAPERS for Standard Controls

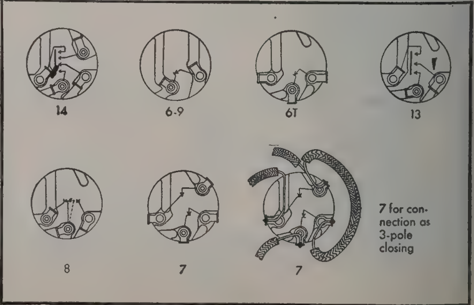


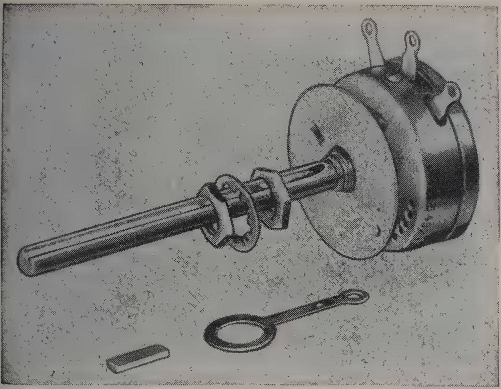
Attachable Switches (Standard)

For use with standard Universal Controls, Carbon and Wire Wound types, TRP Tapped Controls, and Universal Dual Controls.

Cat. No.	Circuit Arrangement	List Price
6-9	Single-Pole—Single-Throw	**$0.60**
***6T**	Single-Pole—Single-Throw	**.75**
7	Double-Pole—Single-Throw	**.75**
8	Single-Pole—Double-Throw	**.75**
13	Three-Pole—Single-Throw Shorting	**.75**
14	Four-Pole—Single-Throw Shorting	**.75**

*Has dummy terminal identified by copper rivet.





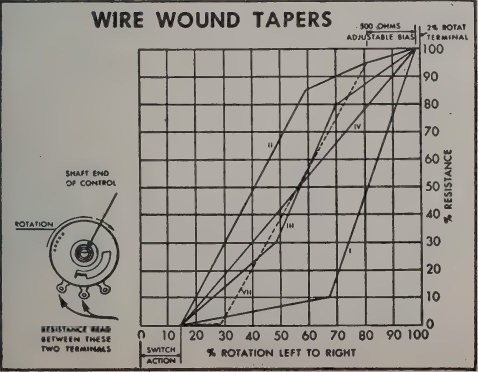
STANDARD WIRE-WOUND CONTROLS

● Mallory wire-wound controls have a nominal rating of 4 watts. Rugged resistance strip and contactor assemblies are completely enclosed in a dust-proof case. They have Universal channel shaft and insert to fit all types of knobs. Supplied with two No. 232 nuts, one No. 227 washer, and a ground terminal. See page 16 for attachable switches. Use Mallory dial plate No. 396 (Page 20) which compensates for rotation shorted out for switch action.

LIST PRICE $1.25 (Switch is additional)

Ohms Resistance	Taper	Cat. No.	Ohms Resistance	Taper	Cat. No.
2	4	**Q**	3000	1	**D12§**
6	4	**R**	3000	2	**D§**
10	4	**S**	3000	4	**A3MP§**
20	4	**T**	3000	7	**D7§**
30	4	**U**	4000	4	**A4MP**
60	4	**V**	5000	2	**E§**
100	4	**W**	5000	4	**A5MP§**
200	4	**X**	5000	7	**E7§**
400	4	**A400P**	7500	2	**F§**
500	1	**A**	7500	7	**F7§**
550	4	**A550P**	10000	2	**G§**
1000	1	**B**	10000	4	**A10MP§**
1000	2	**UC500**	10000	7	**G7§**
1000	4	**A1MP**	15000	2	**H§**
2000	1	**C12§**	15000	7	**H7§**
2000	2	**C§**	20000	4	**A20MP§**
2000	4	**A2MP§**			

§Have exclusive Mallory adjustable bias feature, providing 500 ohms in 100 ohm steps in all values over 1.000 ohms.


WIRE WOUND TAPERS

UNIVERSAL DUAL CONTROLS

(Carbon and Wire Wound Types)

● Mallory Universal Dual Controls consist of 2 single controls assembled together and driven by a single shaft. Shaft and insert fit all type knobs. Two No. 232 nuts, one No. 227 washer, and a ground terminal are included. Prices do not include switch or accessories. See Page 16 for attachable switches.

LIST PRICE $3.10 (Switch is additional)

Ohms Resistance		Taper		Type Element		General Use	Cat. No.
Front	Rear	Front	Rear	Front	Rear		
2M	5M	I	I	W. W.	W. W.	Ant. Shunt and Bias	**CE**
10M	5M	VII	IV	W. W.	W. W.	Ant. Shunt Bias or Screen	**GE**
10M	10M	VII	IV	W. W.	W. W.	Ant. Shunt Bias or Screen	**GG**
10M	50M	I	IV	Carbon	Carbon	Ant. Shunt Bias or Screen	**GK**
50M	50M	IV	IV	Carbon	Carbon	Grid Shunt and Cathode Control	**DRP 308**
100M	100M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	**LL**
100M	250M	I	I	Carbon	Carbon	Audio Shunt, Tone, Screen or RF Shunt	**LM**
250M	250M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	**MM**
250M	500M	I	I	Carbon	Carbon	Audio Shunt and Tone Compensation	**MN**
500M	500M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	**NN**

DTM · TRP DOUBLE TAPPED CONTROLS

● Type DTM's are midget (1⅛-inch diameter) controls with double tap and slotted shaft for use with the proper Type SS Plug-In Shaft for the individual application. One SS-1 shaft packed with each control. Two No. 232 nuts, one No. 227 washer, and a ground terminal are also included. See pages 14 and 15 for plug-in shafts and attachable switches.

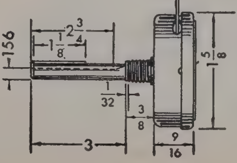
Type TRP's listed below are standard (1½-inch diameter) controls with double tap and fixed channel shaft and insert to fit all knobs. Same hardware included as with DTM's. See page 16 for attachable switches.

LIST PRICE $1.85 (Switch is additional)

Overall Resistance	Tap Resistance		Type DTM (1⅛″ dia.) Plug-In	Type TRP (1½″ Dia.)
	Tap 1	Tap 2		
44M	7M	14M		**TRP622**
250M	50M	100M	**DTM282**	
500M	100M	200M	**DTM283**	**TRP619**
1 Meg.	50M	100M	**DTM287**	
1 Meg.	250M	500M	**DTM289**	
1.5 Meg.	225 M	500M	**DTM291**	
2 Meg.	5M	500M	**DTM293**	
2.25 Meg.	250M	500M	**DTM295**	**TRP621‡** **TRP624**
2.25 Meg.	500M	1 Meg.	**DTM296**	
3 Meg.	100M	1.5 Meg.	**DTM298**	

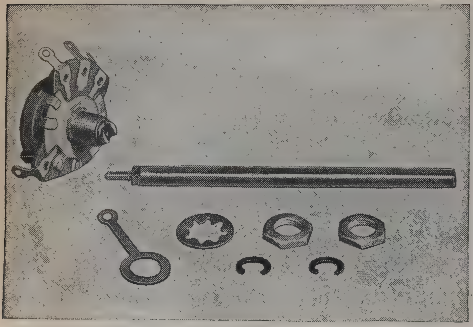
‡No provision for switch.

DIMENSIONS—Standard Wire-Wound Controls



NOTE: Controls on this page having taper numbers 1, 2 and 7 are intended primarily for replacement in radio receivers. Be sure to check the taper curve and its effect (see chart at left) before ordering for other uses. See pages 21 and 22 for industrial potentiometers and rheostats.

MALLORY MIDGET AND STANDARD TAPPED CONTROLS



TM MIDGET CONTROLS WITH SINGLE TAP (Plug-In Shaft)

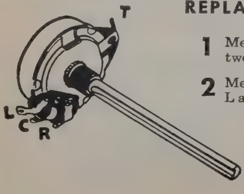
● Type TM's are universal single tapped midget controls (1⅛-inch diameter) with slotted shafts to take the proper SS Plug-In shafts (shown on page 15) selected for the individual application. One SS-1 shaft is included with each TM, as well as two No. 232 nuts, one No. 227 washer and a ground terminal. See page 14 for attachable switches.

LIST PRICE $1.85 (Switch is additional)

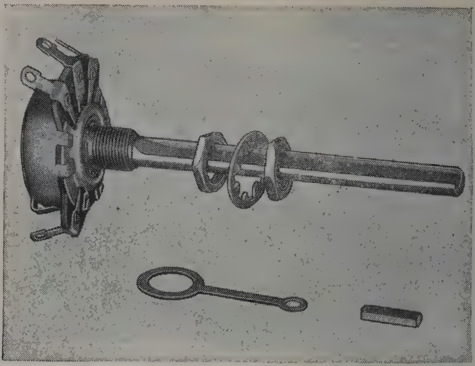
Overall Resistance	Tap Resistance	Type TM (Plug-In)	Type MRT (Fixed Shaft)
250M	50M	TM220	MRT420
250M	110M	TM221 TM222*	
350M	70M	TM225 TM223*	MRT425
500M	5M	TM228	MRT428
500M	15M	TM226	MRT426
500M	60M	TM233	
500M	100M	TM224* TM227	MRT427
500M	150M	TM230	MRT430
500M	225M	TM231 TM232*	MRT431
1 Meg.	65M	TM234	
1 Meg.	125M	TM236	MRT436
1 Meg.	200M	TM240 TM241*	MRT440
1 Meg.	300M	TM238 TM239*	MRT438
1 Meg.	450M	TM242* TM243	MRT443
1 Meg.	500M		MRT460
1.5 Meg.	200M	TM244	
2 Meg.	5M	TM245	MRT445
2 Meg.	15M	TM246	MRT446
2 Meg.	60M	TM247	MRT447
2 Meg.	125M	TM250	MRT450
2 Meg.	250M	TM248	MRT448
2 Meg.	400M	TM254	MRT454
2 Meg.	600M	TM249	MRT449
2 Meg.	900M	TM251 TM252*	MRT451
2 Meg.	900M	TM259	
3 Meg.	900M	TM257	
5 Meg.	1 Meg.	TM261	

*Clutch type controls—no provision for attachable switch.

TO SELECT A MALLORY TAPPED REPLACEMENT CONTROL:

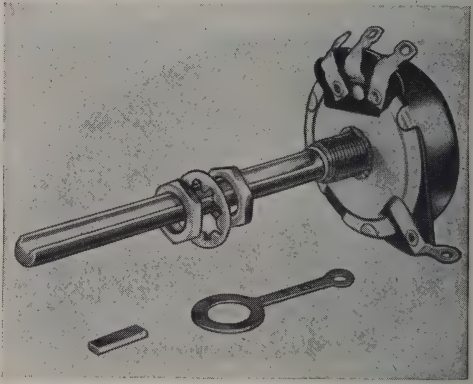


1. Measure overall resistance between L and R on old control.
2. Measure Tap resistance between L and T on old control.
3. Select Mallory Tapped replacement control having values nearest both those of the original.



MRT MIDGET CONTROLS WITH SINGLE TAP (Fixed Shaft)

Type MRT's are midget (1⅛-inch diameter) controls with single tap and fixed shaft for use in home radio receiver applications. Easy-to-cut channel shaft and insert fits all types of knobs. Midget switches listed on page 14 are easily attached. Two No. 232 nuts, one No. 227 washer and a ground terminal are included.



TRP STANDARD CONTROLS WITH SINGLE TAP

LIST PRICE $1.85

● Type TRP's are universal standard (1½-inch diameter) controls with single tap and fixed shaft. Where required shaft lengths are three inches or less, the TRP replaces large original controls using set screw or spring type knobs. Two No. 232 nuts, one No. 227 washer and a ground terminal are included. Attachable switches are shown on page 16.

Overall Resistance	Tap Resistance	Cat. No.	Overall Resistance	Tap Resistance	Cat. No.
40M	8M	TRP601	1 Meg.	30M	TRP610
60M	4M	TRP602	1 Meg.	200M	TRP608
60M	12M	TRP617	1 Meg.	500M	TRP609††
250M	50M	TRP623	2 Meg.	15M	TRP612
250M	110M	TRP603	2 Meg.	250M	TRP618
			2 Meg.	400M	TRP613
350M	20M	TRP604	2 Meg.	900M	TRP620
350M	70M	TRP605 TRP614†	3 Meg.	900M	TRP615
500M	60M	TRP616			
500M	100M	TRP606			
500M	225M	TRP607			

†Has slotted shaft for automobile receivers.
††Special taper for fader service.

MALLORY SPECIAL SINGLE AND DUAL CONTROLS

SRP STANDARD SPECIAL SINGLE CONTROLS

● Type SRP's are standard size Special Single Replacement Controls for use where the physical or electrical requirements of the original control cannot readily be met by Mallory controls of universal design. They should be used in accordance with the specific replacement recommendations of the 5th Edition Mallory Radio Service Encyclopedia.

Catalog Number	Ohms Resistance	Type Element	List Price
SRP134	4500	W. W.	**$1.85**
SRP142	2900	W. W.	**1.85**
SRP152	60	W. W.	**1.85**
SRP153	13M	W. W.	**1.85**
SRP154	50M	Carbon	**1.85**
SRP170	75M	Carbon	**1.85**
SRP179	125M	Carbon	**1.85**
SRP185	1500	Carbon	**1.85**
SRP188	32M	Carbon	**1.85**
SRP213	250M	Carbon	**1.85**
SRP239	450	W. W. Strip	**.60**
SRP241	6M	W. W. Strip	**.60**
SRP245	32M	Carbon	**1.85**
SRP251	350M	Carbon	**1.85**
SRP255	15M	W. W.	**1.85**
SRP259	50M	Carbon	**1.85**
SRP261	100M	Carbon	**1.85**
SRP262	1500	W. W.	**1.85**
SRP263	32M	Carbon	**1.85**
SRP265	200	W. W.	**1.85**
SRP267	8M	W. W.	**1.85**
SRP269	10M	Carbon	**1.85**
SRP279	50M	Carbon	**1.85**
SRP282	350M	Carbon	**1.85**
SRP283	2500	W. W.	**1.85**
SRP286†	250M	Carbon	**1.85**
SRP288	100M	Carbon	**1.85**
SRP289	50M	Carbon	**1.85**
SRP290	1 Meg	Carbon	**1.85**
SRP900	20M	Carbon	**1.85**
SRP901	10M	Carbon	**1.85**
SRP960	800	W. W.	**1.85**
SRP961	10M	Carbon	**1.85**

†Right hand switch action.

SMD MIDGET SPECIAL DUAL CONTROLS

● Type SMD's are midget size (1⅛-inch diameter) Special Dual Controls with fixed concentric shaft and switch. They are designed to meet exact physical and electrical replacement facilities for specific applications as listed in the 5th Edition Mallory Radio Service Encyclopedia.

Res. Front	Res. Rear	Tap At	Catalog Number	List Price
2 Meg.	2 Meg.		**SMD500**	**$3.75**
2 Meg.	1 Meg.	Front 500M	**SMD501**	**3.75**
250M	1 Meg.	Rear 250M	**SMD502**	**3.75**
2 Meg.	1 Meg.	Front 500M	**SMD503**	**3.75**
250M	500M	Front 50M	**SMD504**	**3.75**
250M	1 Meg.	Rear 300M	**SMD505**	**3.75**
500M	1 Meg.	Rear 200M	**SMD506**	**3.75**
500M	350M	Rear 70M	**SMD507**	**3.75**
30M	1 Meg.	Rear 450M	**SMD508**	**3.75**
2 Meg.	500M	Front 900M	**SMD509**	**3.75**
1 Meg.	500M	Front 300M	**SMD510**	**3.75**
1 Meg.	350M	Rear 70M	**SMD511**	**3.75**
1 Meg.	350M	Rear 70M	**SMD512**	**3.75**

SM MIDGET SPECIAL SINGLE CONTROLS

● Type SM's are midget size (1⅛-inch diameter) Special Single Controls to be used, as with Type SRP's, according to replacement recommendations listed in the 5th Edition Mallory Radio Service Encyclopedia.

Resistance Value	Tap at	Catalog Number	List Price
350M	75M	**SM300**	**$2.50†**
2 Meg.	500M	**SM301**	**2.50†**
500M	No Tap	**SM302**	**2.50†**
6 Meg.	No Tap	**SM303**	**1.85**
1 Meg.	200M	**SM304**	**2.50†**
1 Meg.	875M	**SM305**	**2.50†**
1 Meg.	550M	**SM306**	**2.50†**
2 Meg.	250M	**SM307**	**1.85**
1 Meg.	200M	**SM308**	**1.85**
2 Meg.	600M	**SM309**	**2.50†**
2 Meg.	125M	**SM310**	**1.85**
1 Meg.	300M	**SM311**	**2.50†**
250M	No Tap	**SM312**	**2.50†**
250M	No Tap	**SM313**	**2.50†**
350M	35M	**SM316**	**1.85**
2.25 Meg.	500M & 1 Meg.	**SM317**	**2.50†**

†Includes SPST switch permanently attached to control.

DRP STANDARD SPECIAL DUAL CONTROLS

● Type DRP's are standard size (1½-inch diameter) Special Dual Controls for specific applications as listed in the 5th Edition Radio Service Encyclopedia. They are designed to provide exact physical and electrical characteristics of the original control.

Catalog Number	Ohms Resistance		Type Element		List Price
	Front	Rear	Front	Rear	
DRP114	250	5M	W. W.	W. W.	**$3.10**
DRP115	3800	3800	Carbon	Carbon	**3.10**
DRP116	25700	10000	W. W.	W. W.	**3.10**
DRP117	500	2500	W. W.	W. W.	**3.10**
DRP119	3M	10M	W. W.	W. W.	**3.10**
DRP122	645	10M	W. W.	W. W.	**3.10**
DRP169	7500	10M	W. W.	W. W.	**3.10**
DRP221	10M	100M	Carbon	Carbon	**3.10**
DRP222	75M	32M	Carbon	Carbon	**3.10**
DRP232	3 Meg.	3 Meg.	Carbon	Carbon	**3.10**
DRP239	25M	25M	Carbon	Carbon	**3.10**
DRP240	250M	10M	Carbon	Carbon	**3.10**
DRP244	25M	6M	Carbon	Carbon	**3.10**
DRP246	32M	50M	Carbon	Carbon	**3.10**
DRP250	50M	1M	Carbon	Carbon	**3.10**
DRP301	5M	2500	Carbon	W. W.	**3.10**
DRP302	10M	250M	Carbon	Carbon	**3.10**
DRP304	1 Meg.	3 Meg.	Carbon	Carbon	**3.10**
DRP306	5M	10M	W. W.	Carbon	***3.75**
DRP308	50M	50M	Carbon	Carbon	**3.10**
DRP311	150M	250M tapped 160M	Carbon	Carbon	**3.10**
DRP314	500M	2500	Carbon	Carbon	**3.10**
DRP315	2 Meg.	2500	Carbon	Carbon	**3.10**
DRP317	500M	1M	Carbon	Carbon	**3.10**
DRP318	250M	3 Meg.	Carbon	Carbon	**3.10**

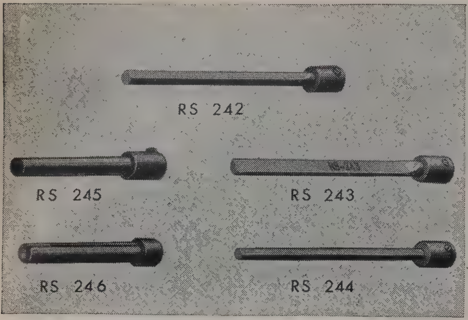
*Price includes Switch.

MALLORY 5th Edition

RADIO SERVICE ENCYCLOPEDIA

480 pages of replacement information for all pre-war receivers . . . . **Net Price, $1.25**

MALLORY VOLUME CONTROL ACCESSORIES

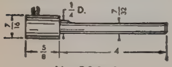

RS 242
RS 245
RS 243
RS 246
RS 244

RS UNIVERSAL EXTENSION SHAFTS

Description	Cat. No.	List Price
4″ long x ¼″ dia. x 1/32″ flat	RS242*	$ .40 ea.
4″ long x ¼″ dia. x 3/32″ flat	RS243*	.40 ea.
4″ long x 3/16″ dia. x 1/64″ flat	RS244*	.40 ea.
2″ long x ¼″ dia. with 3/32″ slot (Enclosed in tight-fitting tube) For adapting Universal Controls to automobile receivers when slotted shaft is needed.	RS245*	.45 ea.
2″ long x ¼″ wide x 3/32″ thick (Tongue shape and fitted with tube) For adapting Universal Controls to automobile receivers where tongue-shaped shaft is needed.	RS246*	.45 ea.

*Packed 5 to Envelope.

SHAFT DIMENSIONS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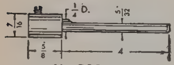
7/32
7/16
5/8
4

No. RS 242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5/32
7/16
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4

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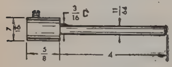
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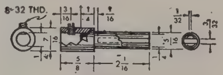
No. RS 244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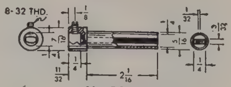
2 1/16
1/4

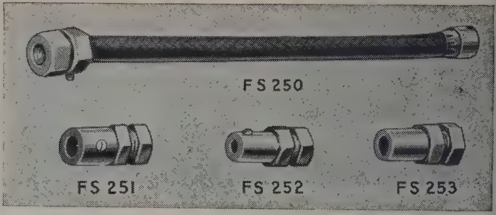
No. RS 245


8-32 THD.
1/8
1/32
3/32
7/16
1/4
5/16
1/4
11/32
2 1/16
1/4

No. RS 246

DIAL PLATES FOR CONTROLS, RHEOSTATS AND POTENTIOMETERS

Marking	For Type of Control	Dia.	Cat. No.	List Price
0 to 10	For Standard Carbon Controls with switch type cover	2¼″	398	$0.25
0 to 10	For Standard Carbon Controls with plain cover	2¼″	397	.25
0 to 10	For Standard Wire Wound Controls with switch type cover	2¼″	396	.25
0 to 10	For Standard Wire Wound Controls with plain cover; also "M" Type Rheostats and Potentiometers	2¼″	395	.25
0 to 10	For "C" Type Rheostats and Potentiometers	2¼″	393	.25
0 to 10	For "E" Type Potentiometers	2¼″	399	.25
0 to 100	All Rheostats and Potentiometers (compromise scale)	2¼″	369	.25
Increase Volume	All Rheostats and Potentiometers	1½″	391	.15

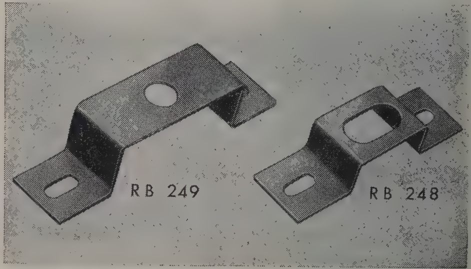

FS 250
FS 251
FS 252
FS 253

FS UNIVERSAL FLEXIBLE COUPLING SHAFTS

Description	Cat. No.	List Price
For Universal replacement of all flexible wire shafts, coupling to ¼″ solid shafts	FS250	$ .75
Shaft Coupling has 7/32″ hole, ½″ deep, with transverse pin, and is for use (with the correct Mallory control) as a replacement for Philco Models 805, 806, 808, 809 and PHD and PHXD, Studebaker AC266, Pierce-Arrow MT-3, Reo RT-3, etc.	FS251	.75
Shaft Coupling has 5/32″ hole, approximately ½″ deep, and has 2 set screws opposite each other. It is used as a replacement for Philco Model D, Nash AC-989 (Code 122)	FS252	.75
Shaft Coupling has ¼″ dia. hole, ½″ deep, equipped with 2 screws at 90 degrees. This is to be used with the correct Mallory Control as a replacement for Chevrolet No. 364441	FS253	.75

NUTS HEXAGON SHOULDER TYPE FOR MOUNTING

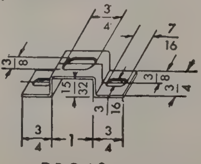
Description	Cat. No.	List Price
For ¾″ Panels	255	$ .20
For ½″ Panels	A11260-12	.25
For ¼″ Panels	A11260-2	.30


RB 249
RB 248

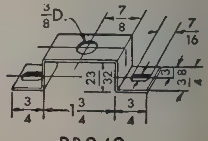
RB ADJUSTABLE MOUNTING BRACKETS

Description	Cat. No.	List Price
1¾″ Mounting Centers	RB248†	.25 ea.
2½″ Mounting Centers	RB249†	.25 ea.

†Packed 5 to Box.

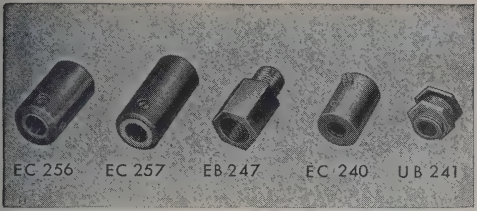

3/4
7/16
3/8
15/32
3/8
3/4
3/16
3/4
1
3/4

RB248


3/8 D.
7/8
7/16
23/32
3/8
3/4
3/4
1 3/4
3/4

RB249

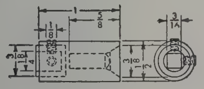
MALLORY ACCESSORIES, RHEOSTATS, POTENTIOMETERS



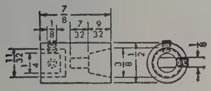
EC · EB · UB SHAFT COUPLERS AND BUSHINGS

Description	Cat. No.	List Price
Universal Combination Extension Shaft Coupling and Reducer: Will couple two ¼″ shafts or one ¼″ shaft and one ³⁄₁₆″ shaft	EC240	$ .30
Universal Insulated Shaft Couplers: Designed to connect fixed shaft controls to remote drive couplings popular in automotive radio equipment.		
Slotted Insacup	EC256	.30
Square Insert Insacup (Motorola type)	EC257	.30
Universal Extension Bushing: Designed to screw on the present bushing of Mallory controls and switches, so that the body of the control or switch will be held ⅝″ away from the mounting surface For example, it is used with the correct Universal Control to service Philco Models 28, 29, 45 and 45C	EB247	.25
Universal Bushing and Nut: Designed to accommodate ¼″ shaft where ever a panel bushing is desired. Includes one No. 232 nut. Packed 10 in Envelope.	UB241	.95 for 10

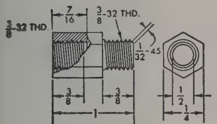
DIMENSIONS— SHAFT COUPLERS AND BUSHINGS



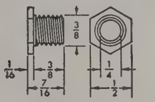
EC 257



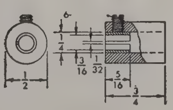
EC 256



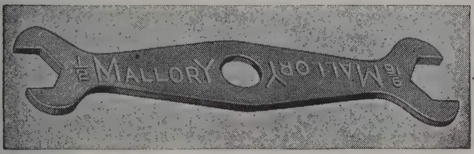
EB 247



UB 241

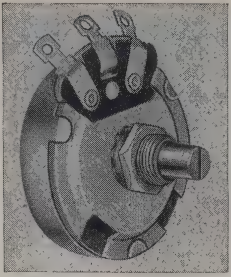


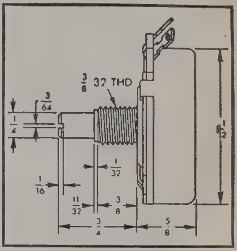
EC 240



WRENCH FOR VOLUME CONTROL NUTS

Description	Cat. No.	List Price
For all standard Volume Control Hexagon Nuts, ½-inch to ⁹⁄₁₆-inch diameters	178	$ .25



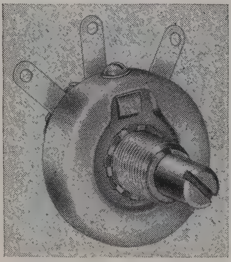


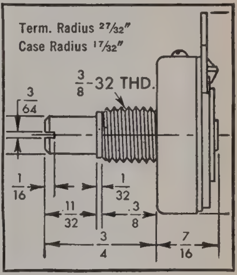
B CARBON TYPE VARIABLE RESISTORS

No. 4 (Linear) Taper

● Type B variable resistors are standard size (1½-inch) carbon type controls with a nominal rating of one watt. All units have plain cover, slot for screw-driver adjustment (conventional knob may also be used on shaft), one No. 232 nut and one No. 227 washer. See page 20 for dial plates.

Ohms Resistance	Catalog Number	List Price
5,000	B5MP	$1.25
10,000	B10MP	1.25
25,000	B25MP	1.25
50,000	B50MP	1.25
100,000	B100MP	1.25
250,000	B250MP	1.25
500,000	B500MP	1.25
1 Meg.	B1000MP	1.25





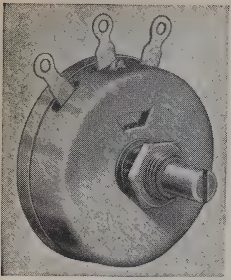
C WIRE-WOUND TYPE VARIABLE RESISTORS

● Small size — 1¹⁄₃₂-inch diameter; full two watts normal rating (entire element) for continuous operation; available only in No. 4 (linear) taper; grounded contact arm; total rotation, 284°; total effective (electrical) rotation, 266°; one No. 232 nut supplied with each unit. Use dial plate No. 393, shown on page 20.

Ohms Resistance	Carrying Capacity in Amps.	Potentiometer Catalog Number	List Price	Rheostat* Catalog Number	List Price
6	.58	C6P	$1.25	C6R	$1.00
10	.45	C10P	1.25	C10R	1.00
15	.37	C15P	1.25	C15R	1.00
20	.32	C20P	1.25	C20R	1.00
30	.26	C30P	1.25	C30R	1.00
40	.22	C40P	1.25	C40R	1.00
50	.2	C50P	1.25	C50R	1.00
100	.14	C100P	1.25	C100R	1.00
200	.1	C200P	1.25		
400	.07	C400P	1.25		
1M	.045	C1MP	1.40		
3M	.025	C3MP	1.40		
5M	.02	C5MP	1.65		
6M	.018	C6MP	1.65		
10M	.014	C10MP	1.65		
15M	.011	C15MP	1.65		

*"Open" or "off" position counter-clockwise.

MALLORY INDUSTRIAL RHEOSTATS · POTENTIOMETERS



M

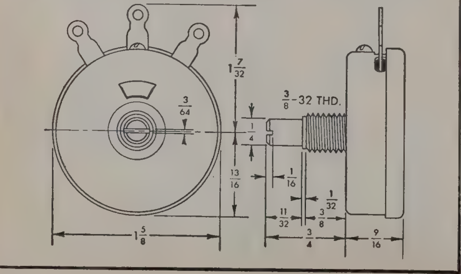
WIRE-WOUND TYPE VARIABLE RESISTORS

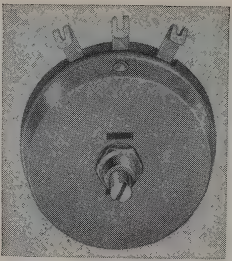
● Type M's are precision wire-wound potentiometers and rheostats with a normal rating of 4 watts, widely used in instruments where reliability is paramount. Ruggedly constructed—terminals are clamped under a live spring pressure of 600 lbs; resistance wire welded to terminals; silver-to-silver contact in time-tested design. Rheostats feature "off" position (no connection) type of construction which saves cost of switch. All Type M's have insulated contact arm, 294° rotation, 279° effective electrical rotation. One No. 232 nut included. See page 20 for No. 395 dial plate.

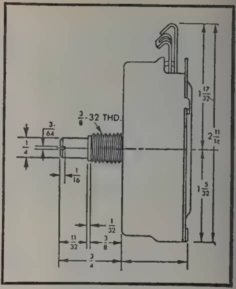
3 Terminal—Potentiometer
2 Terminal—Rheostat with "Off" Position

Ohms Resistance	Carrying Capacity in Amps.	Potentiometer Catalog Number	List Price	Rheostat* Catalog Number	List Price
½	2.80			M05R	$1.00
1	2.00	M1P	$1.25	M1R	1.00
2	1.4			M2R	1.00
3	1.15	M3P	1.25	M3R	1.00
4	1.00			M4R	1.00
6	.82	M6P	1.25	M6R	1.00
10	.63	M10P	1.25	M10R	1.00
15	.52	M15P	1.25	N15R	1.00
20	.45	M20P	1.25	M20R	1.00
25	.40	M25P	1.25	M25R	1.00
30	.37	M30P	1.25	M30R	1.00
40	.32	M40P	1.25	M40R	1.00
50	.28	M50P	1.25	M50R	1.00
60	.26	M60P	1.25	M60R	1.00
75	.23	M75P	1.25	M75R	1.00
100	.20	M100P	1.25	M100R	1.00
200	.14	M200P	1.25		
400	.10	M400P	1.25		
500	.09	M500P	1.25		
600	.082	M600P	1.25		
1M	.063	M1MP	1.40		
2M	.045	M2MP	1.40		
3M	.037	M3MP	1.40		
4M	.032	M4MP	1.40		
5M	.028	M5MP	1.40		
10M	.020	M10MP	1.65		
15M	.016	M15MP	1.65		
20M	.014	M20MP	1.65		
25M	.013	M25MP	1.65		
50M	.009	M50MP	1.95		
70M	.0075	M70MP	1.95		

M WIRE-WOUND RESISTOR — DIMENSIONS



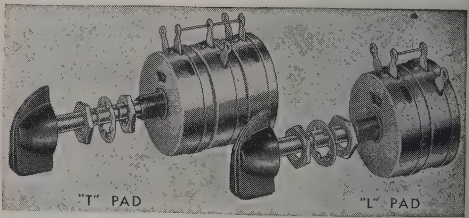




E WIRE-WOUND TYPE POTENTIOMETERS

● Type E potentiometers, supplied with grounded contact arm, are particularly suitable for precision instruments such as resistance bridges, in addition to their usefulness as a medium current or voltage control. Dissipate 7 watts. 310° total rotation; 299° effective electrical rotation. Prices include one No. 232 nut. Type E's use No. 399 dial plate. See page 20.

Ohms Resistance	Carrying Capacity in Amps.	Catalog Number	List Price
5M	.042	E5MP	$3.00
10M	.03	E10MP	3.00
20M	.021	E20MP	3.00
25M	.019	E25MP	3.25
50M	.0135	E50MP	3.25
75M	.011	E75MP	3.25
100M	.0095	E100MP	3.25
125M	.0085	E125MP	3.25
150M	.0078	E150MP	3.25



ATTENUATORS "T" PADS "L" PADS

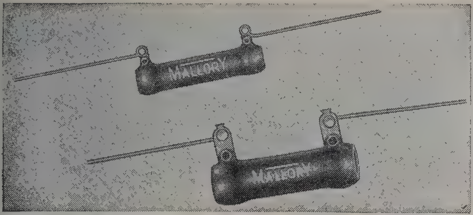
● Specially designed to provide a convenient and simple method of controlling the level of low impedance audio circuits, and for volume control of microphones, electrical phonographs, talking picture amplifiers, and many varied sound amplifying and audio distribution systems.

These attenuators have a continuous DC dissipation rating of 4 watts in any position. They may be used with audio amplifiers having a peak audio rating of 15 watts.

Individually cartoned complete with No. 366 Bar Knob, No. 395 Dial Plate with matched rotation, two No. 232 Mounting Nuts, and one No. 227 Washer. Round shafts notched at ⅜-inch intervals for easy cutting.

Ohms Impedance	"T" Pad Attenuators		"L" Pad Attenuators	
	Catalog Number	List Price	Catalog Number	List Price
6	T6	$4.25	L6	$3.75
8	T8	4.25		
15	T15	4.25	L15	3.75
50	T50	4.25	L50	3.75
200	T200	4.25	L200	3.75
250	T250	4.25	L250	3.75
500	T500	4.25	L500	3.75
2000	T2000	4.25	L2000	3.75

MALLORY VITREOUS ENAMELED FIXED RESISTORS



1HJ

FIXED RESISTORS

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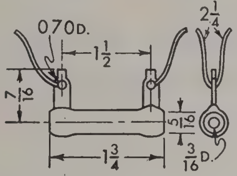

10-WATT RATING

(On Values to 25,000 Ohms inclusive) Size: 5/16 x 1¾ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	3150	3	1HJ1	$0.59
2	2200	4.5	1HJ2	.59
3	1800	5.5	1HJ3	.59
4	1580	6.3	1HJ4	.59
5	1400	7	1HJ5	.59
7.5	1150	8.5	1HJ7.5	.59
10	1000	10	1HJ10	.59
12	910	11	1HJ12	.59
15	812	12	1HJ15	.59
20	707	14	1HJ20	.59
25	630	16	1HJ25	.59
30	575	17.3	1HJ30	.59
35	530	19	1HJ35	.59
40	500	20	1HJ40	.59
50	447	22	1HJ50	.59
75	360	27	1HJ75	.59
100	315	31	1HJ100	.59
125	280	35	1HJ125	.59
150	260	39	1HJ150	.59
200	220	44	1HJ200	.59
225	210	47.5	1HJ225	.59
250	200	50	1HJ250	.59
300	180	55	1HJ300	.59
350	170	59	1HJ350	.59
400	158	63	1HJ400	.59
450	150	67	1HJ450	.59
500	141	70	1HJ500	.59
600	130	77	1HJ600	.59
700	120	83.5	1HJ700	.59
750	115	85	1HJ750	.59
800	112	89	1HJ800	.59
900	105	95	1HJ900	.59
1000	100	100	1HJ1000	.59
1100	95	105	1HJ1100	.59
1200	91	110	1HJ1200	.59
1250	89	111	1HJ1250	.59
1500	81	122	1HJ1500	.59
1750	75.5	132	1HJ1750	.59
2000	70	141	1HJ2000	.59
2250	66.5	150	1HJ2250	.59
2500	63	158	1HJ2500	.59
3000	56	173	1HJ3000	.59
3500	53	185	1HJ3500	.59
4000	50	200	1HJ4000	.59
4500	47	212	1HJ4500	.59
5000	45	224	1HJ5000	.59
6000	40	240	1HJ6000	.59
7000	38	264	1HJ7000	.59
7500	36	270	1HJ7500	.59
8000	35	282	1HJ8000	.59
8500	34	291	1HJ8500	.59
10000	31.6	316	1HJ10000	.59
11000	30	332	1HJ11000	.59
12000	29	346	1HJ12000	.65
12500	28	350	1HJ12500	.65
13500	26	350	1HJ13500	.65
14300	24.5	350	1HJ14300	.65
15000	23	350	1HJ15000	.65
16000	22	350	1HJ16000	.65
17500	20	350	1HJ17500	.65
18000	19.5	350	1HJ18000	.65
20000	17.5	350	1HJ20000	.65
22500	15.5	350	1HJ22500	.65
25000	14	350	1HJ25000	.65
30000*	11.5	350	1HJ30000	.65
35000*	10.5	374	1HJ35000	.65
40000*	10	400	1HJ40000	.65
45000*	9.5	424	1HJ45000	.65
50000*	9	447	1HJ50000	.65

● Long considered standard by the industry, Mallory Vitreous Enamel Resistors in both the fixed and variable types are improved by war-born developments that mean even greater reliability, better appearance, greater accuracy—at no increase in price. Wound with an accuracy of ±5% (±10% for values of 50 ohms and less), these distinctive blue-coated resistors are capable of withstanding severe salt spray tests. Provided with a true vitreous enamel coating—a glossy covering that is impervious alike to the effects of moisture, fumes and heat. Baked at a temperature of 1200°F during manufacture.

2HJ · 5HJ

20 WATT · 50 WATT FIXED RESISTORS

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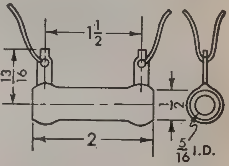


20-WATT RATING

(On Values to 35,000 Ohms inclusive) Size: ½ x 2 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	2000	10	2HJ5	$0.91
10	1415	14	2HJ10	.91
15	1153	17	2HJ15	.91
25	895	22	2HJ25	.91
50	633	31	2HJ50	.91
75	517	38	2HJ75	.91
100	447	44	2HJ100	.91
150	365	54	2HJ150	.91
200	316	63	2HJ200	.91
250	283	72	2HJ250	.91
300	258	77	2HJ300	.91
400	224	90	2HJ400	.91
500	200	100	2HJ500	.91
750	163	122	2HJ750	.91
1000	141	141	2HJ1000	.91
1250	126	157	2HJ1250	.91
1500	115	173	2HJ1500	.91
1750	107	187	2HJ1750	.91
2000	100	200	2HJ2000	.91
2250	94	211	2HJ2250	.91
2500	89	222	2HJ2500	.91
2750	85	235	2HJ2750	.91
3000	81	243	2HJ3000	.91
3500	75	262	2HJ3500	.91
4000	71	284	2HJ4000	.91
4500	66	300	2HJ4500	.91
5000	63	315	2HJ5000	.91
6000	57	345	2HJ6000	.91
7500	51	387	2HJ7500	.91
10000	44	446	2HJ10000	.91
12500	40	500	2HJ12500	.91
15000	33	500	2HJ15000	.91
20000	25	500	2HJ20000	1.11
25000	20	500	2HJ25000	1.11
30000	16.7	500	2HJ30000	1.11
35000	14.3	500	2HJ35000	1.11
40000*	13.3	530	2HJ40000	1.11
50000*	11.8	590	2HJ50000	1.11
75000*	9.7	725	2HJ75000	1.43
100000*	8.3	835	2HJ100000	1.43

50-WATT RATING

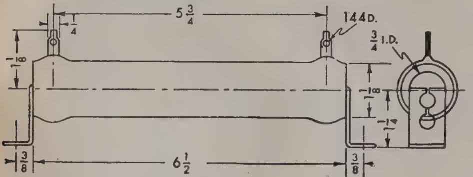
Size: ¾ x 4½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2240	22	5HJ10	$1.56
25	1415	35.4	5HJ25	1.56
50	1000	50	5HJ50	1.56
100	707	70	5HJ100	1.56
250	447	111	5HJ250	1.56
500	316	158	5HJ500	1.56
750	258	192	5HJ750	1.56
1000	224	224	5HJ1000	1.56
1500	183	275	5HJ1500	1.56
2000	158	316	5HJ2000	1.56
2500	141	354	5HJ2500	1.56
5000	100	500	5HJ5000	1.56
7500	81	610	5HJ7500	1.82
10000	70	700	5HJ10000	1.82
12500	63	790	5HJ12500	1.82
15000	57	850	5HJ15000	1.82
20000	50	1000	5HJ20000	1.82
25000	40	1000	5HJ25000	1.82
30000	33	1000	5HJ30000	2.08
40000	25	1000	5HJ40000	2.08
50000	20	1000	5HJ50000	2.08
75000	13	1000	5HJ75000	2.08
100000	10	1000	5HJ100000	2.08

*We stock these high resistance values only in the more economical low temperature enamel coating because operating voltages normally encountered rarely exceed the values listed.

P.R.MALLORY & CO Inc. MALLORY FIXED AND ADJUSTABLE RESISTORS

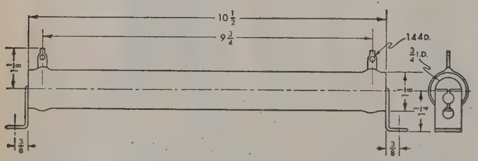
10HJ · 20HJ 100 WATT · 200 WATT FIXED RESISTORS



100-WATT RATING

Size: 1⅛ x 6½ Tube

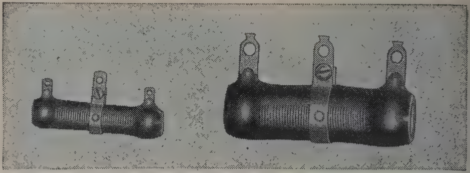
Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2000	50	10HJ25	$2.15
50	1414	70	10HJ50	2.15
75	1155	85	10HJ75	2.15
100	1000	100	10HJ100	2.15
150	815	120	10HJ150	2.15
250	632	158	10HJ250	2.15
500	447	220	10HJ500	2.15
750	365	275	10HJ750	2.15
1000	316	315	10HJ1000	2.15
1500	258	385	10HJ1500	2.15
2000	223	447	10HJ2000	2.15
2500	200	500	10HJ2500	2.15
5000	141	700	10HJ5000	2.15
7500	115	865	10HJ7500	2.54
10000	100	1000	10HJ10000	2.54
15000	80	1200	10HJ15000	2.54
20000	70	1400	10HJ20000	2.54
25000	60	1500	10HJ25000	2.54
30000	50	1500	10HJ30000	2.86
40000	37	1500	10HJ40000	2.86
50000	30	1500	10HJ50000	2.86
75000	20	1500	10HJ75000	3.25
100000	15	1500	10HJ100000	3.58



200-WATT RATING

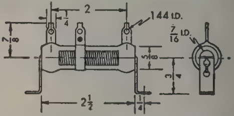
Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2830	70	20HJ25	$3.58
50	2000	100	20HJ50	3.58
75	1635	120	20HJ75	3.58
200	1414	140	20HJ100	3.58
250	894	220	20HJ250	3.58
500	632	315	20HJ500	3.58
750	515	385	20HJ750	3.58
1000	447	445	20HJ1000	3.58
1500	365	547	20HJ1500	3.58
2000	316	634	20HJ2000	3.58
2500	283	705	20HJ2500	3.58
3000	258	770	20HJ3000	3.58
5000	200	1000	20HJ5000	3.58
7500	163	1200	20HJ7500	3.58
10000	141	1400	20HJ10000	3.58
20000	100	2000	20HJ20000	4.29
30000	80	2400	20HJ30000	4.29
40000	62	2400	20HJ40000	4.29
50000	50	2500	20HJ50000	4.29
75000	33	2500	20HJ75000	4.29
100000	25	2500	20HJ100000	4.29



1AV · 2AV

10 WATT · 25 WATT VARIABLE RESISTORS



10-WATT RATING

Size: 5/16 x 1¾ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	3150	3	1AV1	$0.98
2	2200	4.5	1AV2	.98
3	1800	5.5	1AV3	.98
5	1400	7	1AV5	.98
7.5	1150	8.5	1AV7.5	.98
10	1000	10	1AV10	.98
15	812	12	1AV15	.98
20	707	14	1AV20	.98
25	630	16	1AV25	.98
50	447	22	1AV50	.98
75	360	27	1AV75	.98
100	315	31	1AV100	.98
150	260	39	1AV150	.98
200	220	44	1AV200	.98
250	200	50	1AV250	.98
300	180	55	1AV300	.98
350	170	59	1AV350	.98
400	158	63	1AV400	.98
500	141	70	1AV500	.98
600	130	77	1AV600	.98
750	115	85	1AV750	.98
800	112	89	1AV800	.98
1000	100	100	1AV1000	.98
1250	89	111	1AV1250	.98
1500	81	122	1AV1500	.98
2000	70	141	1AV2000	.98
2250	66.5	150	1AV2250	.98
2500	63	158	1AV2500	.98
3000	56	173	1AV3000	.98
3500	53	185	1AV3500	.98
4000	50	200	1AV4000	.98
4500	47	212	1AV4500	.98
5000	45	224	1AV5000	.98
6000	40	240	1AV6000	.98
7000	38	264	1AV7000	.98
7500	36	270	1AV7500	.98
8000	35	282	1AV8000	.98
8500	34	291	1AV8500	.98
9000	33	303	1AV9000	.98
10000	32	316	1AV10000	.98

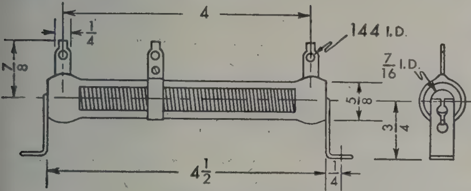
25-WATT RATING

Size: ⅝ x 2½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	5000	5	2AV1	$1.24
3	2890	8.6	2AV3	1.24
5	2240	11	2AV5	1.24
10	1580	15	2AV10	1.24
15	1290	19.3	2AV15	1.24
25	1000	25	2AV25	1.24
50	707	35	2AV50	1.24
75	575	43	2AV75	1.24
100	500	50	2AV100	1.24
150	400	60	2AV150	1.24
200	353	70	2AV200	1.24
250	316	79	2AV250	1.24
300	288	86	2AV300	1.24
400	250	100	2AV400	1.24
500	224	112	2AV500	1.24
750	182	137	2AV750	1.24
1000	158	158	2AV1000	1.24
1250	141	176	2AV1250	1.24
1500	129	194	2AV1500	1.24
2000	112	224	2AV2000	1.24
2500	100	250	2AV2500	1.24
3000	91	274	2AV3000	1.24
3500	84	296	2AV3500	1.24
4000	79	316	2AV4000	1.24
5000	71	354	2AV5000	1.24
6000	64	384	2AV6000	1.43
7500	57	431	2AV7500	1.43
10000	50	500	2AV10000	1.43
12000	42	500	2AV12000	1.43
15000	33	500	2AV15000	1.43
20000	25	500	2AV20000	1.56
25000	20	500	2AV25000	1.56

MALLORY VARIOHM ADJUSTABLE RESISTORS

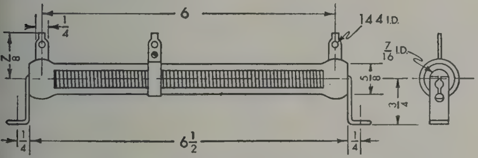
5AV VARIABLE RESISTORS 50-WATT RATING



Size: ⅝ x 4½ Tube

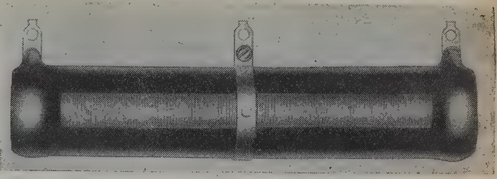
Resistance Ohm	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	3160	15	5AV5	$1.95
10	2230	22	5AV10	1.95
25	1410	35	5AV25	1.95
50	1000	50	5AV50	1.95
75	816	61	5AV75	1.95
100	707	70	5AV100	1.95
150	577	86	5AV150	1.95
200	500	100	5AV200	1.95
250	447	111	5AV250	1.95
300	408	122	5AV300	1.95
400	354	140	5AV400	1.95
500	316	157	5AV500	1.95
750	258	192	5AV750	1.95
1000	224	224	5AV1000	1.95
1500	182	275	5AV1500	1.95
2000	158	315	5AV2000	1.95
2500	141	350	5AV2500	1.95
3000	129	387	5AV3000	1.95
4000	112	448	5AV4000	1.95
5000	100	500	5AV5000	1.95
7500	81	610	5AV7500	2.15
10000	70	700	5AV10000	2.15
12000	64	768	5AV12000	2.15
15000	57	855	5AV15000	2.15
20000	50	1000	5AV20000	2.15
25000	40	1000	5AV25000	2.15
30000	33	1000	5AV30000	2.47
40000	25	1000	5AV40000	2.47
50000	20	1000	5AV50000	2.47

8AV VARIABLE RESISTORS 80-WATT RATING

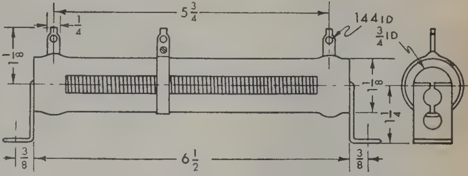


Size: ⅝ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2830	28.3	8AV10	$2.54
15	2310	34.6	8AV15	2.54
25	1790	44.8	8AV25	2.54
50	1265	63.2	8AV50	2.54
100	894	89.4	8AV100	2.54
250	566	141.5	8AV250	2.54
300	517	155	8AV300	2.54
400	495	178	8AV400	2.54
500	400	200	8AV500	2.54
750	327	245	8AV750	2.54
1000	283	283	8AV1000	2.54
1500	231	346	8AV1500	2.54
2000	200	400	8AV2000	2.54
2500	179	448	8AV2500	2.54
3500	152	530	8AV3500	2.54
5000	126	632	8AV5000	2.54
7500	103	775	8AV7500	2.86
10000	89	894	8AV10000	2.86
15000	73	1092	8AV15000	2.86
20000	63	1250	8AV20000	2.86
25000	50	1250	8AV25000	2.86
30000	42	1250	8AV30000	3.25
40000	31	1250	8AV40000	3.25
50000	25	1250	8AV50000	3.25
60000	21	1250	8AV60000	3.58
75000	16.5	1250	8AV75000	3.58
80000	15.5	1250	8AV80000	3.58
100000	12.5	1250	8AV100000	3.58



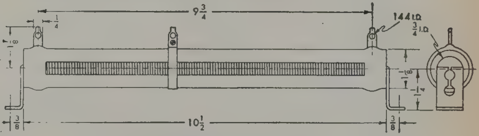
10AV VARIABLE RESISTORS 100-WATT RATING



Size: 1⅛ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	1413	71	10AV50	$2.86
100	1000	100	10AV100	2.86
500	447	223	10AV500	2.86
1000	316	316	10AV1000	2.86
2000	223	447	10AV2000	2.86
2500	200	500	10AV2500	2.86
3000	182	547	10AV3000	2.86
4000	158	633	10AV4000	2.86
5000	141	707	10AV5000	2.86
7500	115	860	10AV7500	3.25
10000	100	1000	10AV10000	3.25
15000	80	1200	10AV15000	3.25
20000	70	1400	10AV20000	3.25
25000	60	1500	10AV25000	3.25
30000	50	1500	10AV30000	3.58
35000	53	1500	10AV35000	3.58
40000	37	1500	10AV40000	3.58
50000	30	1500	10AV50000	3.58
75000	20	1500	10AV75000	3.90
100000	15	1500	10AV100000	3.90

20AV VARIABLE RESISTORS 200-WATT RATING



Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	2000	100	20AV50	$4.29
100	1414	140	20AV100	4.29
500	632	315	20AV500	4.29
1000	447	447	20AV1000	4.29
1500	365	547	20AV1500	4.29
2000	316	634	20AV2000	4.29
2500	283	700	20AV2500	4.29
5000	200	1000	20AV5000	4.29
10000	141	1414	20AV10000	4.29
20000	100	2000	20AV20000	5.01
25000	80	2400	20AV25000	5.01
30000	62	2500	20AV30000	5.01
50000	50	2500	20AV50000	5.01
75000	33	2500	20AV75000	5.01
100000	25	2500	20AV100000	5.01

EXTRA ADJUSTABLE CLIPS

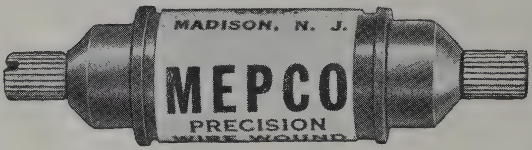
	List Price
Type No. 1V—For 10-Watt Variohms..........	$0.13 each
Type No. 3V—For 25, 50, and 80-Watt Variohms.	.26 each
Type No. 6V—For 100 and 200-Watt 1⅛″ Variohms	.33 each

MEPCO TRU-TOLERANCE PRECISION RESISTORS

WIRE WOUND

MEPCO
PRECISION
WIRE WOUND
RESISTOR

WM 2



WM 1

MEPCO
PRECISION
WIRE WOUND

WM 5

Mepco resistors are wound on highest quality non-hygroscopic forms, assuring high insulation value, low coefficient of expansion, high mechanical strength. Wire used is specially enameled to meet most rigid tests. A special feature of Mepco resistors is the insulation of all crossover wires on bobbin types to prevent shorts between down leads and windings. Two coats of special baking varnish to improve insulation and operating efficiency is another Mepco exclusive. This process not only resists heat better than wax, but also withstands humidity and salt water excepionally well. Tropicalized resistors available on request. Standard tolerance is 1%. Add 10% to list for ½% accuracy, 15% for ¼% accuracy, 25% for 1/10 of 1% accuracy.

MEPCO
PRECISION
WIRE WOUND
RESISTOR

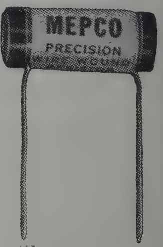
WM 13

TYPE	100 OHMS	1,000 OHMS	10,000 OHMS	100,000 OHMS	500,000 OHMS	1 meg. & over
WM 1	$1.27	$1.27	$1.49	$2.64	$4.68	....
WM 2	....	....	....	2.59	4.68	$8.25
WM 3	.94	.99	1.34	1.98	....	....
WM 4	.94	.99	1.34	2.25	4.68	....
WM 5	.94	.99	1.34	2.31	4.68	5.88

WM 6, 7, 8, 9, 13, 14 AVAILABLE ON SPECIAL ORDER

ALL TYPES AVAILABLE WITH EITHER LUG TERMINALS OR 1½" WIRE LEADS

TYPE	1-50 OHMS	51-2,000 OHMS	2,001-10,000 OHMS	10,001-20,000 OHMS	20,001-50,000 OHMS
TM ½	$ .38	$ .38	....	....	....
TM 1	.33	.33	$ .40	....	....
TM 2	.38	.38	.45	$ .50	$ .50
TM 3	.43	.43	.50	.55	.57
TM 4	.80	.80	.90	1 00	1.00



TM 2

Why MEPCO "Tru Tolerance" RESISTORS are TOPS

with Manufacturers of Radio, Instruments Electronic Equipment

They're Triple Improved!

ME
PR
WIR
RES

1. ADDED INTERNAL INSULATION
2. DOUBLE SEAL IMPREGNATION
3. ACETATE LABEL

Means Electrical Products and Components of Outstanding Quality

ASK FOR MEPCO CATALOG FOR COMPLETE SPECS AND INFORMATION ON RESISTORS

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

JOHN G. RUCKELSHAUS COMPANY

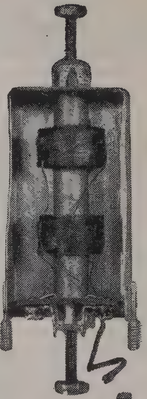
Manufacturers of ELECTRICAL, RADIO and ELECTRONIC EQUIPMENT

MADISON ● NEW JERSEY

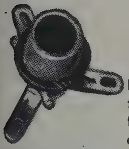
I. F. and R. F. TRANSFORMERS and CHOKES

F TRANSFORMERS

YPE	FREQ.	PEAK FACTORY SETTING	USE
RIMMER	455 kc. 456 kc.	within 2 kc.	input interstage output
IRON CORE	455 kc. 456 kc.	within 2 kc.	input interstage output



Standard, Midget and Cartwheel types.
Broadcast, F.M. and Television. Plug-in or Pig-tail.
Mepco features are: High Gain — Wide Range.
Trimmer types are Double-tuned mica-dielectric on ceramic or bakelite bases.
Iron core types are double permeability tuned.
Windings of highest grade Litz wire.
Available in 1⅛″ square x 2½″ long and 1¼″ square x 2½″ long cans.
Special Frequencies Available on Request



STANDARD OSCILLATOR COILS

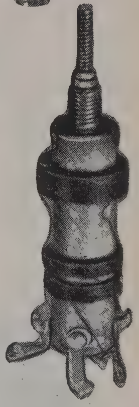
Designed to track on all frequencies. Two section or tapped circuit including capacity winding. Coils impregnated to resist severe climatic conditions.

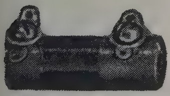
PHONO OSCILLATOR COILS

For record reproduction through radio. Slug tuned, manual adjustment, permitting minimum drift and limited frequency range. Midget sizes.

STANDARD ANTENNA AND R.F. COILS

Humidity proofed, shielded or unshielded. Designed for condenser or slug tuning.

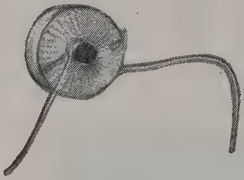




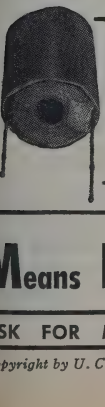
CHOKES

Air and iron core R.F. Chokes for all applications including tone control. Transmitter chokes 2.5 to 8 milli-henries—Standard inductances. Self-resonant midget chokes.

SHUNT TRACKING COILS



WAVE TRAPS



SPECIAL COILS

All types of layer wound, random wound, and bobbin wound coils. Wound for special and unusual applications as well as standard uses. MEPCO winds to customers' specifications. Prices of all units available on request.

PRICES OF ALL UNITS AVAILABLE ON REQUEST.

Means Electrical Products and Components of Outstanding Quality

ASK FOR MEPCO CATALOG FOR COMPLETE SPECS AND INFORMATION ON RESISTORS

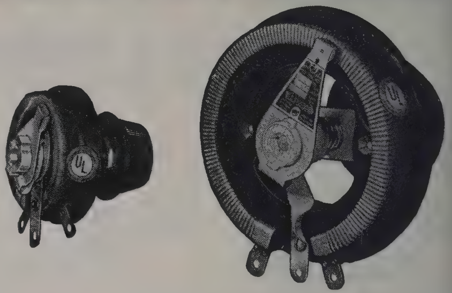
BE RIGHT WITH

OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE RHEOSTATS

All-Porcelain — Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.



MODEL "H" 25 Watt

Diameter 1 9/16″. Depth behind panel 1⅜″

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0140	1	5,000	**$5.85**	0152	125	445	**$5.20**
0141	2	3,540	**5.20**	0153	175	375	**5.20**
0142	3	2,880	**5.20**	0154	250	316	**5.20**
0143	6	2,040	**5.20**	0155	350	267	**5.20**
0144	8	1,770	**5.20**	0156	500	222	**5.20**
0145	10	1,580	**5.20**	0157	750	182	**5.20**
0146	15	1,290	**5.20**	0158	1,000	155	**5.85**
0147	25	1,000	**5.20**	0159	1,500	129	**5.85**
0148	35	845	**5.20**	0160	2,500	100	**5.85**
0149	50	707	**5.20**	0161	3,500	84	**6.18**
0150	75	575	**5.20**	0162	5,000	70	**6.18**
0151	100	500	**5.20**				

MODEL "J" 50 Watt

Diameter 2 5/16″. Depth behind panel 1⅜″

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0308	0.5	10,000	**$6.50**	0321	150	575	**$5.85**
0309	1	7,070	**6.50**	0322	225	470	**5.85**
0310	2	5,000	**6.50**	0323	300	408	**5.85**
0311	4	3,530	**5.85**	0324	500	316	**5.85**
0312	6	2,880	**5.85**	0325	800	250	**6.18**
0313	8	2,500	**5.85**	0326	1,000	224	**6.18**
0314	12	2,040	**5.85**	0327	1,600	176	**6.18**
0315	16	1,760	**5.85**	0328	2,500	141	**6.18**
0316	22	1,500	**5.85**	0329	3,500	119	**6.50**
0317	35	1,190	**5.85**	0330	5,000	100	**6.50**
0318	50	1,000	**5.85**	0331	8,000	79	**6.50**
0319	80	790	**5.85**	0332	10,000	70	**6.50**
0320	125	630	**5.85**				

OHMITE SPECIAL RHEOSTATS

for Soldering Iron Control

Adjusts heat of the soldering iron or melting pot for best work and economical operation.

Wattage of Soldering Iron or Pot to be Controlled Watts	Volts	Rheostat Control Stock No.	Cage Dimensions Diam.	Hgt.	List Price Each
40– 65	115	SRC65	3⅛″	2″	**$9.43**
85–100	115	SRC100	3⅛″	2″	**9.43**
120–150	115	SRC150	3¾″	2⅜″	**11.90**
175–220	115	SRC220	3¾″	2⅜″	**13.00**
300–350	115	SRC350	4½″	2⅜″	**15.21**
430–500	115	SRC500	7½″	3¼″	**22.10**

MODEL "K" 100 Watt

Diameter 3⅛″. Depth behind panel 1¾″

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0440	0.5	14,100	**$9.75**	0452	200	707	**$9.10**
0441	1	10,000	**9.75**	0453	300	575	**9.10**
0442	2	7,070	**9.75**	0454	400	500	**9.10**
0443	3	5,750	**9.75**	0455	500	447	**9.10**
0444	5	4,470	**9.75**	0456	750	365	**9.10**
0445	7.5	3,650	**9.10**	0457	1,000	316	**9.75**
0446	10	3,160	**9.10**	0458	1,500	258	**9.75**
0447	16	2,500	**9.10**	0459	2,000	224	**9.75**
0448	25	2,000	**9.10**	0460	2,500	200	**9.75**
0449	50	1,410	**9.10**	0461	5,000	141	**10.40**
0450	75	1,150	**9.10**	0462	7,500	115	**11.05**
0451	100	1,000	**9.10**	0463	10,000	100	**11.70**

MODEL "L" 150 Watt

Diameter 4″. Depth behind panel 2″

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0524	0.5	17,300	**$12.35**	0537	150	1,000	**$11.70**
0525	1	12,300	**12.35**	0538	200	865	**11.70**
0526	2	8,650	**12.35**	0539	250	775	**11.70**
0527	3	7,070	**12.35**	0540	350	655	**11.70**
0528	5	5,480	**12.35**	0541	500	548	**11.70**
0529	7.5	4,470	**12.35**	0542	750	447	**12.35**
0530	10	3,880	**11.70**	0543	1,250	346	**12.35**
0531	15	3,163	**11.70**	0544	1,800	288	**13.00**
0532	25	2,450	**11.70**	0545	2,250	259	**13.00**
0533	35	2,070	**11.70**	0546	3,000	224	**13.00**
0534	50	1,735	**11.70**	0547	4,500	182	**13.65**
0535	75	1,415	**11.70**	0548	7,500	141	**14.30**
0536	100	1,225	**11.70**	0549	10,000	122	**15.60**

MODEL "N" 300 Watt

Diameter 6″. Depth behind panel 2⅜″

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0650	1	17,320	**$17.55**	0661	100	1,730	**$17.55**
0651	2	12,240	**17.55**	0662	150	1,410	**17.55**
0652	3	10,000	**17.55**	0363	200	1,220	**17.55**
0653	4	8,660	**17.55**	0664	300	1,000	**17.55**
0654	5	7,750	**17.55**	0665	400	866	**17.55**
0655	7.5	6,320	**17.55**	0366	700	655	**17.55**
0656	10	5,480	**17.55**	0667	900	578	**17.55**
0657	15	4,470	**17.55**	0668	1,200	500	**17.55**
0658	25	3,460	**17.55**	0669	1,500	447	**17.55**
0569	50	2,450	**17.55**	0670	1,750	414	**17.55**
0660	75	2,000	**17.55**	0371	2,500	346	**17.55**

OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; Model T, 750 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

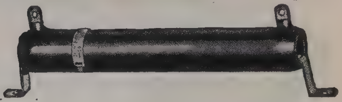
OHMITE DIVIDOHM RESISTORS

You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

All-Porcelain

Vitreous-Enameled

OHMITE FIXED RESISTORS



Extra-sturdy, wire-wound, all-porcelain resistors with the permanent protection of Ohmite Vitreous Enamel. Widely used for heavy duty applications to assure continuous trouble-free service. With mounting brackets.

10 WATTS

Core Size 1¾" x ⁵⁄₁₆"   Mounting Centers 2¼"

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils	Stock No.
1	3,150	1001	750	115	1021
2	2,235	1002	800	111	1022
3	1,825	1003	1,000	100	1023
5	1,415	1004	1,250	89	1024
7.5	1,155	1005	1,500	79	1025
10	1,000	1006	2,000	69	1026
15	816	1007	2,250	64	1027
20	707	1008	2,500	63	1028
25	632	1009	3,000	56	1029
50	447	1010	3,500	51	1030
75	365	1011	4,000	47	1031
100	316	1012	4,500	45	1032
150	258	1013	5,000	43	1033
200	223	1014	6,000	38	1034
250	200	1015	7,000	34	1035
300	182	1016	7,500	33	1036
350	169	1017	8,000	31	1037
400	158	1018	8,500	29	1038
500	141	1019	9,000	28	1039
600	129	1020	10,000	26	1040

List Price, any above unit..............$0.98

75 WATTS

Core Size 6" x ⁹⁄₁₆"   Mounting Centers 6¾"

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils	Stock No.
5	3,870	0769	5,000	122	0783
10	2,735	0770	6,000	111	0783B
15	2,236	0771	7,000	103	0783C
25	1,732	0772	7,500	100	0784
50	1,224	0773	8,000	96	0784B
100	866	0774	9,000	91	0784C
200	612	0774B	10,000	86	0785
250	517	0775	12,000	79	0785B
300	500	0775B	15,000	70	0786
400	433	0775C	20,000	61	0787
500	387	0776	25,000	52	0788
750	316	0777	30,000	47	0789
1,000	273	0778	35,000	38	0790
1,250	245	0778B	40,000	33	0791
1,500	223	0779	45,000	28	0792
2,000	193	0780	50,000	25	0793
2,500	173	0781	60,000	19	0794
3,000	158	0781B	80,000	17	0795
3,500	146	0782	100,000	13	0796
4,000	136	0782B			

List Price, 5 to 5,000 ohms..............**$2.54**
List Price, 6,000 to 25,000 ohms.......... **2.86**
List Price, 30,000 to 50,000 ohms......... **3.25**
List Price, 60,000 to 100,000 ohms.... .. **3.58**

160 Watt Resistors—Core Size 8½" x 1⅛". Mounting Centers 9⅜" available in same resistances as the 200 Watt Resistors.

Ohms	Fixed Res. List Price	Adj. Res. List Price
5 to 10,000......	**$2.86**	**$3.58**
15,000 to 50,000......	**3.45**	**4.16**
60,000 to 100,000......	**3.90**	**4.55**

ADJUSTABLE LUGS

Bakelite Knob			Screw Driver Type		
Res. Dia.	Stock No.	List Price	Res. Dia.	Stock No.	List Price
⁹⁄₁₆"	0359	**$0.20**	⁵⁄₁₆"	1058	**$0.13**
¾"	1959	**.33**	⁹⁄₁₆"	0358	**.13**
1⅛"	2159	**.33**	¾"	1958	**.20**
			1⅛"	2158	**.20**

25 WATTS

Core Size 2"x ⁹⁄₁₆"   Mounting Centers 2¾"

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
1	5,000	0200J	**$1.04**	0360	**$1.24**
2	3,535	0200K	**1.04**	0360B	**1.24**
3	2,885	0200L	**1.04**	0361	**1.24**
5	2,235	0200A	**1.04**	0362	**1.24**
7.5	1,825			0362B	**1.24**
10	1,580	0200B	**1.04**	0363	**1.24**
15	1,290	0200R	**1.04**	0364	**1.24**
20	1,117			0364B	**1.24**
25	1,000	0200C	**1.04**	0365	**1.24**
50	707	0200D	**1.04**	0366	**1.24**
75	577	0200E	**1.04**	0367	**1.24**
100	500	0200F	**1.04**	0368	**1.24**
150	408	0200G	**1.04**	0369	**1.24**
200	353	0200H	**1.04**	0370	**1.24**
250	316	0201	**1.04**	0371	**1.24**
300	288			0371B	**1.24**
400	250			0371C	**1.24**
500	223	0202	**1.04**	0372	**1.24**
750	182	0203	**1.04**	0373	**1.24**
800	176	0204	**1.04**	0374	**1.24**
1,000	158	0205	**1.04**	0375	**1.24**
1,250	141			0375B	**1.24**
1,500	129	0206	**1.04**	0376	**1.24**
2,000	111	0207	**1.04**	0377	**1.24**
2,250	105			0377B	**1.24**
2,500	100	0208	**1.04**	0378	**1.24**
3,000	91	0209	**1.04**	0379	**1.24**
3,500	84	0210	**1.04**	0380	**1.24**
4,000	79	0211	**1.04**	0381	**1.24**
4,500	74			0381B	**1.24**
5,000	70	0212	**1.04**	0382	**1.24**
6,000	64	0213	**1.17**	0383	**1.43**
7,000	60			0383B	**1.43**
7,200	59			0383C	**1.43**
7,500	57	0214	**1.17**	0384	**1.43**
8,000	55			0384B	**1.43**
9,000	52			0384C	**1.43**
10,000	50	0215	**1.17**	0385	**1.43**
12,000	42	0216	**1.17**	0386	**1.43**
15,000	34	0217	**1.17**	0387	**1.43**
20,000	26	0218	**1.43**	0388	**1.56**
25,000	21	0219	**1.43**	0389	**1.56**
40,000	14	0222	**1.43**		
50,000	12	0224	**1.43**		
100,000	7	0229	**2.47**		

100 WATTS

Core Size 6½"x¾"   Mounting Centers 7⅜"

5	4,470	0600A	**$2.15**	0956	**$2.86**
10	3,160	0600B	**2.15**	0957	**2.86**
25	2,000	0601	**2.15**	0958	**2.86**
50	1,414	0602	**2.15**	0959	**2.86**
75	1,153	0603	**2.15**		
100	1,000	0604	**2.15**	0960	**2.86**
150	816	0605	**2.15**		
250	632	0606	**2.15**	0960B	**2.86**
500	447	0607	**2.15**	0961	**2.86**
750	365	0608	**2.15**		
1,000	316	0609	**2.15**	0962	**2.86**
1,500	258	0610	**2.15**	0962B	**2.86**
2,000	223	0611	**2.15**		
2,500	200	0612	**2.15**	0963	**2.86**
3,000	182	0613	**2.15**		
5,000	141	0614	**2.15**	0964	**2.86**
7,500	115	0615	**2.54**		
10,000	100	0616	**2.54**	0965	**3.25**
15,000	81	0617	**2.54**	0966	**3.25**
20,000	70	0618	**2.54**	0967	**3.25**
25,000	53	0619	**2.54**	0968	**3.25**
30,000	47	0620	**2.86**	0969	**3.58**
40,000	36	0621	**2.86**	0970	**3.58**
50,000	29	0622	**2.86**	0971	**3.58**
60,000	24	0623	**3.25**		
75,000	19	0624	**3.25**	0972	**3.90**
100,000	15	0625	**3.53**	0973	**3.90**

50 WATTS

Core Size 4"x ⁹⁄₁₆"   Mounting Centers 4¾"

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
5	3,160	0400A	**$1.56**	0560	**$1.95**
10	2,235	0400B	**1.56**	0561	**1.95**
25	1,414	0400C	**1.56**	0562	**1.95**
50	1,000	0400D	**1.56**	0563	**1.95**
75	816	0400E	**1.56**	0564	**1.95**
100	707	0400F	**1.56**	0565	**1.95**
150	577	0400G	**1.56**	0566	**1.95**
200	500	0400H	**1.56**	0567	**1.95**
250	447	0401	**1.56**	0568	**1.95**
300	408			0568B	**1.95**
400	353			0568C	**1.95**
500	316	0402	**1.56**	0569	**1.95**
750	258	0403	**1.56**	0570	**1.95**
1,000	223	0405	**1.56**	0572	**1.95**
1,250	200			0572B	**1.95**
1,500	182	0406	**1.56**	0573	**1.95**
2,000	158	0407	**1.56**	0574	**1.95**
2,500	141	0408	**1.56**	0575	**1.95**
3,000	129	0409	**1.56**	0576	**1.95**
3,500	119			0576B	**1.95**
4,000	111	0410	**1.56**	0577	**1.95**
4,500	105			0577B	**1.95**
5,000	100	0411	**1.56**	0578	**1.95**
6,000	91			0578B	**2.15**
7,000	84			0578C	**2.15**
7,500	81	0412	**1.82**	0579	**2.15**
8,000	79	0413	**1.82**	0580	**2.15**
9,000	74			0580B	**2.15**
10,000	70	0414	**1.82**	0581	**2.15**
12,000	64	0415	**1.82**	0582	**2.15**
15,000	57	0416	**1.82**	0583	**2.15**
20,000	48	0417	**1.82**	0584	**2.15**
25,000	41	0418	**1.82**	0585	**2.15**
30,000	41			0586	**2.47**
35,000	32	0419	**2.08**		
40,000	35			0587	**2.47**
50,000	23	0420	**2.08**	0588	**2.47**
60,000	20			0589	**2.86**
75,000	16	0421	**2.08**		
80,000	15			0590	**2.86**
100,000	12	0422	**2.08**	0591	**2.86**

200 WATTS

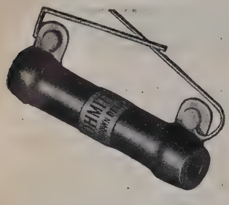
Core Size 10½"x1⅛"   M'nt'ng Centers 11⅜"

5	6,320	0900A	**$3.58**	1356	**$4.29**
10	4,470	0900B	**3.58**	1357	**4.29**
25	2,828	0901	**3.58**	1358	**4.29**
50	2,000	0902	**3.58**	1359	**4.29**
75	1,635	0903	**3.58**		
100	1,414	0904	**3.58**	1360	**4.29**
150	1,153	0905	**3.58**		
250	894	0906	**3.58**	1360B	**4.29**
500	632	0907	**3.58**	1361	**4.29**
750	516	0908	**3.58**		
1,000	447	0909	**3.58**	1362	**4.29**
1,500	365	0910	**3.58**	1362B	**4.29**
2,000	316	0911	**3.58**		
2,500	283	0912	**3.58**	1363	**4.29**
3,000	258	0913	**3.58**		
5,000	200	0914	**3.58**	1364	**4.29**
7,500	163	0915	**3.58**		
10,000	141	0916	**3.58**	1365	**4.29**
15,000	115	0917	**4.29**	1366	**5.01**
20,000	100	0918	**4.29**	1367	**5.01**
25,000	80	0919	**4.29**	1368	**5.01**
30,000	81	0920	**4.29**	1369	**5.01**
40,000	61	0921	**4.29**	1370	**5.01**
50,000	49	0922	**4.29**	1371	**5.01**
60,000	41	0923	**4.29**		
75,000	33	0924	**4.29**	1372	**5.01**
100,000	25	0925	**4.29**	1373	**5.01**

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

Popular OHMITE "BROWN DEVIL" RESISTORS



High quality, small size, wire wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-porcelain, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units have 1½" tinned wire leads.

10 Watt—1¾" x 5/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	3,160	150	258	1,500	79
2	2,235	200	223	1,750	74
3	1,825	225	217	2,000	69
4	1,580	250	200	2,250	64
5	1,414	300	182	2,500	63
7.5	1,155	350	169	3,000	56
10	1,000	400	158	3,500	51
12	910	450	149	4,000	47
15	816	500	141	4,500	45
20	707	600	129	5,000	43
25	632	700	119	6,000	38
30	575	750	115	7,000	34
35	535	800	111	7,500	32
40	500	900	105	8,000	31
50	447	1,000	100	8,500	29
75	365	1,100	95	10,000	26
100	316	1,200	91		
125	283	1,250	89		
List Price, any 10 watt unit above $0.59					
11,000	24	16,000	18	*30,000	8
12,000	23	17,500	17	*35,000	7
12,500	22	18,000	17	*40,000	7
13,500	21	20,000	16	*45,000	6
14,300	20	22,500	15	*50,000	6
[illegible]	[illegible]	[illegible]	[illegible]		
List Price, any 10 watt unit above $0.65					

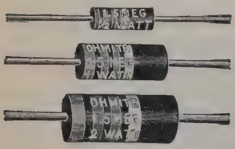
20 Watt—2" x 7/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
5	2,000	700	169	2,750	85
10	1,414	750	163	3,000	81
25	894	800	158	3,500	75
50	632	850	153	4,000	70
75	516	1,000	141	4,500	66
100	447	1,200	129	5,000	63
150	365	1,250	126	6,000	57
200	316	1,500	115	7,000	53
250	283	1,750	107	7,500	51
300	258	1,850	104	8,000	50
350	239	2,000	100	10,000	43
400	223	2,250	94	12,500	35
500	200	2,400	91	15,000	30
650	175	2,500	89		
List Price, any 20 watt unit above $0.91					
20,000	24	35,000	15	45,000	13
25,000	20	40,000	14	50,000	12
30,000	17				
List Price, any 20 watt unit above $1.11					
*55,000	8.0	*75,000	7.0	*90,000	6.0
*60,000	8.0	*80,000	7.0	*95,000	6.0
*65,000	7.0	*85,000	6.0	*100,000	6.0
*70,000	7.0				
List Price, any 20 watt unit above $1.43					

*The units marked with an asterisk are coated with a low temperature enamel.

NEW OHMITE "LITTLE DEVIL" RESISTORS

INDIVIDUALLY MARKED



Ohmite Little Devils are full ½ Watt, 1 Watt and 2 Watt Insulated Composition Resistors and can be used at their full wattage ratings at 70°C (158°F) ambient temperature. They meet requirements of specification JAN-R-11. All units are color coded. Each resistor is marked with the resistance value, wattage rating and the Ohmite trade mark. AVAILABLE ONLY FROM OHMITE DISTRIBUTORS.

Stocked in RMA Values ±10% Tol.

Ohms	Ohms	Ohms	Megohms	Megohms
10	220	4,700	0.1	2.2
12	270	5,600	0.12	2.7
15	330	6,800	0.15	3.3
18	390	8,200	0.18	3.9
22	470	10,000	0.22	4.7
27	560	12,000	0.27	5.6
33	680	15,000	0.33	6.8
39	820	18,000	0.39	8.2
47	1,000	22,000	0.47	10.0
56	1,200	27,000	0.56	12.0
68	1,500	33,000	0.68	15.0
82	1,800	39,000	0.82	18.0
100	2,200	47,000	1.0	22.0
120	2,700	56,000	1.2	
150	3,300	68,000	1.5	
180	3,900	82,000	1.8	

Type	Size Length	Size Diam.	Maximum Volts	List Price
½ Watt	⅜"	9/64"	350	13c
1 Watt	9/16"	7/32"	500	17c
2 Watt	11/16"	5/16"	1000	25c

RITEOHM SERIES "84"

Precision Resistors

High quality, 1% tolerance, 1 watt, non-inductive, pie-wound Precision Resistors for voltmeter multipliers, laboratory equipment, radio and electrical test sets, attenuation pads, etc. Special Ohmite vacuum-type impregnation provides complete protection.

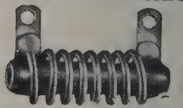
Ohms	Max. Voltage	Ohms	Max. Voltage	Ohms	Max. Voltage
*0.1	.316	4,000	44.70	.125 Meg.	200
0.5	.500	5,000	50.00	.150 Meg.	200
1	.707	7,500	61.20	.175 Meg.	200
10	2.24	10,000	70.70	.200 Meg.	200
25	3.54	12,500	79.00	*.225 Meg.	400
50	5.00	15,000	86.60	*.250 Meg.	400
100	7.07	20,000	100	*.300 Meg.	400
200	10.00	22,500	106	*.400 Meg.	400
250	11.20	25,000	112	†.500 Meg.	400
300	12.20	30,000	122	†.600 Meg.	400
500	15.80	40,000	141	†.750 Meg.	400
1000	22.40	50,000	158	†.900 Meg.	400
1500	27.40	60,000	173	†1.0 Meg.	400
2000	31.60	75,000	194	†1.5 Meg.	400
2500	35.40	.1 Meg.	200		

*Type 844-A 4 Pie—1 Watt Size 9/16" x ⅞"
†Type 844-B 4 Pie—1 Watt Size ¾" x 1 1/16"
All others Type 842-A 2 Pie—½ Watt Size 9/16" x 9/16"

Ohms	List Price	Ohms	List Price
0.1 to 500	$1.11	.225 to .25 Meg.	$3.38
1,000 to 2,500	1.17	.3 megohm	3.71
4,000 to 10,000	1.30	.4 megohm	3.90
12,500 to 15,000	1.43	.5 megohm	4.42
20,000 to 50,000	1.76	.6 megohm	5.53
60,000 to 75,000	2.03	.75 megohm	5.85
.1 megohm	2.[illegible]1	.9 megohm	6.1[illegible]
.125 megohm	2.73	1.0 megohm	6.[illegible]3
.15 to .2 megohm	3.06	1.5 megohm	9.75

Other Precision Resistors available: Type "71" Vitreous Enameled; Type "81"; Series "82", "83" and "90". Complete Listings in stock catalog.

PARASITIC SUPPRESSOR



Designed to prevent unwanted ultra-high-frequency parasitic oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The parasitics are suppressed without loss of driving power.

The P-300 is a non-inductive, vitreous-enameled resistor combined with a choke into one small integral unit. Only 1¾" long overall and ⅝" diameter.

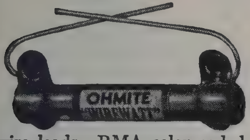
Model P-300. List Price............$1.95

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE "WIREWATT" RESISTORS

1 Watt wire-wound Resistor



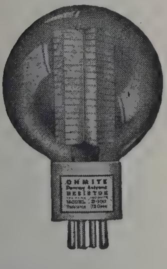
Wire-wound on porcelain and insulated with low temperature enamel. Ends of the wire are mechanically locked and then brazed to terminal lugs to insure freedom from noise. 1½″ tinned wire leads. RMA color coded, and labeled with the resistance. Size 1¾″ x ¼″.

Ohms	Mils.	Volts	Ohms	Mils.	Volts	Ohms	Mils.	Volts
100	100	10	1,000	31	31	6,000	12	77
125	89	11	1,100	30	33	7,000	11	83
150	81	12	1,200	28	34	7,500	11	86
200	70	14	1,250	28	35	8,000	11	89
250	63	15	1,500	25	38	9,000	10	95
300	57	17	1,750	23	41	10,000	10	100
350	53	18	2,000	22	44	12,500	9	112
400	50	20	2,250	21	47	15,000	8	122
500	44	22	2,500	20	50	16,000	7	126
600	40	24	3,000	18	54	17,500	7	132
700	37	26	3,500	16	59	18,000	7	134
750	36	27	4,000	15	63	20,000	7	141
800	35	28	4,500	14	67	22,500	6	150
900	33	30	5,000	14	70	25,000	6	158

List Price...$0.33

OHMITE DUMMY ANTENNA

To Check R.F. Power and Tune Up to Peak Efficiency



A compact, high-wattage resistor suitable for high radio-frequency measurements. Non-inductive, non-capacitive, constant in resistance. Used to determine transmission line losses—to check line to antenna impedance match—to keep signal off the air while tuning up—to eliminate unnecessary interference—and generally useful as a non-inductive resistor in other R. F. Circuits.

Space-wound resistance element of unusual design, mounted in a glass bulb, evacuated and gas filled. Four-prong steatite standard tube base.

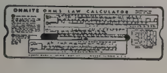
Model D-100. 100 Watt rating. In popular 73 ohm and 600 ohm resistance values. Also in 13, 18, 34, 64, 100, 146, 219, 300, 400, 500 ohm values. Diameter 3⅛″. Height (from bottom of base) 4⅜″.
List Price **$8.45**

Model D-250. 250 Watt rating. In 73 ohm and 600 ohm stock resistances. Diameter of bulb 2½″. Height 9 1/16″ (from bottom of base).
List Price **$16.90**

Non-Inductive Vitreous-Enameled Resistors also available. See Ohmite Stock Catalog.

NEW OHM'S LAW CALCULATOR

Pocket Size



Solves Ohm's Law problems with only one setting of the slide. No decimal points to cause confusion—all values are direct reading. Requires no slide rule knowledge.

Ohmite Ohm's Law Calculator....NET Price $0.25

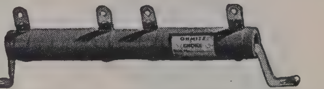
OHMITE R.F. PLATE CHOKES

Built to Carry 1,000 M.A.

High frequency solenoid chokes designed to avoid fundamental or harmonic resonance in the amateur bands. Single-layer wound on low power factor steatite core—insulated and protected by moisture-proof coating. No portion can resonate independently of any other portion. Designed also to prohibit breakdown from high R. F. potentials. Ample space allowed at the ends to prevent flashover to ground. Non-magnetic mounting brackets furnished with the three larger sizes. Rated at 1,000 milliamperes. May be used in diathermy and therapeutic equipment as well as in radio transmitters.

Stock No.	Amateur Band, Meters	Micro-henries	Current Rating	D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-0	2½	2.0	1,000 M.A.	0.19	1¾″	¼″	**$0.33**
Z-1	5	5.5	1,000 M.A.	0.85	1¾″	¼″	**.33**
Z-2	10 and 20	30	1,000 M.A.	2	3″	9/16″	**1.04**
Z-3	20 and 40	90	1,000 M.A.	5	6″	9/16″	**1.56**
Z-4	20, 40, 80 and 160	200	1,000 M.A.	9	6½″	¾″	**2.15**

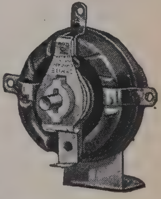
OHMITE POWER LINE CHOKES



Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core—insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

Stock No.	Micro-henries	Current Rating	Total D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-20	14	5 Amperes	0.15	4″	9/16″	**$2.15**
Z-21	15	10 Amperes	0.07	6½″	¾″	**3.58**
Z-22	18	20 Amperes	0.045	8½″	1⅛″	**5.20**

TRANSMITTER BAND CHANGE AND HIGH VOLTAGE SWITCH



For the rapid, convenient change of transmitter frequency by front-of-panel knob control. Suitable for circuits up to 1 K. W. rating. Adaptable for general use requiring high voltage insulation.

Model BC-3. Complete with Knob and Mounting Bracket.

List Price....................$4.29

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

SHALLCROSS MANUFACTURING CO.

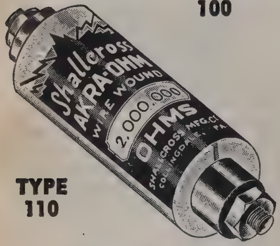
COLLINGDALE, PENNSYLVANIA

ELECTRICAL INSTRUMENTS
•
RESISTORS
•
VARIABLE ATTENUATORS
•
SWITCHES

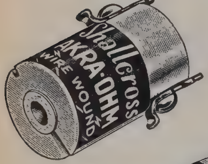
SHALLCROSS AKRA-OHM RESISTORS

Shallcross
AKRA-OHM
WIRE WOUND

TYPE 100



TYPE 110



TYPES 140 160

Shallcross
AKRA-OHM
WIRE WOUND

TYPES 196 116

SHALLCROSS
Mfg. Co.
Collingdale
Pa.

TYPE 183

Shallcross
AKRA-OHM
WIRE WOUND

TYPE 193

LIST PRICES—Standard Types, ±1% Tolerance

Resistance Range	Types 110 and 116	Types 140, 183 and 193	Types 100, 160 and 196
0.1 ohms to 1000 ohms	$1.40	$ .85	$1.15
Up to 2000 ohms	1.40	.90	1.15
Up to 5000 ohms	1.50	.90	1.25
Up to 10,000 ohms	1.60	1.00	1.35
Up to 15,000 ohms	1.60	1.10	1.35
Up to 30,000 ohms	1.75	1.25	1.50
Up to 50,000 ohms	1.75	1.40	1.50
Up to 75,000 ohms	2.00	1.60	1.75
Up to 100M	2.25	1.85	2.00
Up to 125,000	2.35	2.00	2.10
Up to 150,000	2.50	2.00	2.25
Up to 200,000	2.75	2.25	2.50
Up to 250,000	3.00	2.50	2.75
Up to 300,000	3.25	2.75	3.00
Up to 400,000	3.75	3.00	3.50
Up to 500,000	4.25	3.50	4.00
Up to 600,000	4.50	3.75	4.25
Up to 700,000	4.60	4.00	4.35
Up to 750,000	4.75	4.10	4.50
Up to 900,000	5.00	4.25	4.75
Up to 1 megohm	5.25	4.50	5.00
Up to 1.5 megohms	7.50		7.50
Up to 2 megohms	10.00		10.00
Up to 2.5 megohms	12.50		12.50
Up to 3 megohms	15.00		15.00
Up to 4 megohms	20.00		
Up to 5 megohms	25.00		
Up to 6 megohms	30.00		
Up to 7 megohms	35.00		
Up to 8 megohms	40.00		
Up to 9 megohms	45.00		
Up to 10 megohms	50.00		
For BX Process up to 100,000 Ohms—add	.40	.15	.25

SPECIAL TOLERANCE

Resistors to closer tolerances can be supplied at higher prices. Add to list prices as follows:

±½%, add 5%
±1/10%, add 25%
±¼%, add 10%
±.05%, add 50%
±2/10%, add 15%

Prices shown are for Manganin Wire used in resistances to 1,000 ohms and for Nickel-Chromium-Iron Wire used in resistances above 1,000 ohms.

TYPES 183 AND 193—±1% IN COMMON VALUES—IN STOCK

In addition to the popular standard types listed here, Shallcross Akra-Ohm Resistors are made in a complete line of standard and special designs for precise electronic equipment demanding great stability and long life even under difficult conditions of temperature and humidity.

Shallcross achievements include the development of really practical hermetically-sealed units; BX processed resistors "tropicalized" against moisture and fungus; the use of spun glass insulated wire for applications where considerable power must be dissipated; bifilar wound resistors, 1000 ohms or less, for exacting instrument use; heavy-duty surge resistors; accurate heavy-duty power resistors, and various others. Write for the Shallcross "Engineering Data" wall and file Chart.

ACCURATE FIXED WIRE-WOUND TYPES (JAN R93) PRICES ON REQUEST.

Shallcross Type	** JAN Style	Wattage	* Maximum Ohms	Std. Terminal	Mounting	Dimensions Length—Diam.
100	RB21	1	750,000	#8 screw	5 amp. fuse clip	2 1/16″ x 9/16″
110	RB22	2	2 Meg.	#8 screw	5 amp. fuse clip	2⅞″ x ¾″
116	RB14	1	2 Meg.	Solder lugs	#6 screw	2 5/32″ x ¾″
140	RB41	0.5	350,000	Solder lugs	#6 screw	1¼″ x 11/16″
160	RB42	1	500,000	Solder lugs	#6 screw	1 9/16″ x 11/16″
183	RB11	0.5	300,000	Solder lugs	#6 screw	⅝″ x ½″
193	RB12	1	400,000	Solder lugs	#6 screw	1″ x ½″
196	RB13	1	1 Meg.	Solder lugs	#6 screw	1¼″ x ¾″
△1196	RB13	1	1 Meg.	Solder lugs	#6 screw	1¼″ x ⅞″

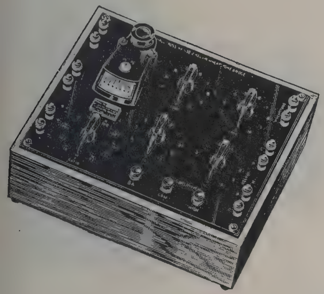
* Based on use of .0014″ diameter nickel chromium wire. Smaller wire sizes will greatly increase maximum allowable resistance on any form.
** JAN style refers to Joint Army-Navy Specification R93. Price depends on wire size and specification.
△ Hermetically sealed. Other sizes available.

SEND FOR RESISTOR ENGINEERING CHART FOR COMPLETE DATA

SHALLCROSS MANUFACTURING CO.

COLLINGDALE, PENNSYLVANIA

SHALLCROSS D-C BRIDGES



No. 638-2

KELVIN WHEATSTONE BRIDGE

Resistance range 0.0001 ohm to 11.11 megohms

SPECIFICATIONS

ACCURACY—0.3% between 1.0 ohm and 11.11 megohms. Below 0.1 ohm, 3%.

GALVANOMETER—Built-in—sensitivity 0.25 micro-ampere per millimeter division.

RHEOSTAT ARM—Four decades—1.0 ohm steps in Wheatstone and 1.0 micro-ohm steps in Kelvin ranges.

RESISTANCE BOX—Binding posts allow using rheostat as Resistance Box.

SEPARATE KEYS—Provided for battery and galvanometer circuits.

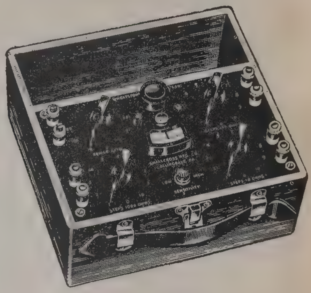
CASE—Carrying type with removable cover (not illustrated) and compartment for 4½ volt battery (not supplied) for Wheatstone range measurements.

DIMENSIONS—Length 12¼″, width 10⅛″, height 6½″.

WEIGHT—Approx. 9 lbs. Price $150.00.

No. 630

WHEATSTONE BRIDGE



Resistance range from 0.1 ohm to 11.1 megohms

SPECIFICATIONS

ACCURACY—1.0% between 10 ohms and 1.0 megohm—2% over 1 megohm.

COMPONENT RESISTORS—0.1% accurate except 1 ohm, which are 0.25%.

RHEOSTAT ARM—Three decades—variable in 10.0 ohm steps.

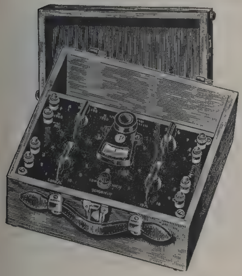
RESISTANCE BOX—Binding posts allow using rheostat as Resistance Box.

CAM SWITCH—Provided for battery and galvanometer circuits.

CASE—Carrying type with removable cover and compartment for batteries and leads (not supplied).

DIMENSIONS—Length 10″, width 9¾″, height 5¼″.

WEIGHT—Approx. 6 lbs. Price $75.00.



No. 637

KELVIN WHEATSTONE BRIDGE

Resistance range 0.001 ohm to 11.1 megohms

SPECIFICATIONS—Same as No. 638-2 except:

ACCURACY—1.0% between 1.0 ohm and 1.0 megohm; 2.0% above 1.0 megohm; and 3.0% below 0.1 ohm.

GALVANOMETER—Sensitivity 1.0 micro-ampere per millimeter division. Built-in.

RHEOSTAT ARM—Three decades—10 ohm steps in Wheatstone and 10 micro-ohm steps in Kelvin ranges.

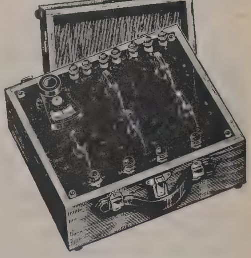
CANNOT be used as Resistance Box.

DIMENSIONS—Length 10″, width 9¾″, height 5¼″.

WEIGHT—Approx. 7 lbs. Price $100.00.

No. 629

FAULT LOCATION BRIDGE



Resistance range 0.1 ohm to 11.11 megohms

SPECIFICATIONS

ACCURACY—COMPONENT RESISTORS—0.1% accurate except 1.0 ohm, which are 0.25%.

GALVANOMETER—Built-in—sensitivity 1.0 micro-ampere per mm. division.

RHEOSTAT ARM—Four decades—11,110 ohms—variable in 1 ohm steps.

RATIO DIAL—Marked 0.001, 0.01, 0.1, 1.0, 10.0, 100 and 1000 for resistance measurements and Varley tests. M1, M 10, M 100 and M 1000 for Murray tests.

SEPARATE KEYS—Provided for battery and galvanometer circuits.

CASE—Carrying type with removable cover, concealed compartment for 4½ volt battery (not supplied).

BINDING POSTS—Provided for use of external galvanometer where required.

DIMENSIONS—Length 10⅜″, width 8⅝″, height 5⅝″.

WEIGHT—Approx. 7 lbs. Price $85.00.

VOLTAGE DIVIDERS (DECADE POTENTIOMETERS)

No.	Dials	Total Resistance	Price	No.	Dials	Total Resistance	Price
835	4	10,000 ohms	$76.00	845	3	1,000 ohms	$70.00
836	4	100,000 ohms	80.00	846	3	10,000 ohms	70.00
837	4	1,000 ohms	75.00	850	3	100,000 ohms	75.00

SHALLCROSS MANUFACTURING CO.

COLLINGDALE, PENNSYLVANIA

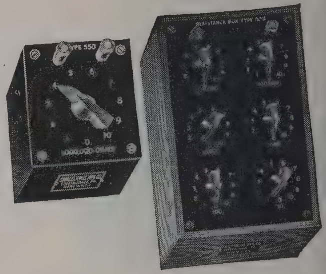
ELECTRICAL INSTRUMENTS
•
RESISTORS
•
VARIABLE ATTENUATORS
•
SWITCHES

SHALLCROSS DECADE RESISTANCE BOXES

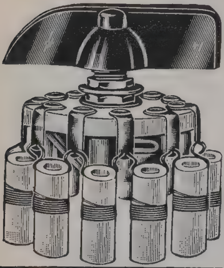
The large assortment and wide range of resistance available makes the Shallcross line of Resistance Boxes unique in the instrument field. They are used extensively as laboratory standards, AC and DC Bridge and ratio arms, voltage dividers, etc.

Accuracy adjustment of Resistors as follows:
0.1 ohm...... 1% 1. ohm..... 0.25% all others...... 0.1%

No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price	No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price
543	1	0.1	1	$13.50	821	3	10	11,100	$29.00
544	1	1.0	10	13.50	822	3	100	111,000	33.00
545	1	10	100	13.50	823	3	1,000	1,110,000	40.00
546	1	100	1,000	13.50	824	3	10,000	11,100,000	66.00
547	1	1,000	10,000	15.00	825	4	1	11,110	35.00
548	1	10,000	100,000	17.50	826	4	10	111,100	44.00
549	1	100,000	1,000,000	27.50	827	4	100	1,111,000	50.00
550	1	1,000,000	10,000,000	45.00	828	4	1,000	11,110,000	77.50
817	3	.01	11.1	30.00	8285	5	0.1	11,111	45.00
817A	4	.01	111.1	40.00	829	5	1	111,110	50.00
817B	5	.01	1,111.1	45.00	830	5	10	1,111,100	62.50
818	3	0.1	111	30.00	831	5	100	11,111,000	82.50
819	4	0.1	1,111	35.00	832	6	1	1,111,110	70.00
820	3	1	1,110	28.00	833	6	10	11,111,100	95.00



UNMOUNTED DECADE RESISTANCES

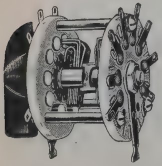


In response to a demand from engineers, manufacturers and physicists who design and construct their own electrical measuring instruments, we have made the Shallcross Unmounted Decade Resistances available. They are of the same construction as those used in the popular Shallcross Resistance Decades described above and consist of ten Shallcross Resistors mounted on a ceramic instrument switch.

SPECIFICATIONS

Type No.	Total Resistance Ohms	Unit Resistance Ohms	Switch No.	Accuracy	Price
435	1.0	.1	536	1.0%	$8.00
436	10	1.0	531	0.25%	8.00
437	100	10	531	0.1	8.00
438	1,000	100	531	0.1	8.00
439	10,000	1,000	531	0.1	9.50
440	100,000	10,000	531	0.1	12.00
441	1 Meg.	100,000	531	0.1	20.00
442	10 Meg.	1 Meg.	531	0.1	35.00

Mounting: Single ⅜″ Hole Mounting—Panels Up to 3/16″ Thick. Any of the above may be obtained with aluminum dust cover and shield at $1.50 additional cost.

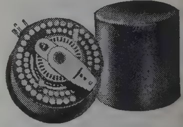


SHALLCROSS ROTARY SELECTOR SWITCHES

Like other Shallcross instrument components, these Rotary Selector Switches are designed to cover a very wide field of application in both shorting and nonshorting types, and can be modified to control a variety of circuits. Details on any type for practically any application on request. Suffixes B and S denote Brass and Silver contacts and contact arms.

Type	Sections	Contacts	Shorting	List Price	Nonshort.	List Price
531	1	11	4605-B	$2.00	4610-B	$2.25
532	2	11	4620-B	4.50	4615-B	5.00
536	1	11	4605-S	2.75	4610-S	3.00
537	2	11	4620-S	6.00	4615-S	6.50
538	1	12	5550-B	2.50	5620-B	2.75
539	1	12	5550-S	3.50	5620-S	3.75
515	1	15	5610-B	2.75	4225-B	3.00
516	2	15	5615-B	6.00	4980-B	6.50
526	1	15	5610-S	3.50	4225-S	3.75
527	2	15	5615-S	7.50	4980-S	8.00
564	1	18	5155-B	3.50	5625-B	3.75
565	1	18	5155-S	4.50	5625-S	4.75
566	1	24	5630-B	4.50	5570-B	5.00
567	1	24	5630-S	5.50	5570-S	6.00
568	1	36		*		*
569	1	36		*		*
570	1	48		*		*
571	1	48		*		*
572	1	52		*		*
573	1	52		*		*
560	Large Rotating Tap Switch—12 Brass Contacts—number 2240-2—Shorting only					15.00
	* Prices on application.					

SHALLCROSS VARIATEN CONTROLS AND FIXED PADS



Type 0411 (with detent)

Shallcross Variaten (variable attenuator) controls are characterized by their smooth quiet action, low noise level, trouble free service, and long life. Zero temperature coefficient resistance alloy non-inductively wire-wound resistors are used in all Shallcross Variaten controls. Variaten controls can be used up to 30 kc. with no leakage. The resistance networks are completely impregnated in a special compound protecting the unit against moisture and shock.

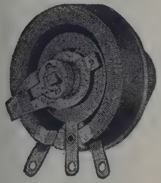
The Variaten controls listed in the table below are a very few of the wide variety of standard and special attenuators manufactured by Shallcross. Other standard types not listed include turntable faders, loudspeaker controls, matching attenuators, VI and VU meter range extenders, balanced H attenuators, and carbon and wire-wound potentiometers.

Type		No. of Steps	Db. per Step	Description and Circuit	List Price
New No.	Old No.				
0111	1384	20	2.33	Mixer—Ladder	$7.00
0112	1156	32	1.5	Mixer—Ladder	12.00
0411	1218	32	1.5	Mixer—Bridged T	17.00
1413b	1013B	20	2	General Purpose—Bridged T (±5%)	17.00
1314a	1012A	30	1	General Purpose—Straight T (±5%)	20.00
2313a	1327A	20	1	Precision—Straight T (±1%)	22.00
....	2702	....	....	Fixed pad—T	$3.00
....	2702	....	....	Fixed pad—H	3.30

Shallcross Variaten controls are available in any impedance combination on special order; standard impedances either in or out, are 600 – 500 – 250 – 200 – 50 – 30 ohms. Detents (indexing devices) are also available on order. Knob or dial for any type $.50 extra for each.

Shallcross Fixed Pads No. 2702 can be furnished in any loss value up to 40 db. Resistor accuracy ±2%. Size: 1½″ x ⅞″ x 1$\frac{5}{16}$″. They are also available in a wide variety of other circuits on request.

VITROHM RING TYPE RHEOSTATS



The core and base of Ward Leonard Ring Type Rheostats are made of the highest grade ceramic materials. The resistance wire is wound toroidally on the core, and is coated with a tough, heat resistant, acid resistant, crazeless vitreous enamel.

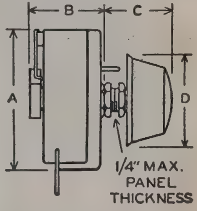
The contact is a special alloy and is of large area to avoid sticking, pitting, local heating, or oxidation when setting remains fixed for a long period of time.

Watt Ratings

Based on continuous operation in free air with a temperature rise not to exceed 300° C, which is within the limits specified by Underwriters' Laboratories and NEMA.

Number of Steps

Each turn of resistance wire on the core of a Vitrohm Ring Type Rheostat constitutes a step of change in the resistance value.



Vitrohm Ring Type Rheostats are made with three terminals with no "off" position, and can be used as potentiometers or rheostats, as desired. Rheostats with an "off" position can be furnished on special order.

Heavy Duty Rheostats

Pressed steel plate type.

300 watts — 1 to 2500 ohms, 20 steps, 6" diameter.
500 watts — 1 to 5000 ohms, 33 steps, 8" diameter.

25 WATTS Type 25R

Dimensions
A — 1 9/16"
B — 1 3/16"
C — 1"
D — 1 1/8"

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	7070	27	$5.85
1	5000	27	5.85
2	3540	27	5.20
3	2880	27	5.20
6	2040	81	5.20
8	1770	90	5.20
10	1580	90	5.20
15	1280	103	5.20
25	1000	103	5.20
35	840	108	5.20
50	707	137	5.20
75	574	137	5.20
100	500	171	5.20
150	407	171	5.20
250	316	240	5.20
350	267	274	5.20
500	223	308	5.20
750	181	308	5.20
1000	158	390	5.85
1500	128	376	5.85
2500	100	520	5.85
3500	84	520	6.18
5000	70	520	6.18

50 WATTS Type 50R

Dimensions
A — 2 5/16"
B — 1 5/16"
C — 1 1/8"
D — 1 1/2"

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	10000	30	$6.50
1	7070	49	6.50
2	5000	49	6.50
4	3540	59	5.85
6	2880	108	5.85
8	2500	113	5.85
10	2230	150	5.85
15	1810	150	5.85
25	1415	188	5.85
35	1190	119	5.85
50	1000	188	5.85
75	812	188	5.85
100	707	225	5.85
150	574	225	5.85
250	447	300	5.85
350	374	338	5.85
500	316	375	5.85
750	256	450	6.18
1000	223	450	6.18
1500	181	570	6.18
2500	141	570	6.18
3500	119	713	6.50
5000	100	713	6.50
7500	81	855	6.50
10000	70	998	6.50

100 WATTS Type 100R

Dimensions
A — 3 5/32"
B — 1 3/4"
C — 1 1/8"
D — 1 1/2"

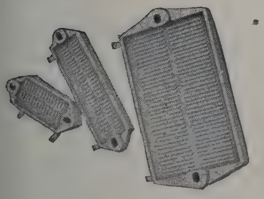
Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	14100	41	$9.75
1	10000	41	9.75
2	7070	41	9.75
3	5740	72	9.75
5	4470	82	9.75
7.5	3640	82	9.10
10	3160	72	9.10
15	2560	156	9.10
25	2000	196	9.10
50	1415	274	9.10
75	1150	313	9.10
100	1000	274	9.10
200	707	313	9.10
300	574	353	9.10
400	500	392	9.10
500	447	392	9.10
750	364	464	9.10
1000	316	470	9.75
2000	223	595	9.75
2500	200	744	9.75
5000	141	893	10.40
7500	115	893	11.05
10000	100	1041	11.70

150 WATTS Type 150R

Dimensions
A — 3 3/16"
B — 2"
C — 1 1/8"
D — 1 1/2"

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	17320	43	$12.35
1	12240	43	12.35
2	8660	43	12.35
3	7070	54	12.35
5	5470	107	12.35
7.5	4470	107	12.35
10	3870	107	11.70
15	3160	107	11.70
25	2440	204	11.70
50	1730	245	11.70
75	1415	286	11.70
100	1224	367	11.70
200	866	326	11.70
300	707	408	11.70
400	612	408	11.70
500	547	489	11.70
750	447	489	12.35
1000	387	620	12.35
2000	273	775	13.00
2500	244	775	13.00
5000	173	930	13.65
7500	141	1240	14.30
10000	122	1240	15.60

VITROHM PLAQUE RESISTORS



Vitrohm Plaque Resistors are flat in form. The resistance wire is arranged on a rectangular ceramic base to give the lowest obtainable values of inductance and distributed capacitance. Inductance at frequencies up to 1000 kilocycles and distributed capacitance up to 5 megacycles are so low in value that they are negligible.

Vitrohm Plaque Resistors are rated 20, 40, and 125 watts with full ventilation. Since full ventilation is usually impossible to attain, the watt rating should be decreased to compensate for the reduction in ventilation. A single plaque resistor mounted on a panel should operate safely about 80% of the full watt rating.

	20 WATTS TYPE 20P		40 WATTS TYPE 40P		125 WATTS TYPE 125P	
Ohms	Current m. a.	List Price	Current m. a.	List Price	Current m. a.	List Price
0.64	5590	$1.95	7910	$2.60	14000	$3.90
1.00	4470	1.95	6320	2.60	11200	3.90
1.6	3540	1.95	5000	2.60	8800	3.90
2.5	2830	1.95	4000	2.60	7050	3.90
4.0	2240	1.95	3160	2.60	5600	3.90
6.4	1770	1.95	2500	2.60	4400	3.90
10	1415	1.95	2000	2.60	3500	3.90
16	1120	1.95	1580	2.60	2800	3.90
25	895	1.95	1260	2.60	2200	3.90
40	705	1.95	1000	2.60	1770	3.90
50	630	1.95	895	2.60	1580	3.90
64	560	1.95	790	2.60	1400	3.90
100	445	1.95	630	2.60	1120	3.90
160	355	1.95	500	2.60	880	3.90
250	285	1.95	400	2.60	705	3.90
400	225	1.95	315	2.60	560	3.90
640	175	1.95	250	2.60	440	3.90
1,000	140	1.95	200	2.60	350	3.90
1,600	110	1.95	160	2.60	280	3.90
2,500	90	1.95	125	2.60	220	3.90
4,000	70	1.95	100	2.60	177	3.90
5,000	65	1.95	90	2.60	158	3.90
6,400			80	2.60	140	3.90
10,000			65	2.60	112	3.90

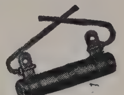
VITROHM FIXED RESISTORS

Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

5 WATTS Type 5F

Size 1" x 5/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	2230	$0.52	350	119	$0.52
1.5	1820	.52	400	112	.52
2	1580	.52	450	105	.52
3	1290	.52	500	100	.52
4	1117	.52	600	91	.52
5	1000	.52	700	84	.52
7.5	811	.52	750	81	.52
10	707	.52	800	79	.52
12	644	.52	900	74	.52
15	577	.52	1000	70	.52
20	500	.52	1100	67	.52
25	450	.52	1200	64	.52
30	408	.52	1250	63	.52
35	378	.52	1500	57	.52
40	353	.52	1750	53	.52
50	316	.52	2000	50	.52
75	257	.52	2250	47	.52
100	223	.52	2500	45	.52
125	200	.52	3000	40	.52
150	182	.52	3500	37	.52
200	158	.52	4000	35	.52
250	141	.52	4500	33	.52
300	129	.52	5000	31	.52



5-watt, 10-watt, 20-watt

Types 5F, 10F, and 20F are furnished with wire terminal leads — no brackets.

Order by Type Number and Resistance Value.

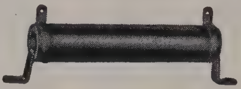
10 WATTS Type 10F

Size—1¾" x 5/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	3160	$0.59	150	258	$0.59	4500	47	$0.59
1.5	2580	.59	200	224	.59	5000	45	.59
2	2235	.59	225	211	.59	6000	41	.59
3	1825	.59	250	200	.59	7000	38	.59
4	1580	.59	300	182	.59	7500	36	.59
5	1415	.59	350	169	.59	8000	35	.59
7.5	1155	.59	400	158	.59	8500	34	.59
10	1000	.59	450	149	.59	9000	33	.59
12	913	.59	500	142	.59	10000	30	.59
15	815	.59	600	129	.59	11000	27	.65
20	707	.59	700	120	.59	12000	25	.65
25	630	.59	750	115	.59	12500	24	.65
30	577	.59	800	110	.59	13500	22	.65
35	534	.59	900	105	.59	14300	21	.65
40	500	.59	1000	100	.59	15000	20	.65
50	450	.59	1100	95	.59	16000	19	.65
75	365	.59	1200	91	.59	17500	17	.65
100	316	.59	1250	89	.59	18000	16	.65
125	283	.59	1500	81	.59	20000	15	.65
			1750	75	.59	22500	13	.65
			2000	70	.59	25000	12	.65
			2250	66	.59	30000*	13	.65
			2500	63	.59	35000*	12	.65
			3000	58	.59	40000*	11	.65
			3500	53	.59	45000*	10.5	.65
			4000	50	.59	50000*	10	.65

*Operated at Low Temperature. Rated 5 Watts.

HEAVY DUTY RESISTORS



Mounting brackets and lug type terminals

20 WATTS Type 20F

Size 2" x 9/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	4480	$0.91	2500	90	$0.91
3	2580	.91	2750	85	.91
5	2000	.91	3000	80	.91
10	1410	.91	3500	76	.91
15	1150	.91	4000	70	.91
25	900	.91	4500	67	.91
50	630	.91	5000	63	.91
75	510	.91	6000	55	.91
100	450	.91	7000	53	.91
150	365	.91	7500	51	.91
175	340	.91	8000	50	.91
200	320	.91	10000	40	.91
250	285	.91	12500	32	.91
300	258	.91	15000	27	.91
350	240	.91	20000	20	1.11
400	220	.91	25000	16	1.11
500	200	.91	30000	13	1.11
650	175	.91	35000	11	1.11
700	169	.91	40000	10	1.11
750	160	.91	45000	9	1.11
800	155	.91	50000	8	1.11
850	153	.91	55000	7	1.43
1000	141	.91	60000*	10.8	1.43
1200	130	.91	65000*	10.5	1.43
1250	125	.91	70000*	10.0	1.43
1500	115	.91	75000*	9.5	1.43
1750	107	.91	80000*	9.3	1.43
1850	104	.91	85000*	9.1	1.43
2000	100	.91	90000*	8.8	1.43
2250	94	.91	95000*	8.6	1.43
2400	91	.91	100000*	8.4	1.43

*Operated at Low Temperature. Rated 7 Watts.

25 WATTS Type 25F

Size—2" x 5/8" Mounting Centers—2⅝"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	5000	$1.04	2000	112	$1.04
2	3535	1.04	2500	100	1.04
3	2890	1.04	3000	90	1.04
4	2500	1.04	3500	85	1.04
5	2235	1.04	4000	80	1.04
10	1580	1.04	5000	70	1.04
15	1290	1.04	6000	65	1.17
25	1000	1.04	7500	53	1.17
50	710	1.04	8500	47	1.17
75	580	1.04	10000	40	1.17
100	500	1.04	12000	33	1.17
150	410	1.04	15000	27	1.17
200	354	1.04	20000	20	1.43
250	315	1.04	25000	16	1.43
300	289	1.04	30000	13	1.43
400	250	1.04	35000	11	1.43
500	224	1.04	40000	10	1.43
750	182	1.04	50000	8	1.43
800	177	1.04	60000	6.7	1.63
850	170	1.04	70000	5.7	1.76
1000	158	1.04	75000	5.3	1.95
1250	140	1.04	80000	5	1.95
1500	129	1.04	100000	4	2.47

50 WATTS Type 50F

Size—3½" x ¾" Mounting Centers—4¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	7070	$1.56	5000	100	$1.56
2	5000	1.56	6000	91	1.82
3	4080	1.56	7500	82	1.82
4	3535	1.56	8000	79	1.82
5	3160	1.56	10000	70	1.82
10	2235	1.56	12000	64	1.82
25	1415	1.56	12500	56	1.82
50	1000	1.56	15000	47	1.82
75	815	1.56	20000	35	1.82
100	707	1.56	25000	28	1.82
150	575	1.56	30000	23	2.08
300	500	1.56	35000	20	2.08
250	445	1.56	40000	18	2.08
300	408	1.56	45000	17	2.08
400	353	1.56	50000	14	2.08
500	316	1.56	75000	9	2.08
750	258	1.56	100000	7	2.08
800	250	1.56	125000	5	2.86
1000	224	1.56	150000	4.6	3.25
1500	180	1.56	175000	4.0	3.25
2000	160	1.56	200000*	3.5	3.58
2500	141	1.56	225000*	3.1	3.58
3000	130	1.56	250000*	2.8	3.90
4000	110	1.56			

*Operated at Low Temperature. Rated 17 Watts.

100 WATTS Type 100F

Size—6½" x 1⅛" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	10000	$2.15	2500	200	$2.15
2	7070	2.15	3000	180	2.15
3	5770	2.15	3500	170	2.15
4	5000	2.15	4000	160	2.15
5	4470	2.15	4500	150	2.15
10	3160	2.15	5000	141	2.15
25	2000	2.15	7500	115	2.54
50	1410	2.15	10000	100	2.54
75	1150	2.15	15000	80	2.54
100	1000	2.15	20000	70	2.54
125	895	2.15	25000	60	2.54
150	815	2.15	30000	50	2.86
250	630	2.15	35000	43	2.86
500	447	2.15	40000	37	2.86
750	365	2.15	50000	30	2.86
1000	316	2.15	60000	25	3.25
1250	285	2.15	70000	21	3.25
1500	260	2.15	75000	20	3.25
2000	225	2.15	100000	15	3.58

160 WATTS Type 160F

Size—8½" x 1⅛" Mounting Centers—9¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	12650	$3.77	2500	252	$2.86
2	8940	3.45	3000	230	2.86
3	7300	3.25	3500	215	2.86
4	6320	3.05	4000	200	2.86
5	5650	2.86	4500	185	2.86
10	4000	2.86	5000	178	2.86
15	3265	2.86	7500	146	2.86
25	2525	2.86	10000	126	2.86
50	1785	2.86	15000	105	3.45
75	1460	2.86	20000	90	3.45
100	1265	2.86	25000	80	3.45
150	1035	2.86	30000	67	3.45
200	894	2.86	35000	57	3.45
250	800	2.86	40000	50	3.45
500	565	2.86	50000	40	3.45
750	460	2.86	60000	33	3.90
1000	400	2.86	75000	26	3.90
1500	326	2.86	80000	25	3.90
2000	280	2.86	100000	20	3.90

200 WATTS Type 200F

Size—10½" x 1⅛" Mounting Centers—11¼"

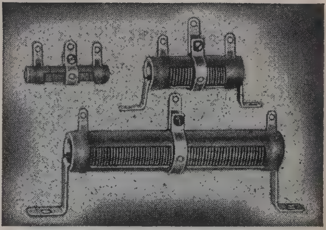
Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	14140	$4.68	3500	240	$3.58
2	10000	4.36	4000	225	3.58
3	8162	4.03	4500	210	3.58
4	7070	3.77	5000	200	3.58
5	6325	3.58	7500	163	3.58
10	4470	3.58	10000	141	3.58
25	2825	3.58	15000	115	4.29
50	2000	3.58	20000	100	4.29
75	1630	3.58	25000	90	4.29
100	1414	3.58	30000	82	4.29
150	1150	3.58	35000	71	4.29
250	900	3.58	40000	62	4.29
500	632	3.58	50000	50	4.29
750	515	3.58	60000	42	4.29
1000	447	3.58	75000	33	4.29
1500	365	3.58	100000	25	4.29
2000	315	3.58	125000	20	4.29
2500	282	3.58	150000	16	4.29
3000	260	3.58			

WARD LEONARD • VITROHM RESISTORS and RHEOSTATS

ADJUSTABLE RESISTORS -- ADJUSTOHMS

Adjustohm Resistors are for use in any application where it is necessary or desirable to have one or more intermediate resistance values; or in circuits that need to be changed from time to time to meet varying electrical conditions.

Adjustohm Resistors are built of the highest grade low temperature coefficient materials, and are coated with Ward Leonard's tough crazeless Vitreous Enamel.



WATT RATINGS

Nominal watt ratings for Adjustohm Resistors apply when the entire resistor is in the circuit. For most practical purposes the watt rating for each part of the resistor is approximately proportional to the amount of the resistance that is in the circuit.

Mounting brackets are furnished with all Adjustohm Resistors, except the 10-watt size, Type 10A.

Price of resistor includes brackets and one adjustable band.

10 WATTS Type 10A

Size—1¾" x 5/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	3160	$0.98	750	115	$0.98
2	2235	.98	800	110	.98
3	1825	.98	1000	100	.98
5	1415	.98	1250	89	.98
7.5	1155	.98	1500	81	.98
10	1000	.98	2000	70	.98
15	815	.98	2500	63	.98
20	707	.98	3000	58	.98
25	630	.98	3500	53	.98
50	450	.98	4000	50	.98
75	365	.98	4500	47	.98
100	316	.98	5000	45	.98
150	258	.98	6000	41	.98
200	224	.98	7000	38	.98
250	200	.98	7500	36	.98
300	182	.98	8000	35	.98
350	169	.98	8500	34	.98
400	158	.98	9000	33	.98
500	142	.98	10000	30	.98
600	129	.98			

50 WATTS Type 50A

Size—4½" x ¾" Mounting Centers—5⅛"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	7070	$1.95	3000	130	$1.95
2	5000	1.95	3500	120	1.95
3	4080	1.95	4000	110	1.95
4	3535	1.95	4500	105	1.95
5	3160	1.95	5000	100	1.95
10	2235	1.95	6000	91	2.15
25	1415	1.95	7000	85	2.15
50	1000	1.95	7200	83	2.15
75	815	1.95	7500	82	2.15
100	707	1.95	8000	79	2.15
150	575	1.95	9000	75	2.15
200	500	1.95	10000	71	2.15
250	445	1.95	12000	64	2.15
300	408	1.95	15000	58	2.15
400	353	1.95	20000	48	2.15
500	316	1.95	25000	40	2.15
750	258	1.95	30000	33	2.47
800	250	1.95	40000	25	2.47
1000	224	1.95	50000	20	2.47
1250	200	1.95	60000	17	2.86
1500	180	1.95	75000	13	2.86
2000	160	1.95	80000	12	2.86
2250	150	1.95	100000	10	2.86
2500	141	1.95			

160 WATTS Type 160A

Size—8½" x 1⅛" Mounting Centers—9¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	12650	$4.68	3000	230	$3.58
2	8940	4.36	3500	215	3.58
3	7300	4.03	4000	200	3.58
4	6320	3.77	4500	185	3.58
5	5650	3.58	5000	178	3.58
10	4000	3.58	7500	146	3.58
15	3265	3.58	10000	126	3.58
25	2525	3.58	15000	105	4.16
50	1785	3.58	20000	90	4.16
100	1265	3.58	25000	80	4.16
200	894	3.58	30000	67	4.16
250	800	3.58	40000	50	4.16
500	565	3.58	50000	40	4.16
1000	400	3.58	60000	33	4.55
1500	326	3.58	75000	26	4.55
2000	280	3.58	80000	25	4.55
2500	259	3.58	100000	20	4.55

25 WATTS Type 25A

Size—2" x ⅝" Mounting Centers—2⅝"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	5000	$1.24	1250	140	$1.24
2	3535	1.24	1500	129	1.24
3	2890	1.24	2000	112	1.24
5	2230	1.24	2250	105	1.24
7.5	1825	1.24	2500	100	1.24
10	1580	1.24	3000	90	1.24
15	1290	1.24	3500	85	1.24
20	1115	1.24	4000	80	1.24
25	1000	1.24	4500	74	1.24
50	710	1.24	5000	70	1.24
75	580	1.24	6000	65	1.43
100	500	1.24	7000	57	1.43
150	410	1.24	7200	56	1.43
200	354	1.24	7500	53	1.43
250	315	1.24	8000	50	1.43
300	289	1.24	8500	47	1.43
400	250	1.24	9000	44	1.43
500	224	1.24	10000	40	1.43
750	182	1.24	12000	33	1.43
800	177	1.24	15000	27	1.43
850	170	1.24	20000	20	1.56
1000	158	1.24	25000	16	1.56

75 WATTS Type 75A

Size—6½" x ¾" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	8660	$2.54	3000	158	$2.54
2	6120	2.54	3500	146	2.54
3	5000	2.54	4000	137	2.54
4	4330	2.54	4500	129	2.54
5	3870	2.54	5000	122	2.54
10	2740	2.54	6000	111	2.86
15	2235	2.54	7000	103	2.86
25	1730	2.54	7200	102	2.86
50	1220	2.54	7500	100	2.86
75	1000	2.54	8000	97	2.86
100	866	2.54	9000	91	2.86
200	612	2.54	10000	87	2.86
250	550	2.54	15000	71	2.86
300	500	2.54	20000	61	2.86
400	433	2.54	25000	55	2.86
500	387	2.54	30000	50	3.25
750	315	2.54	35000	43	3.25
800	305	2.54	40000	37	3.25
1000	274	2.54	45000	33	3.25
1250	245	2.54	50000	30	3.25
1500	224	2.54	60000	25	3.58
2000	195	2.54	70000	21	3.58
2250	183	2.54	80000	19	3.58
2500	173	2.54	100000	15	3.58

200 WATTS Type 200A

Size—10½" x 1⅛" Mounting Centers—11¼"

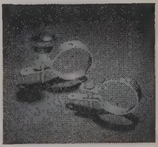
Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	14140	$5.59	4000	225	$4.29
2	10000	5.20	4500	210	4.29
3	8160	4.88	5000	200	4.29
4	7070	4.55	7500	163	4.29
5	6320	4.29	10000	141	4.29
10	4470	4.29	15000	115	5.01
25	2825	4.29	20000	100	5.01
50	2000	4.29	25000	90	5.01
100	1414	4.29	30000	82	5.01
250	900	4.29	40000	62	5.01
500	632	4.29	50000	50	5.01
1000	447	4.29	60000	42	5.01
1500	365	4.29	75000	33	5.01
2000	315	4.29	100000	25	5.01
2500	282	4.29	125000	20	5.33
3000	260	4.29	150000	16	5.33
3500	240	4.29			

100 WATTS Type 100A

Size—6½" x 1⅛" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	10000	$2.86	2500	200	$2.86
2	7070	2.86	3000	180	2.86
3	5770	2.86	4000	160	2.86
4	5000	2.86	4500	150	2.86
5	4470	2.86	5000	114	2.86
10	3160	2.86	6000	130	3.25
25	2000	2.86	7500	115	3.25
50	1410	2.86	10000	100	3.25
100	1000	2.86	15000	80	3.25
200	707	2.86	20000	70	3.25
250	630	2.86	25000	60	3.25
400	500	2.86	30000	50	3.58
500	447	2.86	40000	37	3.58
750	365	2.86	50000	30	3.58
1000	316	2.86	60000	25	3.90
1500	260	2.86	75000	20	3.90
2000	225	2.86	100000	15	3.90

ADJUSTABLE BANDS



Each Adjustohm Resistor is furnished with one Screw-Driver Type Adjustable Band Terminal (at right in illustration).

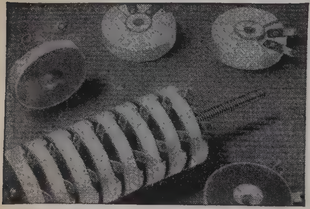
Additional band terminals are available. See list in the accompanying table.

Size of Resistor	Screw Driver Type		Bakelite Knob Type	
	Cat. No.	Price	Cat. No.	Price
10 Watts	507-685	$0.13	....	....
25 Watts	507-686	.13	507-691	$0.20
50 Watts	507-688	.13	507-693	.20
75 Watts	507-688	.13	507-693	.20
100 Watts	507-690	.20	507-695	.33
160 Watts	507-690	.20	507-695	.33
200 Watts	507-690	.20	507-695	.33

WARD LEONARD • VITROHM RESISTORS and RHEOSTATS

DISCOHM RESISTORS

18 WATTS Type 18D



Discohms are flat refractory discs having resistance wire arranged to minimize the values of inductance and distributed capacitance.

Discohm Resistors are especially useful in equipments where space is limited and where a power resistor having low value of inductance and distributed capacitance is required.

They are mounted by means of a No. 8 wood screw or bolt through the countersunk hole cast in the refractory base. Two or more units can be mounted together to obtain various resistance values and watt ratings.

Discohm Resistors are rated at 18 watts with free ventilation. A single Resistor mounted on a panel should operate safely at 80% of the full watt rating or 90% of the full current rating.

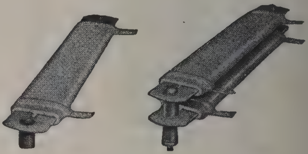
Ohms	Current m. a.	List Price
1.0	4240	$1.95
1.6	3350	1.95
2.5	2680	1.95
4.0	2120	1.95
6.4	1680	1.95
10	1340	1.95
16	1060	1.95
25	850	1.95
40	670	2.21
64	530	2.21
100	420	2.21
160	335	2.34
250	268	2.34
400	212	2.34
640	168	2.34
1000	134	2.34
1600	106	2.34
2500	85	2.34
4000	67	2.34

VITROHM STRIP RESISTORS

Vitrohm Strip Resistors lend themselves readily to applications where space is limited, such as aircraft control circuits, radio instruments, and similar apparatus.

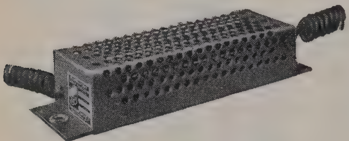
Vitrohm Strip Resistors are built on a strong flat reinforced core that has no sharp angular surfaces, providing a smooth continuous form of the resistance winding. The resistors are vitreous enamel coated.

Each unit is fitted with a self-sustained mounting bracket and spacer, the end pieces being riveted to a metal strip that passes through the core and serves as a conductor for the internal heat generated while the resistor is in service.



LENGTH (Inches)		RESISTANCE		Watt Rating
Resistor Body	Mounting Holes	Min. Ohms	Max. Ohms	
1¼	2	0.45	6,300	30
2	2¾	0.50	15,800	40
3½	4¼	0.70	35,000	55
4¾	5½	1.00	50,000	65
6	6¾	1.40	66,000	75

FLUORESCENT LAMP RESISTORS



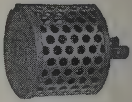
Ward Leonard Fluorescent Lamp Resistors are designed for use in buorescent lamps operating on direct current. They meet the requirements of lamp and fixture manufacturers and are listed as standard by the Underwriters' Laboratories, Inc., and by the New York City Department of Water Supply, Gas and Electricity.

Ward Leonard Fluorescent Lamp Resistors are mounted in well-ventilated metal enclosures for installation on standard fixtures. They are made for use on 115-volt, 120-volt and 220-volt circuits and in various resistance values to meet the requirements of the lamps with which they are to be used.

Long, flexible asbestos covered leads facilitate connections.

Plug-In Type

For Portable Fixtures



Ward Leonard also provides a Fluorescent Lamp Resistor in a metal enclosure for use with portable lamps operating on 120-volt circuits. It is fitted with a plug on one end for inserting into the line receptacle and a receptacle on the other end into which the plug on the figure is placed.

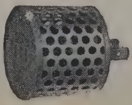
The Plug-In Resistor is made for use on 15-watt and 20-watt lamp fixtures.

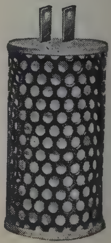
LINE VOLTAGE REDUCERS

Ward Leonard Line Voltage Reducers protect radio sets, soldering irons, Christmas tree lamp strings, and other electrical appliances within the ratings of the Reducers, from high line voltage.

Line Voltage Reducers consist of a resistor network encased in a perforated metal enclosure provided with standard parallel prongs on one end and a standard receptacle on the other. Connection is made by plugging the Reducer into a receptacle and then inserting the plug on the appliance in the receptacle on the enclosure.

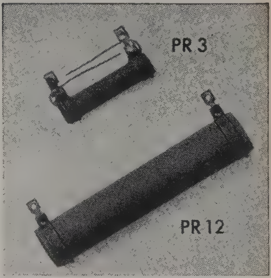
Catalog Number	Length Inches	Resis. Ohms	Load	List Price
507-109	1½	25.	For 35-65 watt 115 volt radio set on 115-140 volts....	$2.28
507-109A	1½	10.	For 65-130 watt 115 volt radio set on 115-140 volts...	2.28
507-109B	2¼	4.5	For 130-285 watt 115 volt radio set on 115-140 volts..	2.73
507-109H	5¼	300.	For 60-watt 115 volt radio set on 230 volts...........	3.58





WIRT WIRE WOUND FIXED RESISTORS

WIRE WOUND FIXED RESISTORS



o satisfy the most exacting needs of the Radio and Elecronic Industries, Wirt Fixed Wire-wound Resistors are reguarly furnished in PHENOCOTE protective coatings, developed nd steadily improved over a period of many years in the Virt Laboratories. The resistor wire is space wound on low oss ceramic tubes. The PHENOCOTE covering is an excluive organic cement coating offering maximum protection to he resistance winding against the detrimental effects of noisture, humidity and electrolysis. Absolutely inert chemially, it will not effect the most delicate windings. It is paricularly recommended for fine wire sizes and all applications where the maximum temerature of the unit will not exceed 300° F. These Resistors are universally used in the Radio, Electronic, Instrument, Public Address and Test Equipment fields.

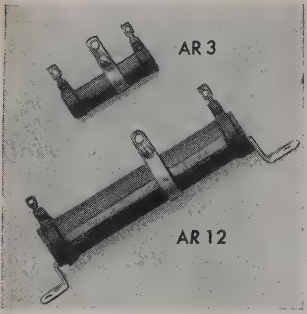
TABLE OF SPECIFICATIONS OF FIXED RESISTORS

Cat. No.	Watts	Sizes Phys.	Resistance Limits (Ohms)	List Price (Ea.)	Accessories Terminals	Mounting Brackets	Mounting Centers	Packing
PR 1	5	⅜"x1"	1 to 10000	$0.53	Soldering Lugs & Wire Leads	None	......	10 to a box
PR 3	10	⅜"x1¾"	1 to 10000	.59	Soldering Lugs & Wire Leads	None	......	10 to a box
			11 to 25000	.65				
PR 4	20	½"x2"	5 to 15000	.91	Soldering Lugs & Wire Leads	None	......	10 to a box
			16000 to 50000	1.11				
			51000 to 100000	1.43				
PR 12	50	¾"x4"	5 to 5000	1.56	Soldering Lugs	2	5"	Individual
			5100 to 25000	1.82				
			26000 to 100000	2.08				
PR 19	100	1⅛"x6½"	5 to 5000	2.15	Soldering Lugs	2	7"	Individual
			5100 to 25000	2.54				
			26000 to 50000	2.86				
			51000 to 75000	3.25				
			76000 to 100000	3.58				
PR 22	160	1⅛"x8½"	5 to 10000	2.86	Soldering Lugs	2	9"	Individual
			11000 to 50000	3.43				
			51000 to 100000	3.86				
PR 23	200	1⅛"x10½"	5 to 10000	3.58	Soldering Lugs	2	11"	Individual
			11000 to 100000	4.29				

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT

WIRE WOUND ADJUSTABLE RESISTORS



WIRE WOUND ADJUSTABLE RESISTORS

WIRT Adjustable Resistors are space wound on low loss ceramic tubes to which the resistance wire is bonded, resulting in dependability and long life. Protection of the windings is afforded by the PHENOCOTE covering which is described fully on the preceeding page. One adjustable Slider Band, screw driver type, is furnished as standard. Bakelite knob type bands can be furnished on special order at slightly higher prices as shown below. These bands are made with small contact buttons located on the inside of the band so that a number of taps may be made without shorting out excessive resistance.

TABLE OF SPECIFICATIONS OF ADJUSTABLE RESISTORS

Cat. No.	Sizes		Resistance Limits (Ohms)	List Price (Ea.)	Accessories			Mounting Centers	Packing
	Watts	Phys.			Terminals	Brackets Mounting	Slider Bands		
AR 3	10	⅜″x1¾″	1 to 10000	$0.98	Soldering Lugs	None	1	......	Individual
AR 7	25	¾″x2″	1 to 5000	1.24	Soldering Lugs	2	1	3″	Individual
			6000 to 15000	1.43					
			20000 to 25000	1.56					
AR 12	50	¾″x4″	5 to 5000	1.95	Soldering Lugs	2	1	5″	Individual
			7000 to 25000	2.15					
			30000 to 50000	2.47					
			60000 to 100000	2.86					
AR 15	75	¾″x6″	10 to 5000	2.54	Soldering Lugs	2	1	7″	Individual
			7500 to 25000	2.86					
			30000 to 50000	3.25					
			60000 to 100000	3.58					
AR 19	100	1⅛″x6½″	5 to 10000	2.86	Soldering Lugs	2	1	7″	Individual
			15000 to 50000	3.25					
			75000 to 100000	3.90					
AR 22	160	1⅛″x8½″	5 to 10000	3.25	Soldering Lugs	2	1	9″	Individual
			15000 to 50000	4.15					
			60000 to 100000	4.65					
AR 23	200	1⅛″x10½″	5 to 10000	4.29	Soldering Lugs	2	1	11″	Individual
			15000 to 100000	5.01					

Extra Adjustable Slider Bands are obtainable and priced as follows:

Wattage Size	Screw Driver Type		Bakelite Knob Type
10, 25, 50, 75	$0.26	List Price Each	$0.39
100, 160, 200	.33	List Price Each	.50

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT MINIATURE RHEOSTATS and POTENTIOMETERS

MINIATURE RHEOSTATS AND POTENTIOMETERS

General: WIRT Metal Housed Rheostats and Potentiometers are rugged and compact affording high quality and dependability in operation. Due to size and construction these controls are moderately priced. Housings are made of tin-plated steel. Highest quality resistance wire is space wound on specially treated laminated phenolic strips. The Phosphor Bronze contact-arm is grounded to the metal casing and all terminals are silver plated. Switches cannot be furnished. These Rheostats and Potentiometers are adaptable to a wide variety of uses in the Radio Instrument, Electronic and Test Equipment fields. The types available are listed below:

Cat. No. WC801—Two Terminal Rheostat, 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness ½″. Shaft is Cadmium plated steel, grounded to housing. 5/32″ from end of bushing and slotted for screw driver adjustment. Brass mounting bushings, ⅜″-32 x ¼″ long are standard. Each control is equipped with one 9/16″ hex mounting nut. **List Price**.. **$0.90 Each**

Cat. No. WC802—Three Terminal Potentiometer. 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance ±15%. All other specifications are the same as those listed under the WC801 control shown above. **List Price**..**$1.25 Each**

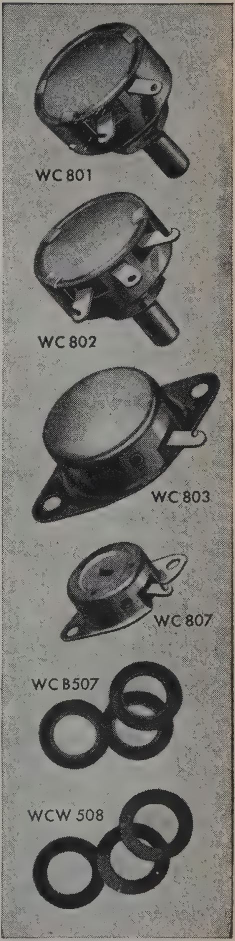
Cat. No. WC803—Sensitivity Control, 2 Watt rating. Resistance Range: 5 ohms to 12,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness is ½″. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from front only. **List Price**.........................**$0.50 Each**

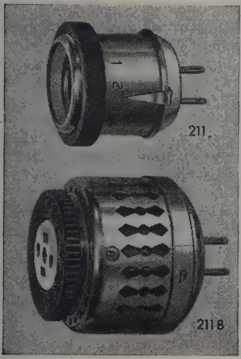
Cat. No. WC804—Sensitivity Control. Identical with WC803 Control, except provided with an opening in back of control to permit screw driver adjustment from either front or back. **List Price** ....**$0.55 Each**

Cat. No. WC807—Miniature Sensitivity Control, 1.5 Watt rating. Resistance Range: 5 ohms to 3000 ohms with uniform winding and standard tolerance of ±15%. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from either front or back. **List Price**......................................**$0.50 Each**

Cat. No. WCB507—Insulating Bushing for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**.................................... **$.095 Each**

Cat. No. WCW508—Insulating Washer for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**.................................**$0.75 Each**





VARIABLE VOLTAGE REGULATOR

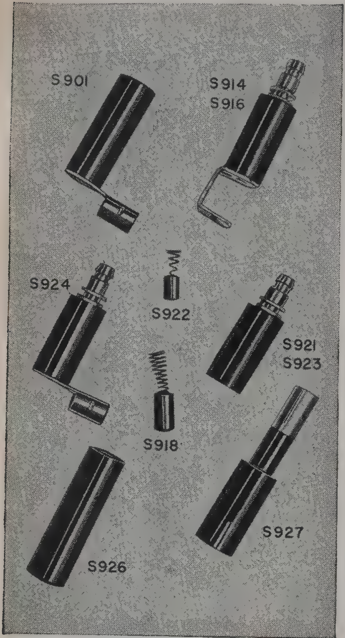
Cat. No. 211 — Variable Voltage Regulator is wound with high quality alloy wire on an insulated metal core with the winding encased in Di-El-Ite. It can be used as a Radio Voltage Regulator where the Receiver draws not more than 65 watts. For industrial use it can be wound up to 600 ohms maximum and will dissipate up to 8 watts. It is adjustable to 5 positions.
List Price ....**$3.00 Each**

Cat. No. 211-B—Regulator has air-cooling features which promote rapid heat dissipation. When used as a Radio Voltage Regulator the Receiver must not draw more than 150 watts. In industrial use for control of voltage and to regulate speed or heat it can be wound with a maximum resistance of 300 ohms and can dissipate up to 20 watts with maximum resistance setting. It is adjustable to 8 positions. **List**......**$5.00 Each**

UTILITY CABINET

Cat. No. UC—Utility Cabinet is constructed of bass wood with corners dadoed and glued for strength; varnished and rubbed to give a beautiful finish. It has six drawers, each one having three removable partitions. The upper five drawers are 1″ deep and the lower one is 1½″ deep. Overall dimensions of the cabinet are 7″ wide by 5⅝″ deep by 9″ high. Drawer guides, bottom and partitions are made of three ply laminated wood to prevent warping. Knobs are of wood and securely fastened. It is ideal for the storage of such parts as resistors, condensers, bolts, nuts, washers, small tools, etc. **List**..........**$8.00 Each**

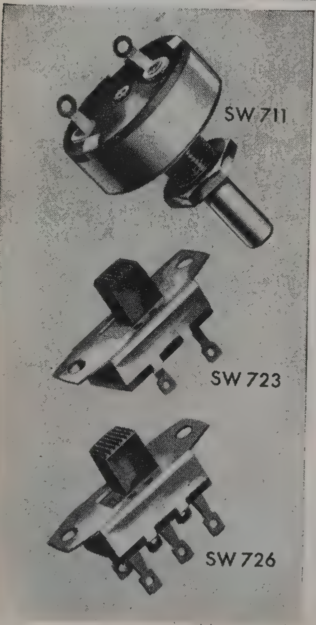
WIRT SUPPRESSORS and SWITCHES



AUTO RADIO IGNITION SUPPRESSORS

Wirt Suppressors are made with moulded black bakelite housings. All metal parts are made of rugged unfinished brass. Terminals are securely fastened to casings and sealed with special moisture and heat resisting dielectric cement. Resistor pills are sprayed with zinc and then double impregnated with a special moisture-proofing compound. Resistance value of all standard types is 10000 ohms ±20%; for FV8 types 50000 ohms ±20%. The distributed capacity is less than 1.5 mmf. Resistance values will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change of not more than 3%. Wirt Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Cat. No.	Type	List Price
S914	Bracket—Standard	$0.40 Each
S916	Bracket—For FV-8	.40 Each
S915	Distributor—Slip Fitting	.40 Each
S918	FV-8 Brush—Years 1933-34-35	.40 Each
S922	FV-8 Brush—Years 1936 to 1940	.40 Each
S921	Universal Screw—Standard	.40 Each
S923	Universal Screw—For FV-8	.40 Each
S924	Snap-on Plug	.40 Each
S926	Cable—Screw Fitting	.40 Each
S927	Distributor—Screw Fitting	.40 Each



WIRT ROTARY AND SLIDE SWITCHES

Rotary Switches

General: Wirt Rotary Switches are of the quick break type, have positive contact, are rugged and neat in appearance. They are constructed with tin plated steel housings. The outside diameter of the switch is 1⅛" and thickness ½". Standard bushings are of brass, ⅜"-32 x ⅜" long. Steel shafts are ⅝" from end of bushing, and made with a flat. Wiping contacts and terminals are silver plated. Terminals are securely fastened in place. Activating spring is positive in action. One 9/16" hex. nut is furnished. These switches are successfully used in conjunction with Radio, Phonograph, Signal and Instrument Circuits.

Cat. No.	Type	List Price
SW711	SPST Rotary Switch, 3A-125V-AC-DC 2 Terminals	$0.50 Each
SW711A	SPDT Rotary Switch, 3A-125V-AC-DC 3 Terminals	.55 Each

Slide Switches

General: All Wirt Slide Switches are compact and sturdy. Housings are made of steel and are cadmium plated. The physical dimensions of the switches have been standardized, width 35/64", length 1-13/32" and mounting centers 1⅛". Standard buttons are of black bakelite. All contacts and terminals are silver plated. Switches SW723 and SW725 are supplied with a dot which indicates the "On" position. These switches are used in the Radio, Signal, Phonograph and Instrument industries.

Cat. No.	Type	List Price
SW723	SPST Slide Switch, .75A-125V-AC-DC, 2 Terminals	$0.31 Each
SW724	SPDT Slide Switch, .75A-125V-AC-DC, 3 Terminals	.37 Each
SW725	DPST Slide Switch, .50A-125V-AC-DC, 4 Terminals	.44 Each
SW726	DPDT Slide Switch, .50A-125V-AC-DC, 6 Terminals	.55 Each

ALPHA - WIRE - PRODUCTS

LACQUERED HOOK-UP AND LEAD-IN WIRE

High Gloss Lacquered Braid

GENERAL PURPOSE: For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.

CONSTRUCTION: Stranded tinned conductor, free stripping rubber, silk braid highly lacquered.

No.	Length Feet		Size	Tinned Strand	Rubber Thickness	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1511	25	Spool	20	10/30	1/64″	7000	290	.090″	$0.30
1513	100	Spool	20	10/30	1/64″	7000	290	.090″	1.25
1515	500	Spool	20	10/30	1/64″	7000	290	.090″	5.65
1521	25	Spool	18	16/30	1/64″	7000	300	.110″	.45
1523	100	Spool	18	16/30	1/64″	7000	300	.110″	1.65
1525	500	Spool	18	16/30	1/64″	7000	300	.110″	7.50
1531	25	Spool	18	16/30	1/32″	8500	460	.135″	.45
1533	100	Spool	18	16/30	1/32″	8500	460	.135″	1.70
1535	500	Spool	18	16/30	1/32″	8500	460	.135″	8.00
1541	25	Spool	16	26/30	1/32″	8500	460	.150″	.55
1543	100	Spool	16	26/30	1/32″	8500	460	.150″	2.25
1545	500	Spool	16	26/30	1/32″	8500	460	.150″	10.25

ALPHA
HOOK UP
WIRE
CORPORATION

Size #18 Stranded 1/32″ Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White. Other sizes Stock Colors: Black and Red.

"LACTIV" WIRE (Pushback)

GENERAL PURPOSE: Pushback hook-up wire in various colors for circuit identification.

CONSTRUCTION: Single conductor, solid or stranded tinned copper, served, .010″ special rubber compound, colored cotton braid waxed.

No.	Length		Size	Strand	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1411	25 Ft.	Spool	22	Solid	2500	16	.080″	$0.22
1413	100 Ft.	Spool	22	Solid	2500	16	.080″	.85
1415	1000 Ft.	Spool	22	Solid	2500	16	.080″	7.75
1421	25 Ft.	Spool	20	Solid	2400	15.5	.090″	.30
1423	100 Ft.	Spool	20	Solid	2400	15.5	.090″	1.00
1425	1000 Ft.	Spool	20	Solid	2400	15.5	.090″	9.00
1431	25 Ft.	Spool	18	Solid	2450	16	.097″	.33
1433	100 Ft.	Spool	18	Solid	2450	16	.097″	1.15
1435	1000 Ft.	Spool	18	Solid	2450	16	.097″	10.65
1441	25 Ft.	Spool	16	Solid	2200	15	.105″	.40
1443	100 Ft.	Spool	16	Solid	2200	15	.105″	1.45
1445	1000 Ft.	Spool	16	Solid	2200	15	.105″	14.00
1451	25 Ft.	Spool	14	Solid	2150	14.8	.130″	.55
1453	100 Ft.	Spool	14	Solid	2150	14.8	.130″	1.95
1455	1000 Ft.	Spool	14	Solid	2150	14.8	.130″	18.75
1301	25 Ft.	Spool	22	7/30	2500	16	.080″	.25
1303	100 Ft.	Spool	22	7/30	2500	16	.080″	.95
1305	1000 Ft.	Spool	22	7/30	2500	16	.080″	8.50
1311	25 Ft.	Spool	20	10/30	2300	15.5	.090″	.30
1313	100 Ft.	Spool	20	10/30	2300	15.5	.090″	1.05
1315	1000 Ft.	Spool	20	10/30	2300	15.5	.090″	9.75
1321	25 Ft.	Spool	18	16/30	2400	16	.097″	.35
1323	100 Ft.	Spool	18	16/30	2400	16	.097″	1.25
1325	1000 Ft.	Spool	18	16/30	2400	16	.097″	11.50
1331	25 Ft.	Spool	16	26/30	2200	15	.105″	.45
1333	100 Ft.	Spool	16	26/30	2200	15	.105″	1.75
1335	1000 Ft.	Spool	16	26/30	2200	15	.105″	16.25
1341	25 Ft.	Spool	14	41/30	2150	14.8	.130″	.60
1343	100 Ft.	Spool	14	41/30	2150	14.8	.130″	2.20
1345	1000 Ft.	Spool	14	41/30	2150	14.8	.130″	21.00

22-20-18—Stranded and Solid Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White.
16-14—Stranded and Solid Colors: Black and Red.

• SHIELDED LEAD-IN AND GROUND WIRE

ALPHA WIRE CORPORATION
ALPHA

GENERAL PURPOSE: Eliminates interference caused by motors, high tension wires, X-Ray machines or other apparatus that radiate electrical impulses. Can also be used for grid and plate leads.

CONSTRUCTION: Stranded tinned conductor, free strip rubber, braided tinned copper shield overall. Frequency: 3000 K.C.

No.	Length Feet		Size	Strand	Thickness Rubber	Maximum Capacity Per Foot	Surge Impedance (Ohms)	Power Factor Percent	O. D.	List Price
1201	250	Spool	14	41/30	3/64″	84 mmf.	27.7	1.98	.180″	$10.00
1205	50	Carton	14	41/30	3/64″	84 mmf.	27.7	1.98	.180″	2.15
1211	250	Spool	16	26/30	1/32″	66 mmf.	33.7	1.63	.150″	7.50
1215	50	Carton	16	26/30	1/32″	66 mmf.	33.7	1.63	.150″	1.55
1221	500	Spool	18	16/30	1/64″	97 mmf.	23.1	1.90	.115″	11.65
1225	500	Spool	20	10/30	1/64″	92 mmf.	29.3	2.10	.107″	9.40

LACQUERED PRIMARY WIRE

GENERAL PURPOSE: For automobile head, tail, side, dashboard lamps, horn, spotlight, instrument leads and general primary voltage applications.

CONSTRUCTION: Stranded soft annealed tinned copper, insulated with rubber, over which is a highly lacquered braid. Oil, heat, and moisture-resistant.

No.	Spool	Size	Strand	Rubber	O.D.	List
1983	100′	10	19/23	1/32″	.208″	$6.25
1989	100′	18	16/30	1/64″	.110″	1.60
1990	500′	18	16/30	1/64″	.110″	7.25
1991	100′	18	16/30	1/32″	.147″	1.65
1992	500′	18	16/30	1/32″	.147″	7.50
1995	100′	16	26/30	1/32″	.155″	$2.15
1996	500′	16	26/30	1/32″	.155″	9.75
1997	100′	14	41/30	1/32″	.170″	2.50
1998	500′	14	41/30	1/32″	.170″	11.50
1999	100′	12	19/25	1/32″	.190″	3.75

BRAIDED SHIELDING

GENERAL PURPOSE: For shielding speaker leads, lead-ins, amplifier wires, auto radio installations. Also for bonding.

CONSTRUCTION: Composed of very fine soft annealed copper wires braided and rolled flat.

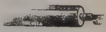
BARE COPPER

No.	Spool	I.D.	List
1226	50 Ft.	1/4″	$1.65
1227	50 Ft.	3/8″	1.90
1228	50 Ft.	5/8″	3.90

TINNED COPPER

No.	Spool	I.D.	List
1230	50 Ft.	3/16″	$1.50
1231	50 Ft.	1/4″	1.90
1232	50 Ft.	3/8″	2.25
1232D	250 Ft.	3/8″	10.00
1233	50 Ft.	5/8″	4.00

"SUPER HI-TENSION" KINKLESS TEST LEAD WIRE



GENERAL PURPOSE: As test leads in analyzers, oscillators and all other types of testing apparatus or wherever an EXTRA FLEXIBLE insulated wire is required.

CONSTRUCTION: #20-41/36 tinned soft annealed copper, concentric strand, cotton wrap, 3/64″ "Super Hi-Tension" rubber, satin finish.

No.	Spool Feet	Voltage Breakdown (60 Cycles)	D.C.Resistance Per Foot (Megohms)	O.D.	List Price
1633	100	10,000 V.	710	.140″	$1.70
1635	500	10,000 V.	710	.140″	8.00

STOCK COLORS: RED and BLACK

Heavy Duty Type

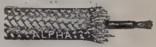
GENERAL PURPOSE: For television therapeutic equipment, analyzers, oscillators, etc. or wherever a heavy duty high voltage line is required.

CONSTRUCTION: #18-66/36 tinned soft annealed copper wire, concentric strand, cotton wrap, heavy "Super Hi-Tension" rubber, satin finish.

1637	100	22,000 V.	Over 1,000	.248″	$5.00
1638	500	22,000 V.	Over 1,000	.248″	22.50

STOCK COLORS: RED and BLACK

AUTO RADIO SHIELDED LEAD-IN

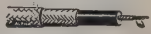


GENERAL PURPOSE: As an antenna lead-in to reduce interference of ignition pick-up.

CONSTRUCTION: Single conductor, stranded tinned copper, insulated with rubber, jute filters, close tinned copper shield overall.

No.	Spool	Max. Capacity Per Ft.	O.D.	List
1239	100′	27.6 mmf.	.250″	$7.50
1240	100′	9.7 mmf.	.500″	11.25

SHIELDED LOW LOSS CABLE

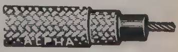


GENERAL PURPOSE: For auto radios, lead-ins, phonograph pick-ups, short wave receivers and for grid leads in the input stages of PA amplifiers.

CONSTRUCTION: Single conductor #20-10/30 stranded tinned copper, insulated with low loss rubber compound, white silk braid, tinned copper shield overall.

No.	Spool	Capacity Per Foot	O.D.	List
1241	100 Ft.	22.6 mmf.	.225″	$4.90

7 MM SHIELDED IGNITION CABLE

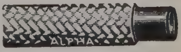


GENERAL PURPOSE: For automotive and aircraft ignition systems requiring grounding to overcome interference.

CONSTRUCTION: Single conductor #16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered, braided tinned copper shield overall.

No.	Spool	O.D.	List
1193	100 Ft.	.300″	$8.00

SHIELDED LOOM

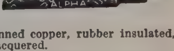


GENERAL PURPOSE: For shielding auto antenna lead-ins. Shields the output of signal generators.

CONSTRUCTION: Made of heavy braided loom, weatherproofed and covered with a closely woven tinned copper shield.

No.	Spool	I.D.	List
1236	50 Ft.	3/8″	$6.25
1237	50 Ft.	5/16″	5.00
1238	50 Ft.	3/16″	3.65

7 MM LACQUERED IGNITION WIRE



GENERAL PURPOSE: For automotive ignition systems.

CONSTRUCTION: Single conductor #16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

No.	Spool	O.D.	List
1981	100 Ft.	.275″	$4.40

ALL PRICES SUBJECT TO CHANGES WITHOUT NOTICE. PRICES WILL BE THOSE IN EFFECT ON DATE OF SHIPMENT AND WILL NOT EXCEED SUCH OPA CEILING PRICES AS MAY BE IN FORCE AT THE TIME.

ALPHA -WIRE-PRODUCTS

Special Spool Assortment
ALPHA

ALPHA SPECIAL SPOOL ASSORTMENT

On Attractive Metal Spools

. . . Including . . .

PUSHBACK
HOOK-UP
RUBBER COVEPED
AUTOMOTIVE PRIMARY
SHIELDED
LEAD-IN
FIXTURE
LAMP WIRE

LIST 63c EACH

Catalog No.		Approximate Quantity per Spool
9801	#22 Solid Pushback Wire-Assorted Colors......	85 Ft.
9802	#20 Solid Pushback Wire-Assorted Colors......	70 Ft.
9804	#18 Solid Pushback Wire-Assorted Colors......	60 Ft.
9805	#16 Solid Pushback Wire-Assorted Colors......	40 Ft.
9806	#14 Solid Pushback Wire-Assorted Colors......	35 Ft.
9811	#22 Stranded Pushback Wire-Assorted Colors..	70 Ft.
9812	#20 Stranded Pushback Wire-Assorted Colors..	60 Ft.
9814	#18 Stranded Pushback Wire-Assorted Colors..	50 Ft.
9815	#16 Stranded Pushback Wire-Assorted Colors..	35 Ft.
9816	#14 Stranded Pushback Wire-Assorted Colors..	25 Ft.
9820	#20 Stranded 1/32" R. C. Wire-Black.........	100 Ft.
9822	#18 Stranded 1/32" R. C. Wire-Black.........	75 Ft.
9824	#16 Stranded 1/32" R. C. Wire-Black.........	45 Ft.
9827	#14 Stranded 3/64" R. C. Wire-Black.........	35 Ft.
9828	#18 Solid 3/64" R. C. Lead-In Wire-Black.....	70 Ft.
9829	#20 Solid 3/64" R. C. Lead-In Wire-Black.....	100 Ft.
9830	#18 Stranded 1/32" R. C. Lacquered Braid-Assorted Colors........................	40 Ft.
9834	#20 Stranded 1/64" R. C. Shielded Lead-In....	35 Ft.
9837	"Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red........................	35 Ft.
9838	Heavy Duty "Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red........	12 Ft.
9840	A.C.-D.C. Indoor Aerial Wire................	100 Ft.
9848	#18 E-Z Strip All Rubber Parallel Lamp Cord-Approved—Assorted Colors..................	25 Ft.
9870	#18 Plain Tinned Copper.....................	100 Ft.
9875	#18 Annunciator (Bell) Wire..................	100 Ft.

MAGNET WIRE

Plain Enameled

Size B & S	38¢ Special Footage Spool	List Price	¼ Lb. Spool	List Price	½ Lb. Spool	List Price
14	27	$0.38	19	$0.28	39	$0.53
16	45	.38	30	.30	60	.53
18	60	.38	50	.30	100	.53
20	95	.38	80	.33	160	.53
22	150	.38	125	.35	250	.55
24	220	.38	200	.35	400	.60
26	310	.38	315	.43	635	.63
28	460	.38	505	.45	1010	.75
30	610	.38	805	.48	1610	.83
32	820	.38	1275	.53	2550	.90
34	1220	.38	2030	.63	4060	1.05
36	1620	.38	3220	.73	6440	1.20
38	2000	.38	5120	.90	10240	1.43
40	2500	.38	8140	1.38	16280	2.10

Double Cotton Covered

Size B & S	38¢ Special Footage Spool	List Price	¼ Lb. Spool	List Price	½ Lb. Spool	List Price
14	27	$0.38	19	$0.33	39	$0.58
16	37	.38	30	.35	60	.58
18	53	.38	50	.35	95	.63
20	65	.38	75	.40	150	.68
22	90	.38	115	.45	235	.78
24	120	.38	180	.48	360	.93
26	160	.38	280	.60	560	1.10
28	190	.38	430	.70	860	1.33
30	220	.38	645	.85	1290	1.58
32	240	.38	965	1.03	1930	1.95
34	260	.38	1350	1.45	2700	2.80
36	280	.38	1675	2.04	3350	3.85

Double Silk Covered

Size B & S	38¢ Special Footage Spool	List Price	¼ Lb. Spool	List Price	½ Lb. Spool	List Price
18	32	$0.38	50	$0.55	100	$1.05
20	44	.38	80	.65	160	1.25
22	62	.38	125	.73	250	1.43
24	87	.38	195	.85	395	1.65
26	105	.38	310	1.04	620	2.00
28	125	.38	490	1.15	980	2.25
30	145	.38	765	1.30	1530	2.50
32	170	.38	1190	1.75	2380	3.40
34	200	.38	1785	2.25	3570	4.40
36	230	.38	2685	3.50	5370	6.75

FLEXIBLE VARNISHED TUBING

RADIO TUBING—(Spaghetti). A sleeving with a heavy coat of varnish, in high gloss vivid colors. Average dielectric strength: **5,000 volts.**

SATURATED SLEEVING—A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: **1,200 volts.**

MAGNETO TUBING—The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: **7,000 volts.**

Note: Sizes follow the B & S System of gauging wires. For instance, a #10 tubing will fit over a #10 bare wire or any wire with an insulation of which the O.D. is equivalent to #10 B & S gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

		List Prices Per 100 Feet					List Prices Per 100 Feet		
No.	App. I.D.	Radio Tubing	Sat. Sleeving	Magneto Tubing	No.	App I.D.	Radio Tubing	Sat. Sleeving	Magneto Tubing
20	.034	$4.15	$2.75	$6.25	8	.133	$6.25	$4.50	$9.40
19	.038	4.15	2.75	6.25	7	.148	6.90	4.75	10.00
18	.042	4.15	2.75	6.25	6	.166	7.65	5.15	10.75
17	.047	4.15	2.75	6.25	5	.186	8.25	5.65	11.50
16	.053	4.25	2.90	6.50	4	.208	9.00	6.15	12.25
15	.059	4.25	2.90	6.75	3	.234	9.75	6.65	13.00
*14	.066	4.70	3.25	7.00	2	.263	10.40	7.15	14.50
*13	.076	4.75	3.40	7.15	1	.294	10.75	7.65	16.25
*12	.085	4.90	3.50	7.25	0	.330	12.25	8.25	18.75
11	.095	5.15	3.65	8.00	3/8	.375	14.75	8.90	21.25
10	.106	5.25	3.75	8.50	7/16	.438	17.25	9.50	23.75
9	.118	5.65	4.25	9.00	1/2	.500	19.75	10.15	26.25
					5/8	.625	22.25	10.75	31.25

Tolerances: Sizes 0 to 2—plus or minus .005"
3 to 13—plus or minus .004"
14 to 20—plus or minus .002"

Lengths—Standard 36"
***30"**

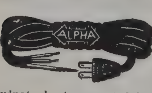
AC-DC ANTENNA WIRE

GENERAL PURPOSE: Ideal replacement wire for universal midgets, indoor aerials and loop antennae.

CONSRUCTION: Single conductor #23-20/36 stranded bare copper, extra flexible, covered with a dark brown cotton braid overall.

Number	Length	Put-Up	List
1281	25 Ft.	Disc	$0.18
1282	100 Ft.	Spool	.65
1283	500 Ft.	Spool	2.75
1284	1000 Ft.	Spool	5.25

AC-DC RESISTANCE LINE CORDS



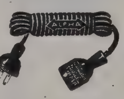
These line cords are built with a third element voltage drop resistor to take care of reducing line voltage and also increase life of coils and condensers as well as eliminate heat generated by the receiver. Equipped with a soft rubber unbreakable attachment plug.

INDIVIDUALLY BOXED
FOR SETS WITH FOLLOWING TUBES

No.	Ohms	For Tubes
1174	135	4-6.3 Volt Tubes, 1-43, 1-25Z5
1175	160	3-6.3 Volt Tubes, 1-43, 1-25Z5
1175B	180	4-6.3 Volt Tubes, 1-43, 1-12Z3
1176	220	2-6.3 Volt Tubes, 1-43, 1-25Z5 3-6.3 Volt Tubes, 1-43, 1-12Z3
1176B	250	2-6.3 Volt Tubes, 1-43, 1-12Z3
1177	290	3-6.3 Volt Tubes, 1-25Z5 3-6.3 Volt Tubes, 1-12Z3
1178	330	4-6.3 Volt Tubes
1179	360	2-6.3 Volt Tubes, 1-12Z3 1-6.3 Volt Tube, 1-12Z3 3-6.3 Volt Tubes

List Price, each.................................$0.60

HEAVY DUTY RUBBER EXTENSION CORD SET



Best for extending power lines of motors, refrigerators, washing machines, electric drills, vacuum cleaners, etc. Construction 18-2 SJ service cord, rubber connector one end, other end rubber plug.

Number	Length		List
4139	9 Ft.	Extension Cord	$0.80
4142	12 Ft.	Extension Cord	.93

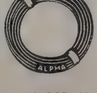
E-Z STRIP POWER CORDS

Ideal power supply cord for replacement on radios, lamps, fans, etc. Made of E-Z strip all rubber parallel cord (UNDERWRITERS APPROVAL) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

INDIVIDUALLY BOXED

No.	Lgth.	List	No.	Lgth.	List	No.	Lgth.	List
2106	6'	$0.23	2109	9'	$0.28	2112	12'	$0.35

GUY WIRE

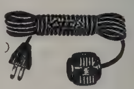


GENERAL PURPOSE: Extensively used on transmitter and receiver poles and towers.

CONSTRUCTION: Galvanized steel wire having extremely high tension strength.

Number	Length	List
2195	25 Ft. Coil	$0.25
2196	50 Ft. Coil	.50

CUBE TAP EXTENSION CORD



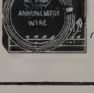
Constructed of ALPHA E-Z Strip rubber cord. A three outlet Bakelite tap is at one end and an unbreakable rubber attachment plug on the other end. (UNDERWRITERS APPROVAL.)

INDIVIDUALLY BOXED

No.	Lgth.	List	No.	Lgth.	List	No.	Lgth.	List
4106	6'	$0.40	4110	10'	$0.48	4115	15'	$0.60
4109	9'	.45	4112	12'	.55	4120	20'	.70

ANNUNCIATOR (BELL) WIRE

Pure copper, two cotton serves reversed and heavy paraffin impregnation are the components used in our wire. Supplied in assorted colors.



No.	Single	List
1970	25 Ft. Carton...	$0.15
1971	¼ Lb. Carton..	.22
1972	½ Lb. Carton..	.40
1974	7 Lb. Spool.....	5.25
	Twisted Pair	
1975	7 Lb. Spool.....	5.80

SPAGHETTI TUBING

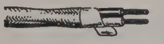
Takes up to a No. 14 wire. Black, Yellow, Red, Green and Brown.

	List
No. 2091—30" Lengths.............Each	$0.09½

ALL PRICES SUBJECT TO CHANGES WITHOUT NOTICE. PRICES WILL BE THOSE IN EFFECT ON DATE OF SHIPMENT AND WILL NOT EXCEED SUCH OPA CEILING PRICES AS MAY BE IN FORCE AT THE TIME.

ALPHA - WIRE - PRODUCTS

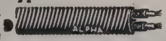
SHIELDED DUPLEX SPEAKER CABLE



GENERAL PURPOSE: For PA systems, photoelectric cell circuits, master control sound systems, etc.
CONSTRUCTION: Two conductors twisted, each #18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, paper wrap over both conductors, close tinned copper shield overall.

No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.		O. D.	List Price
			Cond. to Shield	Bet. Cond.		
1265	500	2	65 mmf.	23 mmf.	.250"	$27.50

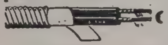
ARMORED DUPLEX SPEAKER CABLE
Varnished Cambric Type



GENERAL PURPOSE: For PA systems, oil burner installations, automotive wiring, etc.
CONSTRUCTION: Two conductors parallel, each #18-16/30 stranded tinned copper, varnished cambric wrapped, color coded waxed cotton braid, galvanized steel armor overall.

Number	Spool	O. D.	List Price
1272	500 Ft.	.132" x .182"	$21.40

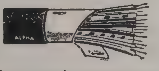
Rubber Insulated Type



GENERAL PURPOSE: Loud speaker wiring in master control sound systems.
CONSTRUCTION: Two conductors parallel, each #18-16/30 stranded tinned copper, color coded cotton serve, 1/64" 40% rubber, paper wrap over both conductors, galvanized steel armor overall.

Number	Spool	O. D.	List Price
1273	500 Ft.	.190" x .245"	$21.40

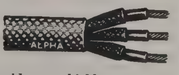
COMMUNICATION SYSTEM CABLE



GENERAL PURPOSE: For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.
CONSTRUCTION: Each conductor solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and overall a cotton oraid saturated with a moisture-proof, slow-burning, rodent-proof compound.

Number	Spool	Size	No. of Pairs	O. D.	List
1276	100 Ft.	22	6 (12 Conductors)	.310"	$10.00
1277	100 Ft.	22	10 (20 Conductors)	.375"	16.25

SHIELDED MULTIPLE CONDUCTOR CABLE



GENERAL PURPOSE: For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.
CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, tinned copper shield overall. #1262, #1263, #1264 same specifications except with glazed brown cotton braid over shield.

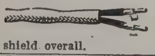
TINNED SHIELD OVERALL

No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.		O. D.	Listn Price
			Cond. to Shield	Bet. Cond.		
1256	100	2	60.5 mmf.	32 mmf.	.215"	$4.65
1257	100	3	54.0 mmf.	29 mmf.	.240"	5.75
1258	100	4	48.0 mmf.	26 mmf.	.270"	7.15

COTTON BRAID OVER SHIELD

1262	100	2	60.5 mmf.	32 mmf.	.225"	$5.25
1263	100	3	54.0 mmf.	29 mmf.	.245"	8.00
1264	100	4	48.0 mmf.	26 mmf.	.275"	9.40

SHIELDED TRANSMISSION LINE

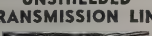


GENERAL PURPOSE: For inter-communication, short wave, PA systems, etc.
CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, bare copper shield overall.

No.	Spool	Maximum Capacity Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor (Percent)	O. D.	List Price
1267	500 Ft.	27.3 mmf.	3,000	69.6	1.41	.145"	$14.40

Surge impedence is one-half the above when using shield as common conductor in dual transmission line.

UNSHIELDED TRANSMISSION LINE

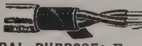


GENERAL PURPOSE: For short wave, inter-communication, annunciator systems, etc. where shielding is not required.

CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, conductors twisted.

No.	Spool	O. D.	List
1269	500 Ft.	.135"	$7.50

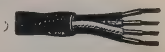
LEAD SHEATHED CABLE



GENERAL PURPOSE: For PA systems, communication, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered.
CONSTRUCTION: Two conductors twisted, each #19 solid tinned copper, 1/32" "Hi-Tension" rubber, coded overall is a pure lead sheath.

No.	Length	O. D.	List
1270	100 Ft. Spool	.325"	$11.25
1271	1000 Ft. Reel	.325"	$100.00

SPEAKER AND BATTERY CABLE

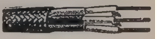


GENERAL PURPOSE: For connecting speakers, analyzers, remote control units, PA systems or wherever a multiple 500 ohm circuit hook-up is required.

CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, glazed brown cotton braid overall.

Number	Spool	Conductors	Capacity Between Conductors	O. D.	List Prie
1182	100 Ft.	2	31.5 mmf.	.200"	$3.00
1183	100 Ft.	3	31.0 mmf.	.205"	3.50
1184	100 Ft.	4	30.0 mmf.	.260"	5.00
1185	100 Ft.	5	29.5 mmf.	.300"	6.00
1186	100 Ft.	6	29.2 mmf.	.320"	7.25
1187	100 Ft.	7	28.8 mmf.	.340"	8.25
1188	100 Ft.	8	28.5 mmf.	.370"	9.50
1189	100 Ft.	9	27.9 mmf.	.400"	11.00
1190	100 Ft.	10	27.6 mmf.	.410"	13.15
1192	100 Ft.	12	27.0 mmf.	.430"	15.00

INTER-COMMUNICATION CABLE
Braided Type

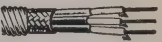


GENERAL PURPOSE: Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.

CONSTRUCTION: Each conductor solid bare copper wire, two cotton reverse serves paraffined, color coded, conductors twisted then an overall cotton braid waxed.

Number	Spool	Size	No. of Conductors	O. D.	List
1274	500 Ft.	18	2	.150"	$10.65
1275	500 Ft.	18	3	.175"	, 12.50

Armored Type

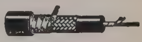


GENERAL PURPOSE: Same as braided type but armored for heavy duty and grounding.

CONSTRUCTION: Same specifications as braided type except galvanized steel armor overall.

Number	Spool	Size	No. of Conductors	O. D	List
1178/2	500 Ft.	18	2	.150"	$ 23.00
1278/3	500 Ft.	18	3	.175"	27.75
1278 4	500 Ft.	18	4	.185"	32.90

CRYSTAL MICROPHONE CABLE

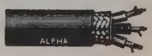


GENERAL PURPOSE: Low loss design for use with crystal, ribbon, dynamic and velocity microphones, photo-electric cells. Use #1248 for lapel microphones and phonograph pick-ups.

CONSTRUCTION: Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

No.	Spool	Size	Strand	Max. Capacity per Ft. Between Cond. and Shield	O. D.	List Price
1248	100 Ft.	20	26/34	45 mmf.	.175"	$4.65
1249	100 Ft.	20	26/34	36 mmf.	.255"	5.65

SHIELDED MICROPHONE CABLE

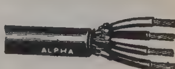


GENERAL PURPOSE: Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.

CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/64" "Hi-Tension" low capacity rubber, color coded, conductors twisted, cushioned with cotton fillers, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Max. Capacity per Ft. Between		O. D.	List Pric
			Cond. & Shield	Conds.		
1250	100 Ft.	2	70 mmf.	38 mmf.	.270"	$7.15
1251	100 Ft.	3	65 mmf.	38 mmf.	.280"	8.00
1252	100 Ft.	4	65 mmf.	36 mmf.	.300"	9.40
1253	100 Ft.	5	60 mmf.	32 mmf.	.315"	.11.75
1254	100 Ft.	6	60 mmf.	30 mmf.	.330"	13.75

UNSHIELDED MICROPHONE CABLE



GENERAL PURPOSE: For indoor and outdoor speakers, permanent or portable PA systems, sound recording and auto radios.

CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Capacity per Ft. Between Conductors	O. D.	List Price
1244	100 Ft.	2	22 mmf.	.250"	$4.15
1245	100 Ft.	3	20 mmf.	.300"	5.25
1246	100 Ft.	4	18 mmf.	.315"	6.25
1247	100 Ft.	5	17 mmf.	.330"	8.40

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ALPHA - WIRE - PRODUCTS

GENUINE EO1 TRANSMISSION CABLE

GENERAL PURPOSE: Standard feeder system for transmitter, frequency modulation, television, short wave, police, aircraft receivers, etc.
CONSTRUCTION: Two conductors #12 solid bare soft annealed copper, paper separator, insulated to .175″ low loss moisture resisting rubber compound, twisted, soft cotton braid overall, saturated pitch and mica finish.

No.	Length Feet	Capacity Between Condensers Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor Percent	D. B. Loss Per 100 Feet	List Price
1153	100 Spool	23 mmf.	3,500	72	1	.36	$10.00
1154	250 Reel	23 mmf.	3,500	72	1	.36	23.75
1155	500 Reel	23 mmf.	3,500	72	1	.36	47 50
1156	1000 Reel	23 mmf.	3,500	72	1	.36	95.00

LO-Q CABLE (ULTRA HI-FREQUENCY)

GENERAL PURPOSE: An extremely low loss cable as feeder system for frequency modulation (F.M.) and television.
CONSTRUCTION: 2 conductors #14 solid tinned copper, 1/32″ moisture-resisting rubber, both conductors twisted under 3/64″ 60% rubber jacket, cotton braid saturated with black flame-resisting finish overall.

No.	Ft. per Spool	Capacity Bet. Conds. Per Foot	Frequency (K.C.)	Surge. Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Ft.	Instantaneous Puncture Voltage	Maximum Load Cap. (Watts)	List Price
1152	100	17 mmf.	1,000	100	.03	.04 at 1000 K.C.	35,000 V.	500	$18.25

TRANSMITTING LINE CABLE

GENERAL PURPOSE: Standard feeder system for transmitter, short wave, etc.

CONSTRUCTION: 2 conductors twisted #12 solid bare copper, paper serve, 3/64″ code rubber, overall soft cotton braid, weatherproofed.

No.	Ft. per Spool	Maximum Capacity Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Feet	List Price
1157	100	28.5	3,500	72	2.34	.725	$5.65

SHIELDED PRIMARY HOOK-UP WIRE

GENERAL PURPOSE: To reduce interference caused by motors, high tension wire, X-Ray machines or other apparatus that radiates electrical impulses.

CONSTRUCTION: Stranded tinned copper, free strip rubber, highly lacquered braid, close tinned copper shield overall.

No.	Ft. per Spool	Size	Strand	Rubber Thickness	O.D.	List Price
1194	100	20	10/30	1/64″	.123″	$2.75
1196	100	18	16/30	1/32″	.157″	3.25
1197	100	16	26/30	1/32″	.172″	3.65

RUBBER SHEATHED SERVICE CORD

(UNDERWRITERS APPROVED)

GENERAL PURPOSE: For use on vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough power line is required.
CONSTRUCTION: Each conductor stranded bare copper, cotton separator, 1/32″ "Hi-Tension" rubber, color coded, conductors twisted, cushioned with jute fillers, 40% tough rubber jacket overall.

No.	Length Feet	Size	Conductors	Type	Current Carrying Capacity	Voltage Rating	O.D.	List Price
1951	250 Spool	18	2	SV	5 amps	300	.250″	$10.00
1952	250 Spool	18	2	SJ	5 amps	300	.310″	11.90
1953	250 Spool	16	2	SJ	7 amps	300	.340″	15.00
1954	250 Coil	18	2	S	5 amps	600	.390″	22.50
1955	250 Coil	16	2	S	7 amps	600	.410″	26.50
1956	250 Coil	14	2	S	15 amps	600	.540″	51.00

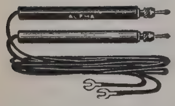
FILAMENT AND HOOK-UP WIRE

GENERAL PURPOSE: Point to point wiring for all radio and electrical uses.

CONSTRUCTION: Single conductor #14-41/30 stranded tinned copper, served, rubber insulation and braid overall, wax impregnated.

No.	Length—Feet	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1641	25 Spool	2150	14.8	.130″	$0.60
1645	500 Spool	2150	14.8	.130″	10.65

SUPER "HI-TENSION" TEST LEADS



Can readily be connected for testing circuit defects and all devices such as meters, batteries, transformers, etc. An insulation of Alpha "Super Hi-Tension" heavy rubber is over an extremely flexible tinned copper wire (Alpha #1635 Test Prod Wire). Constructed to withstand rough usage and repeated bendings. Handles are of sturdy fibre. Overall length 50″. Red and Black leads for easy identification.

INDIVIDUALLY BOXED

No.		List Price
2171	Needle Point Prods with Spade Terminals	$0.60
2172	Needle Point Prods with Phone Tip Terminals	.60
2173	Needle Point Prods with Alligator Clips	.75
2175	Solderless Prods with Spade Terminals	.60
2176	Solderless Prods with Phone Tip Terminals	.60
2177	Solderless Prods with Alligator Clips	.75

TYPE POSJ
E-Z STRIP LAMP CORD

(UNDERWRITERS APPROVED)

GENERAL PURPOSE: For line cord on radios, lamps, electric clocks, food mixers and other small devices.

CONSTRUCTION: Two conductors parallel, each conductor #18-42/34 extra flexible bare copper, color coded cotton serve, 40% tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

No.	Spool	O.D.	List
1966	100 Ft.	.235″ x .130″	$2.50
1967	250 Ft.	.235″ x .130″	5.00

FLEXIBLE LAMP CORD AND FIXTURE WIRE

For use on lamps, radio AC or DC lines, ground, aerial connections, etc.

No.	Ft. per Spool	Size	Type	List
1930	1000	18 1/64″	Single Conductor	$8.25
1931	500	18 1/64″	Single Conductor	4.25
1935	500	18 1/64″	Twisted Pair	9.40
1937	250	18 1/32″	Twisted Pair (Approved)	6.50
1940	1000	20 1/64″	Single Conductor	7.75
1941	500	20 1/64″	Single Conductor	[illegible].00

TELEPHONE WIRE—INSIDE

GENERAL PURPOSE: For interior use in dry locations. Designed for connecting inter-communication systems, annunciators, interior telephones, etc. Also used for ground and aerial connections.

CONSTRUCTION: Each conductor solid tinned copper, 1/64″ telephone compound rubber, hard glazed cotton braid color coded, conductors twisted.

No.	Coil	Size	Conductors	O.D.	List
1279	500 Ft.	19	2	.250″	$15.00
1280	500 Ft.	19	3	.375″	$22.50

DIAL CABLE

Phosphor Bronze

CONSTRUCTION: Made of 42 strands genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

No.	Ft. per Spool	Tensile Strength	List Price
1689	25	50 lbs.	$1.05
1690	50	50 lbs.	2.05
1691	100	50 lbs.	3.65
1692	500	50 lbs.	16.90

Braided Linen

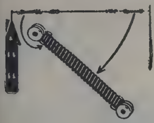
CONSTRUCTION: Made of the finest linen obtainable. Composed of a very strong linen center over which is a black braid.

No.	Ft. per Spool	Tensile Strength	List Price
	Heavy		
1694	25	40 lbs.	$1.40
1695	100	40 lbs.	4.75
1696	500	40 lbs.	19.50
	Light		
1697	25	22.5 lbs.	1.25
1698	100	22.5 lbs.	4.40
1699	500	22.5 lbs.	16.90
	Extra Thin		
1700	25	18 lbs.	.70

ALL PRICES SUBJECT TO CHANGES WITHOUT NOTICE. PRICES WILL BE THOSE IN EFFECT ON DATE OF SHIPMENT AND WILL NOT EXCEED SUCH OPA CEILING PRICES AS MAY BE IN FORCE AT THE TIME.

ALPHA - WIRE - PRODUCTS

SPRING AERIAL ADJUSTER



Prevents sagging and swaying. Powerful springs, cadmium plated and corrosion proof.

List Price

No. 1285 Individually Boxed..**$0.45**

RADIO LIGHTNING ARRESTER

Made of high quality glazed porcelain with nickeled screws and nuts. For indoor or outdoor use. Furnished with two wood screws.

List Price

No. 2001 Individually Boxed....**$0.19**

DOUBLET LIGHTNING ARRESTER

Made of high quality glazed porcelain with nickeled screws and nuts. For complete protection on doublet antenna systems. For indoor or outdoor use. Furnished with two wood screws.

List Price

No. 2000 Individually Boxed **$0.30**

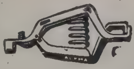
LEAD-IN AND GROUND WIRE

ALPHA WIRE CORPORATION
ALPHA
ALPHA

GENERAL PURPOSE: Lead-in, ground, hook-up, all purpose wire. CONSTRUCTION: Stranded tinned or solid tinned copper conductor, insulated with live free stripping rubber, jet black waxed finish overall.

No.	Length Feet	Put-Up	Size	Tinned Strand	Rubber Thickness	O. D.	List Price
1114	1000	Spool	20	10/30	1/32″	.105″	$5.25
1114E	500	Spool	20	10/30	1/32″	.105″	2.75
1115	500	Spool	14	41/30	3/64″	.175″	7.00
1117	100	Spool	14	41/30	3/64″	.175″	1.50
1118	50	Carton	14	41/30	3/64″	.175″	.75
1121	500	Spool	16	26/30	1/32″	.130″	4.75
1124	100	Spool	16	26/30	1/32″	.130″	1.05
1125	50	Carton	16	26/30	1/32″	.130″	.60
1130	100	Spool	18	16/30	1/32″	.125″	.80
1131	500	Spool	18	16/30	1/32″	.125″	3.70
1132	50	Carton	18	16/30	1/32″	.125″	.40
1133	25	Carton	18	16/30	1/32″	.125″	.24
1134	1000	Spool	18	16/30	1/64″	.110″	6.50
1101	500	Spool	16	Solid	3/64″	.135″	4.25
1105	50	Carton	16	Solid	3/64″	.135″	.45
1111	500	Spool	18	Solid	3/64″	.133″	3.50
1112	50	Carton	18	Solid	3/64″	.133″	.40
1113	1000	Spool	20	Solid	3/64″	.130″	5.50

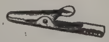
BATTERY AND TEST CLIPS



For protection against rust and corrosion, these clips are completely cadmium plated. Strong spring jaw for permanent contact.

No.	Type	Amps.	Per Box	List Price
2071	Midget	5	50	$6.25
2072	Pee-Wee	10	50	6.25
2073	Medium	25	50	9.00
2074	Large	50	30	15.00

ALLIGATOR CLIP



These clips are nickel plated as protection against rust and corrosion. Strong spring jaw for firm contact.

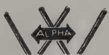
Number	Per Box	List Price
2075	50	$6.25

UNBREAKABLE
SOFT RUBBER PLUG

Made of sturdy live soft rubber. Brass blades. Unbreakable, easy to attach.

No.	Per Carton	List Price
1964	100	$8.00

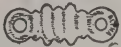
BUS-BAR WIRE



This copper wire is tinned and receives several wipings to insure cleanliness and brightness. Is cut in uniform 2 ft. lengths.

Number	Size	List Price
2078	10 Round	$5.00
2080	12 Round	3.40
2081	14 Square	2.90
2082	14 Round	2.50

GLASS INSULATORS



Crystal clear, of great tensile strength, moistureproof, waterproof and weatherproof.

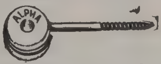
Number	Length	Per Carton	List Price
2020	3″	100	$5.00
2021	3⅝″	100	7.50

PORCELAIN INSULATOR

Made of glazed porcelain. Will withstand great strain.

Number	Per Carton	List Price
2022	100	$3.75

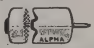
SCREW EYES



A cadmium plated sharply pointed #6 gauge screw with glazed porcelain eye.

Number	Length	Per Carton	List Price
2052	3″	100	$4.15
2056	7″	100	5.00
2058	12″	100	17.50

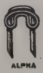
NAIL KNOB



A 2-piece knob of glazed porcelain and a heavy nail for secure holding.

Number	Per Carton	List Price
2031	100	$3.50

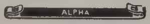
STAPLES



Made of coppered steel with sharply pointed tips for easy tacking. Properly insulated. Furnished in standard construction and also in brown, white and buff.

No.		Per Box	List Price
2041	Standard Type	50	$0.12
2043	Colors	40	.12

LEAD-IN STRIP—CLIP TYPE



(SOLDERED)

Weatherproofed and fully covered with a heavily lacquered braid. Fahnestock clips riveted and soldered to strap for firm contact.

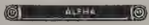
Number	Length	Per Carton	List Price
2002	12″	50	$6.00

(UNSOLDERED)

Constructed exactly like our No. 2002 but the clips are unsoldered.

Number	Length	Per Carton	List Price
2003	12″	250	$5.00

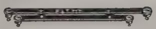
LEAD-IN STRIP—SCREW TYPE



A heavily lacquered braid makes this strip weatherproof. The screws, nuts and washers are nickeled brass. Makes positive contact.

Number	Length	Per Carton	List Price
2005	12″	50	$8.75

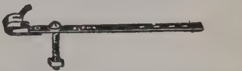
LEAD-IN STRIP—DOUBLET TYPE



Same construction as No. 2005 but 2 strips laid parallel and staggered to prevent contact, held apart by riveted fibre pieces. Especially adaptable to doublet antennas.

Number	Length	Per Carton	List Price
2004	12″	50	$18.75

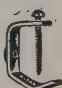
GROUND CLAMP



Heavy gauge strap, Fahnestock terminal and brass screw and nut. Makes a quick and positive connection. Fits ⅜″ to 2″ pipe.

Number		Per Carton	List Price
2012	Strap Type	50	$5.00

PIPE CLAMP



Cadmium plated. Is of neat appearance. Attaches the ground wire to the pipe easily and securely. Will last indefinitely.

No.		Per Carton	List Price
2011	"C" Type	50	$6.25

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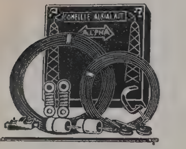
ALPHA - WIRE - PRODUCTS

AERIAL KITS



Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

No. 300
35 Ft. 7 Strand Copper Aerial Wire
20 Ft. R. C. Lead-In Wire
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
1 #2002 Weatherproof Lead-In Strip
List Price, Complete Kit.....$0.58

No. 301
50 Ft. 7 Strand Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
1 #2002 Weatherproof Lead-In Strip
List Price, Complete Kit.... $0.65

No. 307
75 Ft. 7/23 Copper Aerial Wire
35 Ft. #16 Solid R.C. Lead-In Wire
15 Ft. Indoor Wire
2 #2021 Glass Insulators
1 #2001 Lightning Arrester
1 #2002 Weatherproof Lead-In Strip
1 #2012 Copper Ground Clamp
6 #2041 Insulated Staples
2 #2031 Porcelain Nail Knobs
2 Galvanized Screw Eyes
2 Wood Screws
List Price, Complete Kit.....$1.45

No. 314
100 Ft. 7/22 Copper Aerial Wire
50 Ft. #16 Stranded R.C. Lead-In Wire
25 Ft. Indoor Wire
1 #2001 Lightning Arrester
2 #2021 Glass Insulators
1 #2005 Screw Type Lead-In Strip
1 #2011 "C" Type Ground Clamp
2 #2052 Porcelain Screw Eyes
2 #2031 Porcelain Nail Knobs
6 #2041 Insulated Staples
2 Wood Screws
List Price, Complete Kit.....$2.25

No. 304
75 Ft. 7/24 Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
1 #2001 Lightning Arrester
1 #2002 Weatherproof Lead-In Strip
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
2 #2020 Glass Insulators
2 Galvanized Screw Eyes
2 Wood Screws
List Price, Complete Kit.....$1.10

No. 303
75 Ft. 7/27 Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
1 #2012 Copper Ground Clamp
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2002 Weatherproof Lead-In Strip
2 Galvanized Screw Eyes
List Price, Complete Kit.....$0.75

No. 310
75 Ft. 7/22 Copper Aerial Wire
35 Ft. #16 Stranded R.C. Lead-In Wire
25 Ft. Indoor Wire
1 #2011 "C" Type Ground Clamp
1 #2001 Lightning Arrester
2 #2021 Glass Insulators
1 #2005 Screw Type Lead-In Strip
2 #2031 Porcelain Nail Knobs
2 #2052 Porcelain Screw Eyes
6 #2041 Insulated Staples
2 Wood Screws
List Price, Complete Kit.....$1.80

AERIAL WIRE

ALPHA
ANTENNA
RADIO WIRE
AL
RATION

STRANDED—BOXED

No.				List
1015	7/22	Tinned	100 Ft.	$0.88
1019	7/22	Tinned	75 Ft.	.68
1020	7/20	Bare	100 Ft.	1.28
1025	7/22	Bare	100 Ft.	.80
1029	7/22	Bare	75 Ft.	.63
1035	7/23	Bare	100 Ft.	.65
1039	7/23	Bare	75 Ft.	.50

SOLID—BOXED

1040	10	Enamel	100 Ft.	$1.85
1045	12	Enamel	100 Ft.	1.18
1055	14	Enamel	100 Ft.	.80
1060	10	Tinned	100 Ft.	2.05
1064	10	Tinned	25 Ft.	.55
1065	12	Tinned	100 Ft.	1.13
1069	12	Tinned	25 Ft.	.33
1070	14	Tinned	100 Ft.	.80
1074	14	Tinned	25 Ft.	.25
1075	16	Tinned	100 Ft.	.58
1079	16	Tinned	25 Ft.	.18

All Alpha Aerial Wire is properly annealed to assure required flexibility and tensile strength.

STRANDED—BARE

No.			List
101	7/20	100 Ft. Coil	$1.25
104	7/20	75 Ft. Coil	.95
105	7/20	50 Ft. Coil	.64
106	7/20	1000 Ft. Spool	12.25
107	7/22	100 Ft. Coil	.75
110	7/22	75 Ft. Coil	.58
111	7/22	50 Ft. Coil	.40
112	7/22	1000 Ft. Spool	7.50
119	7/23	100 Ft. Coil	.62
122	7/23	75 Ft. Coil	.47
123	7/23	50 Ft. Coil	.33
124	7/23	1000 Ft. Spool	6.15
131	7/24	100 Ft. Coil	.50
134	7/24	75 Ft. Coil	.39
135	7/24	50 Ft. Coil	.27
136	7/24	1000 Ft. Spool	5.00
143	7/25	100 Ft. Coil	.43
146	7/25	75 Ft. Coil	.33
147	7/25	50 Ft. Coil	.23
148	7/25	1000 Ft. Spool	4.25
149	7/26	100 Ft. Coil	.37
152	7/26	75 Ft. Coil	.29
153	7/26	50 Ft. Coil	.20
154	7/26	1000 Ft. Spool	3.65
155	7/27	100 Ft. Coil	.31
158	7/27	75 Ft. Coil	.24
159	7/27	50 Ft. Coil	.17
160	7/27	1000 Ft. Spool	3.10

STRANDED—TINNED

161	7/22	100 Ft. Coil	$0.84
164	7/22	75 Ft. Coil	.64
165	7/22	50 Ft. Coil	.44
166	7/22	1000 Ft. Spool	8.40

STRANDED—TINNED

No.			List
173	7/23	100 Ft. Coil	.69
176	7/23	75 Ft. Coil	.53
177	7/23	50 Ft. Coil	.37
178	7/23	1000 Ft. Spool	6.90
185	7/24	100 Ft. Coil	.58
188	7/24	75 Ft. Coil	.44
189	7/24	50 Ft. Coil	.32
190	7/24	1000 Ft. Spool	5.75

SOLID—ENAMEL

269	14	100 Ft. Coil	$0.75
272	14	75 Ft. Coil	.58
273	14	50 Ft. Coil	.40
274	14	1000 Ft. Spool	7.50
275	12	100 Ft. Coil	1.15
278	12	75 Ft. Coil	.88
279	12	50 Ft. Coil	.60
280	12	1000 Ft. Spool	11.40
281	10	100 Ft. Coil	1.80
282	10	50 Ft. Coil	.90
283	10	1000 Ft. Spool	18.00

SOLID—TINNED

284	14	100 Ft. Coil	.75
285	14	50 Ft. Coil	.40
286	14	1000 Ft. Spool	7.50
287	12	100 Ft. Coil	1.08
288	12	50 Ft. Coil	.58
289	12	1000 Ft. Spool	10.75
290	10	100 Ft. Coil	2.00
291	10	50 Ft. Coil	1.07
292	10	1000 Ft. Spool	20.00

DOUBLET AERIAL KITS

Soldered For Immediate Installation

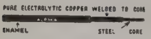
KIT No. 25
1—All Wave Antenna Coupler
2—30 Ft. Coils Stranded Tinned Aerial Wire
1—50 Ft. Coil Transmission Cable #1149
3—Glass Insulators #2020
2—Glazed Porcelain Nail Knobs #2031
1—"C" Type Pipe Clamp #2011
2—Weatherproofed Lead-In Strips #2002
1—7" Porcelain Screw Eye #2056
1—Instruction Sheet.
List Price, Complete Kit...................$2.65

KIT No. 24
Same as Kit No. 25 Except without All Wave Antenna Coupler.
List Price, Complete Kit...................$1.75

KIT No. 31
1—All Wave Antenna Coupler
2—46 Ft. Coils Stranded Aerial Wire
1—75 Ft. Coil Transmission Cable #1146
1—Triangular Antenna Block
1—Double Screw Type Lead-In Strip #2004
4—Glass Insulators #2020
1—25 Ft. Coil Heavy Flexible R.C. Wire
2—7" Porcelain Screw Eyes #2056
2—Glazed Porcelain Nail Knobs #2031
1—"C" Type Pipe Clamp #2011
6—Insulated Staples #2041
1—Instruction Sheet.
List Price, Complete Kit. $3.90

KIT No. 30
Same as Kit No. 31 except without All Wave Antenna Coupler.
List Price, Complete Kit... ....$3.00

COPPERWELD ENAMEL AERIAL WIRE

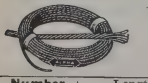


GENERAL PURPOSE: Ideal for short wave and marine antennas, directional and doublet systems. Will not sag or stretch.

CONSTRUCTION: A solid steel core, heavily covered with pure electrolytic copper over which is baked black insulating enamel.

Number	Size	Carton	Tensile Strength	O. D.	List Price
1158	10	100 Ft.	1050 Lbs.	.103"	$2.50
1159	12	100 Ft.	670 Lbs.	.083"	1.65
1160	14	100 Ft.	420 Lbs.	.066"	1.15

PHOSPHOR BRONZE AERIAL WIRE

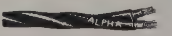


GENERAL PURPOSE: Recommended especially for ship, short wave, and transmitting aerials where high tensile strength is required.

CONSTRUCTION: 7 strands #18 Phosphor Bronze.

Number	Length	Tensile Strength	O. D.	List Price
1162	100 Ft. Carton	1000 Lbs.	.122"	$4.40
1163	500 Ft. Spool	1000 Lbs.	.122"	22.00

DOUBLET TRANSMISSION LINE



GENERAL PURPOSE: Doublet style twisted lead-in designed for low loss coupling between antenna and receiver.

CONSTRUCTION—Braided Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

No.	Length Feet	Capacity Bet. Conds. Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor Percent	List Price
1146	500 Spool	21.8 mmf.	3,500	90.2	3.75	$8.00
1148	100 Coil	21.8 mmf.	3,500	90.2	3.75	1.60
1149	50 Coil	21.8 mmf.	3,500	90.2	3.75	.80

CONSTRUCTION—All Rubber Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, rubber jacket overall, black satin finish.

1135	500 Spool	21.8 mmf.	3,500	90.2	3.75	$12.50
1137	100 Coil	21.8 mmf.	3,500	90.2	3.75	2.50
1138	50 Coil	21.8 mmf.	3,500	90.2	3.75	1.25

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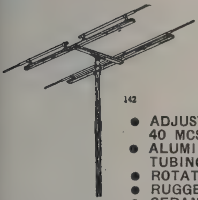
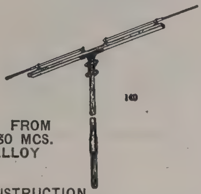
Birnbach F-M and TELEVISION ANTENNAS

BIRNBACH

F-M and TELEVISION DOUBLET ANTENNAS





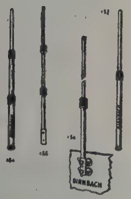
- ADJUSTABLE FROM 40 MCS. TO 80 MCS.
- ALUMINUM ALLOY TUBING
- ROTATABLE
- RUGGED CONSTRUCTION
- CERAMIC INSULATORS

A superior antenna construction for television reception. Consist of corrosion proof aluminum alloy tubes adjustable to all frequencies between 80 mcs. and 40 mcs. mounted on high grade low absorption glazed porcelain standoff insulators which maintains its efficiency under all weather conditions. Strong wooden supports. Adjustments can be made in the horizontal planes. This will permit the antenna to be properly adjusted in respect to the transmitted wave and the signal strength. There are two types available: No. 140 Doublet and the No. 142 Doublet with reflector to eliminate interference. Complete with mounting poles and steel coupling.

No.	List Price
140—Doublet	$12.50
142—Doublet with reflector	22.50

ULTRA HIGH FREQUENCY ANTENNAS

(VERTICAL RODS)

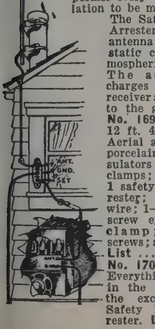


They are constructed of hard drawn aluminum alloy tubing, telescoped together and adjusted by forcing down with a turning motion a specially designed brass nickel-plated taper lock bushing. They cover all requirements for stationary or portable use. Two types of mountings are available: stand-off mounting having ¼ - 20 threaded bushing on No. 154 and 10-32 threaded bushing on No. 157, and binding post mounting consisting of a reinforced flattened end with two holes drilled 1″ between centers. The frequency range listed is for ¼ wavelength antenna.

		Frequency Range in Mcs.		
No.	Sections	Open	Telescoped	List Price
154	3	55	145	$3.30
155	3	55	145	3.30
156	2	112	200	2.00
157	2	112	200	2.00
161	2	40	75	2.20
164	Taper Lock Bushings $\frac{5}{16}$ and ⅜			.15

MAST AERIAL

The Birnbach Mast Antenna is made of four tempered carbon steel tube sections which will instantly go back to an erect position when flexed by the wind. They make an actual height of 12 ft. and are treated to prevent corrosion. Two heavy duty ceramic mounting insulators permit every type of installation to be made with ease.

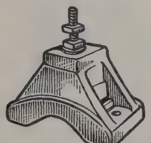


The Safety Lightning Arrester protects the antenna from excessive static charges of atmospheric electricity. The accumulated charges bypasses the receiver and discharges to the ground.

No. 169—Includes: 1 12 ft. 4 section Mast Aerial and Clamps, 2 porcelain mounting insulators and securing clamps; 4 nailit knobs; 1 safety lightning arrester; 35 ft. leadin wire; 1—6″ insulated screw eye; 1 ground clamp; mounting screws; and directions. **List $5.00**

No. 170 — Includes: Everything contained in the No. 169 with the exception of 1 Safety lightning arrester. **List ... $4.75**

BASE INSULATOR



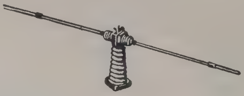
Ideal for replacement and well suited as a base insulator for ultra high frequency antennas as it permits a connection to be at the bottom of the insulator. Made of highly vitrified low absorption glazed porcelain.

No. 146—Base Insulator, Std. Pkg. 10..................List, $0.60

SEE PAGE Q-58
for complete line of
TRANSMISSION
CABLE
suitable for
FM and
TELEVISION

ADJUSTABLE DIPOLE ANTENNA

For Television or Frequency Modulation

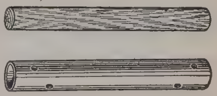


An adjustable antenna that can be used as a vertical or horizontal doublet. Can be rotated to any angle for any degree of polarization. Impedance at center 72 ohms, matched by E01 Cable. Aluminum alloy tubing permits outdoor mountings. Special tapered lock bushings hold each section in place simply by turning and pushing down. The center mounting insulator is 4½″ high.

	Frequency Range in Mcs.		List
No.	Open	Telescoped	Price
158	82	155	$5.50
160	40	75	6.60

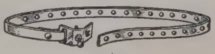
Wooden Mounting Poles

Made of straight grain ash and finished with a weatherproof varnish. With the use of the couplings, several poles can be joined together. The couplings are made of steel tubing and are cadmium plated.



No.	Std. Pkg.	List
144—Coupling	10	$1.00
145—4 ft. Wooden pole	10	1.00

MOUNTING STRAP



A very useful aid in securing poles of Television or mast antennas to vent pipes. It is made of cadmium plated steel and is 24″ long.

No. 626—Mounting Strap............Std. Pkg. 25............ $0.30 List

GUY WIRE

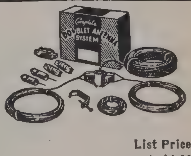
Constructed of high tensile strength galvanized steel wires. Ideal for guying up transmitter and receiver towers and poles.

No. 19—Guy Wire, 25 ft. Coil	each $0.30	List
No. 20—Guy Wire, 50 ft. Coil	each .60	List

No. 148

UNIVERSAL WAVE ANTENNA

(FOR EVERY TYPE OF RECEIVER)



The No. 148 All Wave Antenna is the same as the No. 150, but is packed in a special attractive two color box imprinted to customer's specifications. This kit is designed for efficient operation with all types of receivers. Standard cartons of 20 kits.

No.		List Price
148—All Wave Kit with Receiver Coupler	each	$4.00
149—All Wave Kit without Receiver Coupler	each	3.50

STRANDED COLORED RUBBER WIRE

It is constructed of carefully annealed stranded tin-copper conductors with a cotton wrap, insulated with a special grade of non-cracking live colored rubber compound. It strips readily and is available in various colors for easy identification.

No.	Ft.	Size	Current Carrying Capacity	Puncture Volts A.C. 60 Cycle	O.D.	Wire Stranding	List
225	25 Coil	$18\frac{1}{64}$	3 Amps	5,500	.087	16-30's	$0.40
1225	1000 Spool						13.00
COLORS:—Red, Black, Yellow, Green, Brown, White.							
425	25 Coil	$16\frac{1}{32}$	6 Amps	8,000	.135	26-30's	$0.65
440	50 Coil						1.20
1440	100 Spool						2.25
2440	500 Spool						10.50
COLORS:—Red, Black, White, Brown, Green.							
FILAMENT WIRE (HIGH AMPERAGE)							
782	25 Coil	$14\frac{1}{32}$	15 Amps	8,500	.145	26-28's	$0.90
786	500 Spool						18.00
784	25 Coil	$12\frac{3}{64}$	20 Amps	12,000	.190	41-28's	1.25
787	500 Spool						25.00
COLORS:—Red and Black.							

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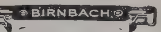
BIRNBACH Birnbach AERIAL ACCESSORIES

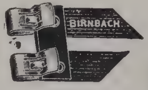
LEADIN STRIPS



Covered with a heavy cotton braid, weather-proofed, with numerous coats of lacquer. The Clips are riveted and soldered at both ends

No.	Lgth.	Std. Pkg.	List Price Each
611—Black	12″	50	$0.07½
612—Black	16″	25	.15
613—White	12″	50	.08

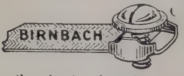
DOUBLET LEADIN STRIPS



Two strips held parallel to each other by a piece of bakelite prevents them from moving back and forth. Available in black or white.

No. 2611—Std. pkg. 25. **Ea. $0.17 List**

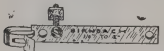
Screw Terminal Leadin Strip



Locks the wire together with the strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. Available in white or black.

No.	Std. Pkg.	List Price Each
617—Leadin Strip	50	$0.11
2617—Doublet Leadin Strip	25	.25

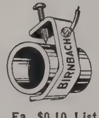
COPPER STRAP CLAMP



Will take ⅜″ to 2″ Pipe. Made of copper with Birnbach clip riveted and soldered to strap. oCmplete with nut and bolt.

No. 600—Std. pkg. 50. **Ea. $0.07 List**

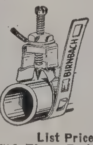
C-CLAMP



Attaches easily to a water or radiator pipe. The cone-pointed screw cuts through and makes positive contact. Cadmium finish prevents rusting.

No. 615—Std. pkg. 25. **Ea. $0.10 List**

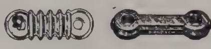
SADDLE GROUND CLAMPS



These ground clamps have a hard pointed screw which digs through rust and makes a positive contact. Fits a ⅜″ to 2″ pipe.

No.	Std. Pkg.	List Price Each
625—Heavy Saddle Clamp	50	$0.12
630—Light Saddlé Clamp	50	.08

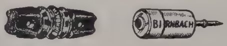
GLASS INSULATORS



Made of crystal clear glass and have a smooth surface which prevents dirt or ice to collect.

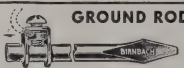
No.		Std. Pkge.	List Price
00—3″		100	C $5.50
660—3⅜″		100	C 8.25
661—3¾″	Flat Type	100	C 8.80
662—3⅜″		100	C 9.50
659—4½″		100	C 14.30

PORCELAIN INSULATORS AND NAIL-IT KNOBS



No.	Porcelain Insulators	Std. Pkge.	List Price
666	Brown or White	100	C $4.40
669	Glazed Nail-It Knobs	100	C 3.85

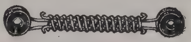
GROUND RODS



The Ground Rod when driven into the ground will afford a highly efficient ground.

No.	Std. Pkge.	List Price
616—4 Ft.	12	ea. $0.85
818—6 Ft.	12	ea. 1.25

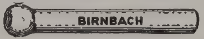
AERIAL SPRING ADJUSTER



Prevents swinging and swaying of antennas and eliminates the resultant fading of signals. Consists of two hooks with porcelain rings interconnecting with a powerful compression spring. Cadmium plated throughout.

No.	List Price
765—Birnbach Aerial Spring Adjuster	each $0.55

PORCELAIN TUBES



To bring a leadin into a building, we advise our Porcelain Tubes, which require a ¾″ dia. hole.

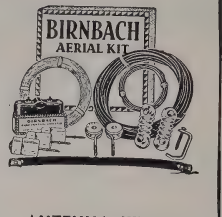
No.	Std. Pkge.	List Price
42—2″	100	C $3.25
43—3″	100	C 4.00
44—4″	100	C 5.25
46—6″	100	C 7.00
48—8″	100	C 10.00

PHOSPHOR BRONZE

It has about twice the strength of copper. It is used extensively on Master Antenna Systems where strength and reliability are demanded.

Special Lengths Available on Order

No.	Ft.	Size	List Price
499	100	7/18	$6.00
524	100	7/20	3.50
526	100	7/22	3.25



ANTENNA KITS

No. 1101—Aerial Kit.....Each $3.00
75 ft. 7/23 Tinned Copper Wire
40 ft. No. 16 R.C. Lead-in Wire
15 ft. Flexible R.C. Wire
1—No. 650 Lightning Arrester
2—No. 660 Glass Insulators
1—No. 615 Pipe Clamp
1—No. 611 Lead-in Strip
2—No. 665 Galvanized Screw Eyes
2—No. 669 Glazed Nailit Knobs
5 Insulated Staples
Std. Pkg. 10 Weight 32 lbs.

Special Aerial Kit.......Each $2.12½
75 ft. 7/24 Copper Wire
40 ft. R.C. Lead-in Wire
15 ft. Flexible R.C. Wire
1—No. 611 Lead-in Strip
1—No. 650 Lightning Arrester
1—No. 600 Ground Clamp
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
Std. Pkg. 24 Weight 64 lbs.

AERIAL WIRE

STRANDED—BARE

No.			List Pric
493	7/20	100 ft. coil	$1.6
1640	7/22	75 ft. coil	.7
1670	7/22	100 ft. coil	1.0
1639	7/22	1000 ft. spool	9.5
1643	7/23	75 ft. coil	.6
1673	7/23	100 ft. coil	.8
1634	7/23	1000 ft. spool	8.0
1646	7/24	75 ft. coil	.5
1680	7/24	100 ft. coil	.6
1647	7/24	1000 ft. spool	6.5
647	7/26	75 ft. coil	.4
.681	7/26	100 ft. coil	.5
1648	7/26	1000 ft. spool	4.7
740	7/27	75 ft. coil	.3
700	7/27	100 ft. coil	.4
1741	7/27	1000 ft. spool	4.40

STRANDED—TINNED

No.			List Pric
495	7/20	100 ft. coil	2.0
1641	7/22	75 ft. coil	.8
1671	7/22	100 ft. coil	1.1
1638	7/22	1000 ft. spool	11.0
1644	7/23	75 ft. coil	.7
1674	7/23	100 ft. coil	.95
1633	7/23	1000 ft. spool	9.50
1697	7/24	75 ft. coil	.60
1696	7/24	100 ft. coil	.75
1628	7/24	1000 ft. spool	7.50

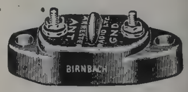
STRANDED—ENAMEL

No.			List Pric
494	7/20	100 ft. coil	2.40
1642	7/22	75 ft. coil	1.00
1672	7/22	100 ft. coil	1.30
1637	7/22	1000 ft. spool	12.50
1645	7/23	75 ft. coil	.80
1675	7/23	100 ft. coil	1.00
1631	7/23	1000 ft. spool	10.00
1683	7/24	75 ft. coil	.66
1682	7/24	100 ft. coil	.82
1627	7/24	1000 ft. spool	8.20

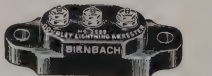
LIGHTNING ARRESTERS

Made of a brown glazed porcelain body with nickel-plated hardware. Suitable for outdoor or indoor use. Complete with mounting screws and instructions.

No.	Std. Pkg.	List Each
650—Lightning Arrester	50	$0.30



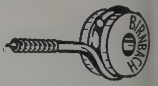
DOUBLET LIGHTNING ARRESTERS



This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

No. 2650—Doublet Lightning Arrester
Std. Pkg. 25............... **List $0.35**

SCREW EYES



Heavy rustproof cadmium plated steel screws hold the blue glaze porcelain eyes firmly. The bakelite insulated eye is specially molded for outdoor use.

Porcelain Eyes

No.		Std. Pkg.	List Price Per 100
666—3	in.	100	$5.50
664—7	in.	50	6.50
667—12	in.	25	21.00

Bakelite Eyes

No.		Std. Pkg.	List Price Per 100
963—3	in.	100	$5.50
964—7	in.	50	6.60
967—12	in.	25	21.00

SOLID TINNED WIRE

SOFT DRAWN

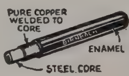
No.		List Price
No. 10		
1400—	25 ft. coil	$0.72
1401—	50 ft. coil	1.40
1402—	100 ft. coil	2.70
1403—	1000 ft. spool	27.00
No. 12		
1404—	25 ft. coil	.45
1405—	50 ft. coil	.80
1406—	100 ft. coil	1.50
1407—	1000 ft. spool	15.00
No. 14		
1408—	25 ft. coil	.33
1409—	50 ft. coil	.55
1410—	100 ft. coil	1.00
1411—	1000 ft. spool	10.00
No. 16		
1412—	25 ft. coil	.28
1413—	50 ft. coil	.45
1414—	100 ft. coil	.77
1415—	1000 ft. spool	7.70
No. 18		
1416—	25 ft. coil	$0.22
1417—	50 ft. coil	.40
1418—	100 ft. coil	.72
1419—	1000 ft. spool	7.20
No. 20		
1410—	25 ft. coil	.20
1421—	50 ft. coil	.33
1422—	100 ft. coil	.66
1423—	1000 ft. spool	6.60
No. 22		
1424—	¼ lb. spool..	.50
1425—	½ lb. spool..	.90
1426—	1 lb. spool..	1.50
No. 24		
1427—	¼ lb. spool..	.55
1428—	½ lb. spool..	1.00
1429—	1 lb. spool..	1.75
No. 26		
1430—	¼ lb. spool..	.60
1431—	½ lb. spool..	1.10
1432—	1 lb. spool..	2.00

SOLID ENAMEL WIRE

No.		List Price
No. 10		
597—	25 ft. coil	$0.65
697—	50 ft. coil	1.30
497—	100 ft. coil	2.50
1497—	1000 ft. spool	24.50
No. 12		
192—	25 ft. coil	.45
292—	50 ft. coil	.85
492—	100 ft. coil	1.60
492A—	150 ft. coil	2.40
492B—	200 ft. coil	3.20
1492—	1000 ft. spool	16.00
No. 14		
190—	25 ft. coil	.30
290—	50 ft. coil	.60
490—	100 ft. coil	1.10
490A—	150 ft. coil	1.65
490B—	200 ft. coil	2.20
1490—	1000 ft. spool	10.75
No. 15		
498—	100 ft. coil	.85

COPPERWELD ANTENNA WIRE

(STRETCHLESS)



Has a steel core covered with copper and heavily enameled. It will not elongate because of its high tensile strength — which is several times that of enameled copper wire. It has low R.F. resistance and is ideal for transmitting doublet and directional antenna systems as it will maintain the frequency characteristics of the antenna because of its stretchless qualities.

LIST PRICES

Feet	SIZE (B&S) No. 10	No. 12	No. 14
100	$3.25	$2.25	$1.55
250	8.00	5.50	3.75
500	16.00	11.00	7.25
1000	31.25	22.00	14.25
2500	77.50	54.50	35.50

TENSILE STRENGTH

No. 10	1130 lbs.
No. 12	720 lbs.
No. 14	400 lbs.

SPECIAL LENGTHS AVAILABLE ON ORDER

Birnbach HOOK-UP WIRE

BIRNBACH

SPECIAL SPOOL ASSORTMENT $.80 LIST PRICE

No.	Ft.	Size	Type
3000	65	22	Solid Pushback
3001	55	20	Solid Pushback
3002	45	18	Solid Pushback
3003	35	16	Solid Pushback
3004	30	14	Solid Pushback
3005	55	22	Strandad Pushback
3006	45	20	Stranded Pushback
3007	40	18	Stranded Pushback
3008	30	16	Stranded Pushback
3009	20	14	Stranded Pushback
3010	50	18	Colored Rubber
3011	35	16	Colored Rubber
3012	30	14	Stranded Leadin
3013	60	18	Solid Leadin
3014	65	18	Stranded Leadin
3015	35	18	Stranded Lacquered
3016	75		Brown & White AC-DC Wire
3017	30		Kinkless Wire
3018	20	18	Twisted Lamp Cord
3019	45	18	Single Fix. Wire
3020	25	18	Parallel Silk
3021	15	18	Blk., Wht., Brn. Zip Cord
3022	100	18	Solid Tinned
3023	75	18	Bell Wire
3024	15	18	Shielded Wire

Birnbach
SPOOL WIRE ASSORTMENT
ELECTRICAL RADIO AUTOMOTIVE

FREE DISPLAY One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

EXTRA DISPLAY RACKS AVAILABLE AT $1.25 EACH, NET

Height — 24″ Width — 12½″

Thermoplastic Synthetic Insulated Radio and Electronic Hook-up Wire (Fungus Proof).

★ SPECIFICATION JAN-C-76 ★

Type SRIR—1000 Volt

COLORS:

Black
Gray
Brown
White
Blue
Dk. Blue
Red
Yellow
Purple
Green
Orange
Pink
Tan

Note: For 25,000 feet of on color, deduct 10% of List Prices above.

Approx. AWG Cat. No.	Navy Standard Conductor Designation		Conductor Construction	Nom. Wall	Max. O.D.	List Price Per M Ft.
7024—24 Stranded		(16)	16 wires .005″	.012″	.052″	$17.50
7000—22 Solid	3/5	(1)	.0253 solid	.015″	.062″	10.00
7001—22 Stranded	3/5	(7)	7 wires .010	.015″	.066″	15.65
7002—20 Solid	1	(1)	.032 solid	015″	.068″	12.50
7003—20 Stranded	1	(10)	10 wires .010	.015″	.074″	17.50
7004—18 Solid	1½	(1)	.0403 solid	.015″	.076″	15.00
7005—18 Stranded	1½	(16)	16 wires .010	.015″	.083″	19.30
7007—16 Stranded	2½	(26)	26 wires .010	.015″	.096″	32.50
7009—14 Stranded	4	(41)	41 wires .010	.018″	.120″	50.00
7011—12 Stranded	6	(65)	65 wires .010	.018″	.140″	67.50

The above items meet all requirements of Army-Navy joint specification JAN-C-76, Type SRIR for plain resin construction where highest resistance to fungus growth is required.

SPECIFICATIONS FOR THE JAN-C-76

I—Electrical Properties:
- A—Dielectric strength
- B—Insulation resistance
- C—Creepage resistance

II—Mechanical Properties:
- A—Low temperature flexibility
- B—High temperature stability
- C—Resistance to heat deformation
- D—Abrasion resistance
- E—Low moisture absorption

III—Chemical and Other Properties:
- A—Resistance to common solvents
- B—Flame resistance
- C—Fungus resistance

SHIELDED LEAD-IN WIRE

Used to prevent the pickup of interference or man-made static. Consists of a stranded tinned copper conductor with a wall of live rubber over which a tinned copper braid is woven.

No.	Ft.		Cap. mmfd. per Ft.	O.D.	List Price
		No. 20—1/64″			
810—	500	Spool	105	.090	$15.00
		No. 18—1/64″			
807—	25	Coil	125	.100	$0.90
809—	100	Spool	125	.100	3.50
803—	250	Spool	125	.100	8.50
		No. 16—1/32″			
825—	25	Coil	90	.145	$1.10
851—	100	Spool	90	.145	4.25
802—	250	Spool	90	.145	10.00
		No. 14—3/64″			
804—	25	Coil	95	.185	$1.55
806—	100	Spool	95	.185	6.00
801—	250	Spool	95	.185	14.50

RADEX SLIPBACK HOOKUP WIRES

It has a covering of rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into parafin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. It has a high dielectric strength and will withstand all climatic changes without breakdown.

FOR IMPROVED WIRING
BIRNBACH
HOOK-UP WIRE
BIRNBACH
BIRNBACH RADIO CO INC

	25 FT. COILS				100 FT. SPOOLS				500 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price
20	280	$0.40	281	$0.45	380	$1.60	381	$1.80	480	$8.00	481	$9.00
18	282	.45	283	.50	382	1.80	383	2.00	482	9.00	483	10.00
16	284	.55	285	.60	384	2.20	385	2.40	484	11.00	485	12.00
14	286	.75	287	.90	386	3.00	387	3.60	486	13.50	487	16.00
12	288	1.15	289	1.25	388	4.60	389	5.00	488	23.00	489	25.00

	1000 FT. SPOOLS			
	Solid		Stranded	
Size	No.	List Price	No.	List Price
20	580	$15.00	581	$16.50
18	582	17.50	583	18.50
16	584	20.00	585	22.50
14	286	25.00	587	28.00
12	588	45.00	589	50.00

SOLID WIRE PUNCTURE VOLTAGE
60 Cycle A.C.

No. 20..........2000
No. 16..........2100
No. 18..........2100
No. 14..........2100
No. 12..........2200

STRANDED WIRE PUNCTURE VOLTAGE
60 Cycle A.C.

No. 20..........2100
No. 18..........2200
No. 16..........2200
No. 14..........2200
No. 12..........2300

COLORS—Black, Red, Blue, Yellow, Green, White, Brown

BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with parafin.

SOLID COLORS:—Red, Black, Green, Blue, Yellow, White.
TRACER COLORS:—Red, Black, Green, Blue, Yellow, Brown.

FOR IMPROVED WIRING
BIRNBACH
HOOK-UP WIRE
BIRNBACH
BIRNBACH RADIO CO INC

	25 FT. COILS				100 FT. COILS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	70	$0.30	71	$0.35	72	$1.20	73	$1.40
20	80	.35	81	.40	84	1.40	85	1.60
18	82	.40	83	.45	86	1.60	87	1.80

	500 FT. SPOOLS				1000 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	74	$6.00	75	$7.00	76	$11.00	77	$12.50
20	88	7.00	89	8.00	92	12.50	93	14.00
18	90	8.00	91	9.00	94	15.00	95	17.00

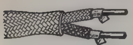
Puncture Voltage 60 Cycle A.C. 1500

BIRNBACH Birnbach CABLE and TRANSMISSION LINE

NOTE: CODE "B" FOLLOWING CATALOG NUMBER INDICATES USE OF "BUNA-S"

PA and COMMUNICATING SYSTEM CABLES

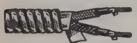
Shielded Twisted Pair



Constructed of solid enameled wire with a cotton wrap color coded cotton braid twisted pair waxed, and bare copper braid woven overall.

No.	Size	O.D.	List Price
821—100 Ft.	22	.125	$ 4.00
822—500 Ft.	22	.125	17.50
823—100 Ft.	19	.145	4.25
824—500 Ft.	19	.145	19.50

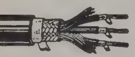
Armored Speaker Cable



Constructed of 2 No. 18 stranded parallel conductors $\frac{1}{64}$ rubber color coded cotton braid waxed, paper wrap and closely armored.

No.	Size	O.D.	List Price
1110— 100 Ft.	$18\frac{1}{64}$	.155 x .260″	$ 6.75
1111— 250 Ft.	$18\frac{1}{64}$	.155 x .260″	16.00
1112— 500 Ft.	$18\frac{1}{64}$	.155 x .260″	29.00
1113—1000 Ft.	$18\frac{1}{64}$	.155 x .260″	55.00

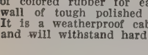
Rubber Shielded Microphone Cable



Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A tinned copper shield is woven over all conductors, and then cotton wrapped. A 1/32 wall of tough rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D	List Price
772-B	2	100	20	55	31	.270	$12.43
1772-B	2	250	20	55	31	.270	28.25
773-B	3	100	20	58	33	.305	18.98
1773-B	3	250	20	58	33	.305	43.13
774-B	4	100	20	48	28	.345	22.55
1774-B	4	250	20	48	28	.345	51.25
775-B	5	100	20	51	29	.395	26.68
1775-B	5	250	20	51	29	.395	60.63
776-B	6	100	20	45	27	.405	31.63
1776-B	6	250	20	45	27	.405	71.88
777-B	7	100	20	49	27	.420	33.83
1777-B	7	250	20	49	27	.420	76.88

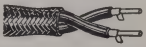
RUBBER S. J. CABLE



Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A 1/32 wall of tough polished rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

Cat. No.	No. Conds.	Ft. on Spool	O.D.	List Price
788-B	2	100	.250	$11.00
789-B	2	250	.250	25.00
790-B	3	100	.300	13.75
791-B	3	250	.300	31.25
792-B	4	100	.325	16.50
793-B	4	250	.325	37.50
794-B	5	100	.370	19.80
796-B	6	100	.400	24.13
797-B	6	250	.400	59.38
798-B	7	100	.400	25.00
749-B	8	100	.460	30.90

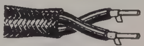
EO1 Transmission Cable
(GENUINE)



This cable has a surge impedance of 72 ohms which accurately matches the impedance at the center of the half wave Hertz Antenna. It is constructed of 2 No. 12 Bare Copper conductors having a paper wrap. A special high frequency rubber insulates each side of the line and accurately maintains the impedance. It has a special weatherproofed cotton braid overall with a mica finish.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100′
956—	100 Spool	$17.00	10 Mcs.	73	1.8
955—	250 Reel	39.00	20 Mcs.	73.7	3.2
954—	500 Reel	75.00	40 Mcs.	73.7	5.9
953—	1000 Coil	150.00			

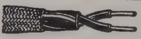
No. 12 Solid Twisted
For Television or Frequency Modulation
(100 ohm)



Designed for use with television and Frequency Modulation (FM) receivers. It is constructed of 2 No. 12 bare conductors insulated with a paper wrap with a special grade of rubber insulation which separates and insulates the conductors and helps maintain the correct impedance. Over this is placed a cotton braid impregnated with a weatherproof finish.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100′
960—	100 Spool	$11.00	10 Mcs.	98	2.4
959—	250 Reel	26.50	20 Mcs.	101	3.5
958—	500 Reel	52.50	40 Mcs.	101	6.2
957—	1000 Coil	100.00			

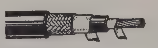
72 OHM No. 14 SOLID



Constructed of 2 No. 14 Solid tinned conductors with a special grade of low loss rubber covered with a weatherproof cotton braid overall. Reasonably priced having many desirable characteristics of the more expensive cable.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100′
906—	50 Spool	$10.00			
907—	100 Spool	19.00	10 Mcs.	73	1.8
908—	250 Spool	45.00	20 Mcs.	73.8	3.3
909—	500 Spool	45.00	40 Mcs.	74.1	5.8
910—	1000 Reel	175.00			

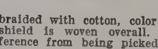
Crystal Microphone Cable



For use with crystal and ribbon microphones. They are designed for low capacity and low losses. Constructed of tinned stranded conductor with a wall of low capacity rubber and closely woven shield and tough rubber wall overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
872-B	100 Crystal	20	37	.270	$10.00
1872-B	250 Crystal	20	37	.270	23.00
870-B	100 Lapel	20	60	.175	6.50
1870-B	250 Lapel	20	60	.175	16.00
871-B	100 Lapel	20	50	.155	6.50
1871-B	250 Lapel	20	50	.155	16.00

Shielded Battery Cable



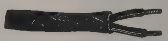
Constructed of flexible stranded conductors covered with quality rubber compound and braided with cotton, color coded. A tinned copper shield is woven overall. Used to prevent interference from being picked up.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
972-B	2	100	20	76	61	.205	$ 6.50
973-B	3	100	20	90	50	.240	10.63
974-B	4	100	20	62	35	.285	13.13
975-B	5	100	20	64	43	.290	16.25
976-B	6	100	20	95	48	.300	18.75
977-B	7	100	20	87	41	.340	23.75
978-B	8	100	20	103	61	.345	25.00
979-B	9	100	20	100	57	.360	28.50
980-B	10	100	20	107	80	.375	31.25

HEAVY DUTY S. J. CABLE

Cat. No.	No. Conds.	Ft.	Gauge	O.D.	List Price each
2574-B	2	500	No. 18	.300	$50.00
2578-B	2	500	No. 16	.325	62.50

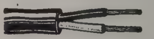
Commercial Type Twisted Pair
(No. 22 STRANDED)



This cable is used extensively for replacement on all antenna systems. Consists of 2 No. 22 tinned stranded conductors rubber covered and weatherproof braid overall. Available in black or white.

No.	Ft.	List Price
950—	50 Coil	$1.80
951—	100 Coil	3.50
952—	500 Spool	16.00

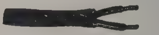
72 Ohm Rubber Jacket
(No. 16 Stranded)



A very good transmission line designed for long satisfactory use with Television F.M. and Master Antenna Systems. Constructed with 2 No. 16 tinned stranded conductors insulated with a special non aging low loss rubber compound covered with a tough abrasion resisting 40% rubber jacket.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100′
911—	50 Spool	$ 5.50			
912—	100 Spool	10.50	10 Mcs.	103	1.9
913—	250 Spool	20.00	20 Mcs.	104	3.4
914—	500 Spool	39.00	40 Mcs.	104.5	5.7
915—	1000 Spool	75.00			

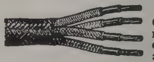
Commercial Type Twisted Pair
(No. 18 STRANDED)



This cable is used extensively as original equipment of master antenna systems. It is constructed of 2 No. 18 tinned stranded conductors insulated with a special grade of rubber color coded and covered with a white weatherproof cotton braid.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100′
916—	50 Spool	$ 3.10			
917—	100 Spool	6.00	10 Mcs.	82	2.1
918—	250 Spool	12.00	20 Mcs.	82.5	3.9
919—	500 Spool	23.00	40 Mcs.	82.3	6.3
920—	1000 Spool	45.00			

BATTERY CABLE

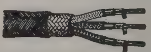


Constructed of individual rubber insulated stranded conductors, cotton braided and color coded. A closely woven cotton braid overall.

No.	No. Conds.	Ft.	Size	O.D.	List Price
172-B	2	100	20	.200	$ 5.00
173-B	3	100	20	.205	6.25
174-B	4	100	20	.260	8.00
175-B	5	100	20	.300	9.25
176-B	6	100	20	.320	12.00
177-B	7	100	20	.340	13.00
178-B	8	100	20	.370	14.50
179-B	9	100	20	.400	18.00
180-B	10	100	20	.410	20.00
182-B	12	100	20	.430	22.50
With 2 No. 16 Conductors and Balance No. 20					
186	6	100	2 No. 16—4 No. 20	.290	10.50
187	7	100	2 No. 16—5 No. 20	.310	11.50
188	8	100	2 No. 16—6 No. 20	.370	13.50
189	9	100	2 No. 16—7 No. 20	.400	15.50

All Cables Available in Special Lengths

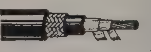
Shielded Battery Cable
(Cotton Braid Overall)



Constructed of individual tinned stranded copper with a wall of rubber and covered with a colored cotton braid.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
1972	2	100	20	120	65	.215	$ 7.75
1973	3	100	20	86	49	.240	11.00
1974	4	100	20	103	46	.295	13.00
1975	5	100	20	73	38	.312	15.00
1976	6	100	20	70	36	.330	18.00
1977	7	100	20	68	35	.350	20.00

Diathermy Cable



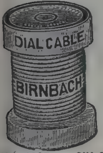
Specially designed for use with electrotherapy apparatus. It is extremely flexible with a special grade of tough live flexible jacket to withstand the exacting service required.

No.	Ft.	Breakdown Voltage 60 Cycles A.C.	O.D.	List Price
756	100 Spool	20,000	.300	$10.00
757	1000 Reel	20,000	.300	90.00

Birnbach BIRACO TUBING DIAL and MAGNET WIRE

BIRNBACH

NOTE: CODE "B" FOLLOWING CATALOG NUMBER INDICATES USE OF "BUNA-S"



DIAL CABLE

42 Strand Phosphor Cable

Constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

No. 1025— 25′ Spool List Price $1.20 each
No. 1050— 50′ Spool List Price 2.25 each
No. 1051— 100′ Spool List Price 4.00 each
No. 1052—1000′ Spool List Price 33.00 each

Phosphor Bronze (Light Cable)

A lower quality cable than No. 1025, but a cable that will give good service. This is a braided Phosphor Bronze cable.

No. 1053— 25′ Spool List Price $0.66 each
No. 1054— 50′ Spool List Price 1.25 each
No. 1055— 100′ Spool List Price 2.50 each
No. 1056—1000′ Spool List Price 18.50 each

Extra Heavy Linen Dial Cable

Made of the finest linen for replacement on all receivers, same as used for Philco. It is extra heavy for exceptional long service.

No. 1057— 25′ Spool List Price $1.30 each
No. 1058— 50′ Spool List Price 2.50 each
No. 1059— 100′ Spool List Price 4.50 each
No. 1060—1000′ Spool List Price 36.00 each

Heavy Linen Cable

This braided cable is used for replacement for all Philco Receivers.

No. 2025— 25′ Spool List Price $1.30 each
No. 2050— 50′ Spool List Price 2.50 each
No. 2051— 100′ Spool List Price 4.50 each
No. 2052—1000′ Spool List Price 36.00 each

Light Linen Dial Cable (Silk Core)

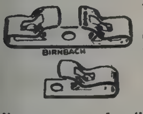
High quality linen cable used on many receivers specially treated to prevent slipping.

No. 3025— 25′ Spool List Price $1.20 each
No. 3050— 50′ Spool List Price 2.25 each
No. 3051— 100′ Spool List Price 4.00 each
No. 3052—1000′ Spool List Price 25.00 each

Extra Light Linen Cable

It is a strong extra thin linen cable for replacement. Braided of the finest black linen.

No. 4025— 25′ Spool List Price $0.75 each
No. 4050— 50′ Spool List Price 1.40 each
No. 4051— 100′ Spool List Price 2.50 each
No. 4052—1000′ Spool List Price 18.50 each



SPRING WIRE CLIPS

They will hold a wire, up to No. 10 B&S Gauge, in a secure contact. All clips are brass nickel-plated.

No.	Length	Std. Pkg.	List Price Per C
32—Spring Clip	1″	100	$1.50
33—Twin Clip	1¾″	100	6.00

ALL RUBBER LAMP CORD

(BUNA-S)

This cord is an all rubber covered insulated parallel cord which can be separated by starting with a knife. Connects easily and cannot fray. Sanitary and neat.

COLORS: Black, White, Brown

2570-B—100 Spool	18	$5.00
2572-B—250 Spool	18	12.50
2573-B—500 Spool	18	25.00

BUS BAR WIRE

Used to hook up all types of transmitters, especially ultra short wave equipment. Made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths.

No.	List Price per 100 lengths
2010—No. 10 Round Tinned	$6.05
2012—No. 12 Square Tinned	4.70
2013—No. 12 Round Tinned	4.15
2014—No. 14 Square Tinned	3.60
2015—No. 14 Round Tinned	3.05

MAGNET WIRE

Special Spools — $.40 List Price

On attractive spools, even sizes from 14 to 40 inclusive, in Double Cotton, Plain Enamel, and Double Silk. Here is a really sensational seller for the dealer who will put this display on the counter. It is a Silent Salesman which will bring you real profit the year around! **FREE DISPLAY!** One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

Extra Display Racks available at $1.25 each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk
12	15 ft.	9 ft.	— ft.	22	112 ft.	75 ft.	37 ft.	32	675 ft.	180 ft.	124 ft.
14	26 ft.	20 ft.	11 ft.	24	184 ft.	97 ft.	56 ft.	34	900 ft.	195 ft.	131 ft.
16	34 ft.	34 ft.	19 ft.	26	244 ft.	116 ft.	71 ft.	36	1275 ft.	206 ft.	142 ft.
18	56 ft.	44 ft.	23 ft.	28	401 ft.	131 ft.	90 ft.	38	1725 ft.	240 ft.	116 ft.
20	86 ft.	56 ft.	29 ft.	30	525 ft.	158 ft.	112 ft.	40	1950 ft.	265 ft.	125 ft.

¼ LB., ½ LB., 1 LB., *MAGNET WIRE—Approximate Feet and List Prices*

Double Cotton (White)

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.40	24	$0.70	49	$1.27
14	19	.41	39	.71	78	1.30
16	31	.44	62	.73	123	1.33
18	48	.45	97	.81	194	1.37
20	78	.49	157	.90	304	1.54
22	119	.55	238	1.02	477	1.75
24	134	.64	269	1.21	738	2.18
26	284	.77	568	1.44	1136	2.54
28	435	.91	871	1.75	1742	2.97
30	641	1.09	1284	2.06	2596	3.53
32	976	1.35	1953	2.55	3906	4.85
34	1365	1.90	2735	3.60	5470	6.80
36	1827	2.60	3654	4.98	7309	9.35
38	2738	5.00	5476	9.35	10952	17.50
40	3405	7.50	6811	14.00	13623	26.00

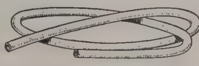
Plain Enamel

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.33	25	$0.63	50	$1.08
14	20	.35	40	.65	80	1.10
16	32	.36	63	.66	126	1.12
18	50	.37	100	.67	201	1.16
20	80	.40	160	.68	320	1.21
22	127	.41	254	.72	508	1.27
24	201	.43	403	.77	806	1.33
26	320	.52	640	.92	1280	1.66
28	507	.55	1015	.97	2030	1.75
30	805	.60	1610	1.10	3220	2.00
32	1282	.66	2564	1.18	5128	2.18
34	2037	.75	4075	1.36	8150	2.73
36	3221	.87	6442	1.59	12887	2.98
38	5132	1.00	10246	1.85	20492	3.47
40	8143	1.50	16286	2.77	32573	5.25

Double Silk (Green)

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.57	24	$1.12	49	$2.12
14	19	.60	39	1.15	78	2.15
16	31	.65	62	1.25	125	2.27
18	49	.72	99	1.31	198	2.50
20	78	.83	157	1.62	314	3.05
22	123	.96	247	1.87	495	3.35
24	195	1.06	390	2.06	781	4.00
26	303	1.28	606	2.50	1212	4.90
28	478	1.43	956	2.81	1912	5.31
30	739	1.62	1479	3.12	2958	6.25
32	1136	2.18	2272	4.25	4545	8.50
34	1712	2.81	3424	5.50	6849	10.60
36	2551	4.37	5102	8.50	10204	16.25
38	3770	6.25	7541	11.85	15082	22.50
40	5040	9.35	10080	17.75	20161	33.50

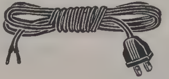
BIRACO TUBING *(Extruded)*



It is an extruded tubing made of the new synthetic plastic material. Extremely flexible and when stretched returns to its original form. Withstands the effects of heat and will not support combustion. Will only soften at 300°F and will not flow at 425°F. Its dielectric strength:—750 volts per mil. when dry and 350 volts when wet. It is not affected by oil and is resistant to most coal tar solvents and petroleum solvents. Resists acids, alkalies in concentrations up to 30% by weight. Available in continuous lengths. Dielectric strength—10,000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 36″ lengths
313	20	.034	$0.14
314	18	.042	.14
315	16	.053	.15
316	14	.066	.16
317	12	.085	.16
318	8	.135	.40
319	4	.208	.45
320	2	.263	.50
321	5/16	.3125	.55
322	⅜	.375	.60
323	½	.500	1.00
324	⅝	.625	1.10



SERVICE CORDS

Constructed of all rubber Underwriters Approved lamp cord and plug on one end and with the other end stripped and tinned all ready for use.

COLORS: Black or Brown

No.	Ft.	List Price
816-B	6	$0.50
817-B	7½	.65
819-B	10	.65

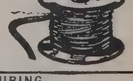
VARNISHED TUBING

Provides quality insulation for wires used on radio sets, small electrical equipment and instruments. The outside is impervious to oil, acid and water. It is highly flexible and will not crack after aging. Average dielectric strength 5000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 30″ lengths
291	20	.034	$0.14
293	18	.042	.14
294	16	.053	.14
295	14	.066	.14
300	12	.085	.14
301	8	.133	.40
297	3/16	.208	.40
298	¼	.263	.50
303	5/16	.3125	.55
304	⅜	.375	.60
299	½	.500	1.10
296	⅝	.625	1.15

BIRACO & VARNISHED TUBING IN HANDY PACKAGES



Both BIRACO Extruded TUBING and VARNISHED TUBING are also available on convenient paper spools in a variety of lengths to meet practically every demand Put up in handy packages to fill the requirements of servicemen and manufacturers. Wide assortment of colors.

BIRACO TUBING

Cat. No.	Gauge Size	Approx. I. D.	Length Package	List Price Package
314B	18	.042	25 ft.	$0.75
315B	16	.053	25 ft.	.75
316B	14	.066	25 ft.	.75
317B	12	.085	25 ft.	.75
325B	10	.106	15 ft.	.75
318B	8	.135	15 ft.	.75
326B	6	.166	15 ft.	.75
319B	4	.208	10 ft.	.75
320B	2	.263	10 ft.	.75
314B	18	.042	100 ft.	2.75
315B	16	.053	100 ft.	2.75
316B	14	.066	100 ft.	2.75
317B	12	.085	100 ft.	2.75
325B	10	.106	100 ft.	4.40
318B	8	.135	100 ft.	4.40
326B	6	.166	100 ft.	4.40
319B	4	.208	100 ft.	6.75
320B	2	.263	100 ft.	6.75

VARNISHED TUBING

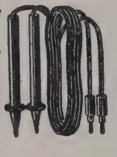
Cat. No.	Gauge Size	Approx. I. D.	Length Package	List Price Package
293V	18	.042	25 ft.	$1.20
294V	16	.053	25 ft.	1.20
295V	14	.066	25 ft.	1.20
300V	12	.085	25 ft.	1.20
307V	10	.106	20 ft.	1.20
301V	8	.135	15 ft.	1.20
302V	6	.166	10 ft.	1.20
305V	4	.208	10 ft.	1.20
306V	2	.263	10 ft.	1.20
293V	18	.042	100 ft.	4.40
294V	16	.053	100 ft.	4.40
295V	14	.066	100 ft.	4.40
300V	12	.085	100 ft.	4.40
307V	10	.106	100 ft.	7.00
301V	8	.135	100 ft.	7.00
302V	6	.166	100 ft.	7.00
305V	4	.208	100 ft.	11.50
306V	2	.263	100 ft.	11.50

BIRNBACH

Birnbach

TEST LEADS and ACCESSORIES

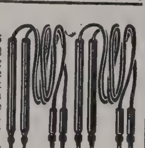
High Voltage Test Leads



The high dielectric strength and low leakage resistance of these test leads recommend them for for testing high voltage high sensitivity devices such as Meggers and Megohmeters. They are particularly well suited for use in testing breakdown voltages up to 1200 volts. The prods and the tip handles are made of black and red bakelite with special designed tips for application. The prods are 6″ long and ½″ dia. and have a guard ring near the metal tip to prevent accidental touching of the exposed metal part. Extra heavy kinkless test lead wire 7/32″ dia. is used throughout. The leads are 60″ long.

No. **List Price**
562—High Voltage Test Leads $4.50

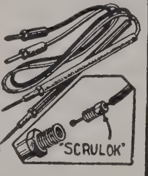
DeLuxe Test Leads



Constructed with 5″ long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48″ long is used to connect the prods with the insulated red and black cast phenolic solderless tips. Either needlepoint or solderless tip available.

No. **List Price**
560—Solderless prod test leads...$1.35
561—Needlepoint prod test leads. 1.35

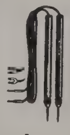
Bakelite Pencil Type Test Leads



Red and black bakelite handles, 6″ long and 5/16″ in dia. and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The Universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. The needlepoint is extra heavy to prevent breakage and should it become broken can be readily replaced. Available only in combination of needlepoint prods and insulated phone tips. Length overall 60″.

No. **List Price**
408—Bakelite Pencil Type Test Lead $2.00
439—Needlepoint Prod Tip for Replacement .... .17

Test Leads (Bakelite Handles)



Have 4″ red and black insulated handles. Needles can be replaced when broken simply by loosening the knurled collar. Available with either phone tips or spade lugs. Length overall 50″.

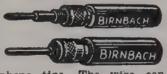
No. **List Price**
4420—Phone Tip Test Leads $1.12½
4421—Spade Lug Test Leads 1.12½

Standard Test Leads

Same as above with a Sr. solderless phone tip.

No. **List Price**
4422—Phone Tip Test Leads..$1.12½
4423—Spade Lug Test Leads.. 1.12½

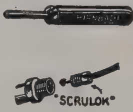
Insulated Solderless Phone Tips



Insulated handles ⅜″ dia. by 1″ long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut. Colors:—red, black, green, and yellow.

No. **List Price**
409—Insulated Sr. Solderless Tip—2¼″ Long ......each $0.15
415—Insulated Jr. Solderless Tip—$1\frac{13}{16}$″ Long ......each .14

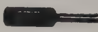
Insulated Phone Tip



The insulated handle is 1″ long, $\frac{5}{16}$″ dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing). Colors: red, black, green and yellow.

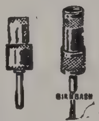
412—Scrulok Pin Tip, $1\frac{9}{16}$″ Long ....each $0.17
419—Scrulok Pin Tip, $1\frac{15}{16}$″ Long ....each .22

Phone Tip



Ideal for replacement on headset, speaker and extension cords.
No. 402—Std. Pkg. 100
List Price $1.90 per C

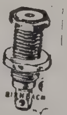
Solderless Phone Tips



Milled of solid brass and nickel-plated. Designed for easy insertion of the wire.

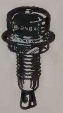
No. **List Price per C**
24—Junior $8.00
24—Senior 9.00
Std. Pkg. 100.

No. 26 Phone Tip Jack



Milled of brass and nickel plated. The bronze springs are specially made to hold the phone tip tight and straight. Mounts in a ¼″ dia. hole.
No. 26—Std. Pkg. 100.
List Price $9.00 per C

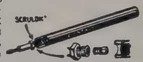
No. 407 Insulated Tip Jack



Has a $\frac{7}{16}$″ insulated top and mounts in a $\frac{5}{16}$″ dia. hole. The specially designed bronze springs hold the phone tip tight and straight. Colors:—red, black, yellow, and green. Std. Pkg. 100.

No. **List Price**
407—Insulated Phone Tip Jack..:.....$0.13

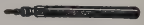
No. 411 Bakelite Pencil Test Prods



These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6″ long and $\frac{5}{16}$″ dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in red or black only.

No. **List Price**
411—Bakelite Pencil Test Prods..$0.75

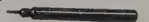
Solderless Tip Prod



Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip, Available in red or black.

No. **List Price**
410 ....4″ Handle.........$0.33
343 ....5″ Handle......... .40

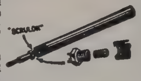
Needlepoint Test Prod



A threaded shank needlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in red or black.

No. **List Price**
344—Needlepoint Test Prod, 4″ Handle $0.35
345—Needlepoint Test Prod, 5″ Handle .... .40

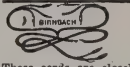
SCRULOCK Needlepoint Test Prods



These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip. Colors:—black or red.

No. **List Price**
417—Needlepoint Test Prod, 4″ Handle $0.35
418—Needlepoint Test Prod, 5″ Handle .... .40

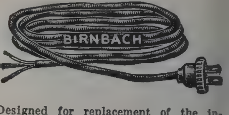
Headset Phone Cords



These cords are closely woven and are very durable and strong. They are used for replacement of worn headset cords. Standard cords are listed which will match practically all headsets manufactured. We will be glad to quote on cords having special terminal requirements.

No. **List Price**
ends $0.75
105— 5 ft., Pin & Spade Tips... .75
105— 5 ft., Pin & Spade Tips... .75
107— 5 ft., Pin & Eye Tips..... .75
108— 8 ft., Pin & Eye Tips..... .95
109—10 ft., Pin & Eye Tips..... 1.40

AC-DC Resistance Cords

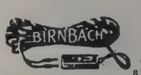


Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes.

No.	Cord Rating	Sets Having Following Tubes	List Price Each
35	135 ohm	25Z5-43-4*	$0.85
36	160 ohm	25Z5-43-3*	.85
34	180 ohm	12Z3-43-4*	.85
49	200 ohm	25Z5-43-2*	.85
37	220 ohm	12Z3-43-3*	.85
41	250 ohm	12Z3-43-2*	.85
		25Z5 -3*	.85
38	290 ohm	12Z3 -3*	.85
45	300 ohm		.85
39	330 ohm	-4*	.85
		12Z3 -2*	
40	350 ohm	12Z3 -1*	.85
		-3*	
47	390 ohm	-2*	.85
125	220-110 Volt Voltage reducing cord		1.50
126	280 ohm	4 Wire†	1.25
127	190 ohm	4 Wire†	1.25
128	165 ohm	4 Wire†	1.25

* 6.3 volt tubes. † For Emerson Radio.

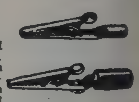
Speaker Extension Cords



Constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

No. **List Price**
166— 10 ft. Cord...........each $1.00
120— 50 ft. Cord...........each 1.35
121— 30 ft. Cord...........each 1.80
122— 40 ft. Cord...........each 2.05
123— 50 ft. Cord...........each 2.35
124—100 ft. Cord...........each 4.50
151—Bakelite Extension Cord, Connector only ....each .40

Alligator Clips

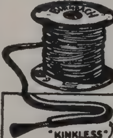


Made of steel nickel plated. The jaws match accurately permitting them to grip all kinds of wire securely. The insulated handle is ⅜″ dia. and ¾″ long and comes in red or black.

No.	Length	Std. Pkg.	List Price
31—Alligator clip	2″	50	$.08½
310—Insulated Alligator clip	2¼″	50	.17

Kinkless Test Lead Wire

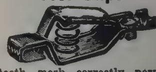
Abrasion resisting live rubber that will not kink or break down in service. No. 20 has 41 strands and No. 18 has 66 strands of No. 36 tinned annealed copper wire.



No.	Ft.	Price	Size	Rubber Wall Thicknesses	Puncture Voltage 60 Cycle A.C.	O.D.
60	25	$0.60	$20\frac{3}{64}$			
61	100	2.25		0.45	12,000	.140
62	500	10.50				
64	25	.95	$18\frac{3}{64}$	.045	12,000	.155
66	100	3.25				
67	500	15.00				
HIGH VOLTAGE TEST LEAD WIRE						
63	25	1.85	$18\frac{5}{64}$	.076	16,500	.218
68	100	6.50				
69	500	30.00				

COLORS:—Red and Black.

Test Clips



The teeth mesh correctly permitting good contact to be made. The No. 27-S is a solid copper clip with a brass screw designed for high frequency work. Sturdily constructed. Standard Package 50.

	Lgth.	Jaw Spread	Price ea.
27—Pee Wee	1½″	⅜″	$0.08
28—Midget	2″	$\frac{9}{16}$″	.08
29—Medium	2⅞″	1″	.11
30—Large	4″	1¼″	.20
27C—Pee Wee Copper	1½″	⅜″	.17
27R—Rubber Sleeve—red or black			.16

Birnbach AUTO CABLE and ACCESSORIES

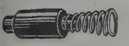
BIRNBACH

SHIELDED FABRIC LOOM

Is made of a tinned copper braid over a weatherproof loom. Used to shield auto antenna leadin and grouped leads against interference, also in shielding the output of signal generators.

No.	Inside Dia.	List Price
1316—100 ft. Spool	$\frac{3}{16}$"	$ 9.35
1516—100 ft. Spool	$\frac{5}{16}$"	13.50
1038—100 ft. Spool	$\frac{3}{8}$"	15.50
1716—100 ft. Spool	$\frac{7}{16}$"	19.00
1012—100 ft. Spool	$\frac{1}{2}$"	22.00

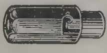
Ford V-8 Distributor Suppressor



Designed to be inserted in the distributor of Ford V-8. Unit consists of a resistor brush which replaces the regular brush.

No. 365................................List Price $ .28

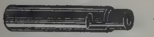
AUTO ANTENNA CONNECTOR



Permits quick connection of the auto antenna leadin to the receiver.

No.	List Price
366—Auto Connector	per C $7.50

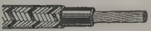
FUSED ANTENNA CONNECTOR



This connector takes a standard 3 AG automobile fuse. Used in auto radio power supply cables.

No.	List Price
367—Fused Connector	per C $11.00

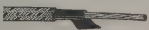
HIGH VOLTAGE LACQUERED WIRE



Recommended for use as leads for wiring high voltage devices, and transmitter power supplies. Constructed of tinned stranded copper conductor with a wall of rubber covered with a highly lacquered cotton braid.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
2810	100	$10\frac{1}{32}$	9500	.225	$7.40
2812	100	$12\frac{1}{32}$	9500	.192	4.40
2814	100	$14\frac{1}{32}$	9500	.167	3.05
2816	100	$16\frac{1}{32}$	9500	.153	2.65
2818	100	$18\frac{1}{32}$	9500	.145	2.05

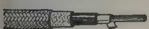
Shielded Varnished Cambric Wire



Used where an oil and water resistant wire with a shielded covering is required. Constructed of tinned stranded conductor with 2 layers of varnished cambric and a lacquered cotton braid with a tinned copper shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
1800	100	16	142	.145	$7.00
1818	100	18	102	.131	6.25
1820	100	20	100	.125	5.75

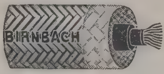
SHIELDED GRID LEAD WIRE



High insulation of of this wire will reduce the loss in shielded grid circuits. Constructed of tinned stranded conductor with a rubber insulation, waxed cotton braid with closely woven shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
818	100	$18\frac{1}{32}$	75	.180	$4.75
820	100	$20\frac{1}{32}$	70	.150	4.25

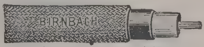
AUTO RADIO SHIELDED LEAD-IN



Consists of a stranded tipped copper conductor, insulated with rubber and filled with hemp and a tinned copper braid overall.

No.	Ft.	Capacity mmfd per ft.	O.D.	List Price
799	100	49	.275	$10.00
800	100	34	.500	14.00

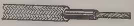
7 MM HIGH TENSION CABLE



Useful in reducing interference from auto secondary circuits. Also used as photo electric cell leads and wherever a low loss shielded lead is required.

No.	List Price Per 100′
1600—7 MM. High Tension Cable	$6.50
781—7 MM. Shielded Secondary Wire	10.00

RAYON BRAID LACQUERED WIRE

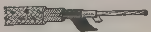


Constructed of stranded tinned copper conductor for easy soldering, with heavy wall of live rubber over which a rayon braid is woven. A high gloss lacquered finish over braid. Conductor consists of 16 strands of No. 30.

No.	Ft.		Puncture Voltage	Size	List Price
3425	25	Coil	9000	$18\frac{1}{32}$	$ .55
3450	50	Coil	9000	$18\frac{1}{32}$	1.05
3460	100	Coil	9000	$18\frac{1}{32}$	2.10
3600	500	Spool	9000	$18\frac{1}{32}$	10.00

Colors: Black, red, green, yellow, brown, blue

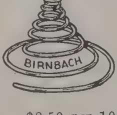
VARNISHED CAMBRIC WIRE



Widely used in automotive wiring because of oil and waterproof construction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
3416	100	16	1000	.108	$4.50
3418	100	18	1000	.107	3.75
3420	100	20	1000	0.94	3.00

No. 340 Wheel Static Eliminator



An effective means of reducing static created by the front wheels. Installation is made by placing the broad base of the spring against the hub cap and the cone point into the hole of the axle.

No. 340—Std. Pkg. 50

List Price.................................$8.50 per 100

PHONO-PICKUP WIRE

Small diameter—ideally suited for replacement in pickup arms of any make.

No.	Ft.	Size	List Price
1822A	100 ft. Spool	22	$ 4.50
1822B	500 ft. Spool	22	19.50
1822C	1000 ft. Spool	22	37.50

AUTO RADIO SHIELDING

Used for shielding leads of interference creating circuits; and for bonding motor block and other parts of the automobile to the chassis.

No.	Inside Dia.	List Price
TINNED		
858—50 ft. Spool	$\frac{1}{8}$"	$1.75
859—50 ft. Spool	$\frac{3}{16}$"	1.90
863—50 ft. Spool	$\frac{1}{4}$"	2.35
864—50 ft. Spool	$\frac{3}{8}$"	2.75
865—50 ft. Spool	$\frac{5}{8}$"	5.50
857—50 ft. Spool	$\frac{25}{32}$"	8.80
BARE		
860—50 ft. Spool	$\frac{1}{4}$"	2.00
861—50 ft. Spool	$\frac{3}{8}$"	2.30
862—50 ft. Spool	$\frac{5}{8}$"	5.00

AVAILABLE IN SPECIAL LENGTHS

IGNITION FILTER BIRNBACH MADE IN U.S.A.

350

351

352

353

BIRNBACH IGNITION FILTERS

These Ignition Filters completely eliminate all ignition and high tension circuit interference, making clear auto radio reception a certainty. The only ignition filters having a copper wound inductance, which accounts for the low resistance of 120 ohms for the Ignition Filter. Less gasoline is consumed than when high resistance filters are used.

No.	List Price each
350—Ignition Filter—Bracket Type	$ .60
351—Ignition Filter—Cable Type	.60
352—Distributor Filter	.60
353—Ignition Filter—Screw Type	.60
359—Ignition Filter—Slip-on Type	.60

BIRNBACH MASTER FILTER

MASTER FILTER BIRNBACH 354

Eliminates all ignition interference and does away with the necessity of having a separate filter for each spark plug. Available in two types, namely, the Distributor type for easy insertion into distributor head, and the Cable type to be placed into the distributor lead where it is impossible to insert it into the distributor head.

No.	List Price each
354—Cable or Distributor Type	$2.50

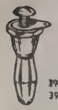
AUTO NOISE FILTER

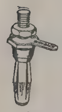
These are especially designed for the elimination of noise created by generator commutator, electrical windshield wiper, horn, and especially dome, tail, and stop light cables. Connections made by bolting down the flange of container to chassis. The long insulated lead with a convenient screw lug is connected to the source of interference.

No.		List Price
355—Auto Noise Filter—½ Mfd.	ea.	$ .55
356—Auto Noise Filter—1 Mfd.	ea.	.65

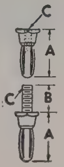
Birnbach PLUGS and JACKS

GIANT PLUGS



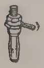


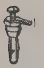
Used for heavy current, they are rated at 25 amps. The long life nickel silver alloy spring is secured over a pin preventing a collapse of the spring and also maintaining the full action of the spring when inserted into the jack. The No. 398A plug has a hole in the threaded shank to permit soldering to it. It is used extensively on diathermy electrode pad cables. Standard Package 25.



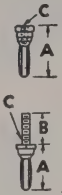
No.		A	B	C	List Price
396	Plug	1$\frac{5}{32}$	—	10-32	each $0.25
397	Plug	1$\frac{7}{16}$	—	¼-20	each .30
398	Plug	1$\frac{5}{32}$	⅝	¼-28	each .25
398A	Plug	1$\frac{5}{32}$	⅝	¼-28	each .25

BANANA PLUGS



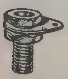


Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of packages have a nickel silver contact spring secured over a full length central pin, making these plugs non-collapsible and assuring a low resistance contact. Capacity 5 amperes. Standard Package 100.

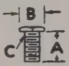


No.		A	B	C	List Price
400	Plug	¾	½	6-32	each $0.09
401	Plug	$\frac{31}{32}$	—	6-32	each .10
404A	Plug	¾	⅜	¼-28	each .14

No. 403 BANANA JACK

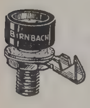


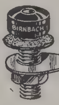
Accurately milled and has a precision reamed hole to help maintain the tight and smooth action of the plug. It is made of brass nickel plated and comes complete with nut and lug. Standard Package 100.



No.		A	B	C	List Price
403	Jack	½	⅜	¼-28	$0.09

INSULATED BANANA JACKS

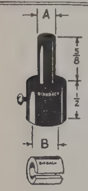




The No. 391 Jack is very popular with the electric therapeutic manufacturers. The ½″ dia. insulated head admits all of the exposed metal part of the metal plug when inserted. Mounts in a $\frac{5}{16}$″ dia. hole on a panel up to ⅜″ thick. The No. 406 Jack has a $\frac{7}{16}$″ dia. insulated top. It fits into a $\frac{5}{16}$″ dia. hole and takes up to a ⅜″ panel. Both come complete with insulating shoulder washer, nut and lug.

	Std. Pkg.	List Price
391—Insulated Jack—red or black	50	$0.14
406—Insulated Jack—red, black, yellow, or green	50	.13

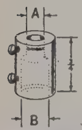
SHAFT COUPLINGS, REDUCERS AND EXTENDERS



By the use of these units all ¼″ and ⅜″ dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.

Brass No.	Insulated No.	Shaft A	Hole B	List Price
534	634	¼″	¼″	each $0.18
535	635	¼″	⅜″	each .18
536	636	⅜″	¼″	each .18

537—Reducer for ⅜″ Dia. Hole to ¼″ Dia. Shaft, each .12



COUPLINGS

Brass No.	Insulated No.	Shaft A	Hole B	List Price
531	631	¼″	¼″	each $0.18
532	632	¼″	⅜″	each .18
533	633	⅜″	⅜″	each .18

EXTENDERS

No.	Length	Hole I.D.	Shaft O.D.	List Price
538—Brass	1¾″	¼″	¼″	each $0.25
539—Insulated	1¾″	¼″	¼″	each .25

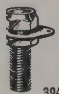
BRASS SHAFTING

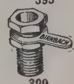
No	List Price
540—¼″ Dia. 6″ Long	each $0.18
541—¼″ Dia. 12″ Long	each .36
542—⅜″ Dia. 8″ Long	each .36

FIBRE SHAFTING

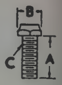
No	List Price
543—¼″ Dia. 6″ Long	each $0.25
544—¼″ Dia. 12″ Long	each .50
545—⅜″ Dia. 8″ Long	each .50

GIANT JACKS



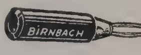


Milled with the central hole being reamed to size to insure a tight fit with all Giant Plugs. The No. 394 and No. 399A have a 10-32 thread tapped at the end permitting connection to be made. They are all made of brass and nickel-plated and come complete with nut and lug.



No.		Std. Pkg.	A	B	C	List Price
394	Jack	25	1$\frac{1}{16}$″	½″	⅜-24	each $0.25
395	Jack	25	$\frac{11}{16}$″	½″	⅜-24	each .20
399	Jack	25	⅞″	⅝″	½-20	each .25
399A	Jack	25	1⅜″			each .30

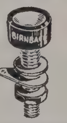
No. 392 INSULATED GIANT PLUG



Made so that no projecting edges are exposed, thereby protecting the user from unnecessary contact. Connection is made by soldering into the hole at the end of the threaded shank of the plug. Handle is 1⅞″ long by ⅝″ dia.; length overall 3″. Colors: red or black.

No. 392—Insulated Giant Plug..............................List Price $0.45

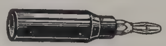
No. 393 INSULATED GIANT JACK



Designed to leave no metal part exposed on the panel. The ⅜-24 brass nickel plated sleeve has a 10-32 threaded hole at the end permitting a connection at the end of the jack or to the lug under the head. Either assembly available complete with nut, insulaing shoulder washer, lock-washer and lug. Length overall 1⅜″. Colors: red or black.

No.	List Price
393 —Insulated Giant Jack under head lug	$0.40
393A—Insulated Giant Jack end lug	.40

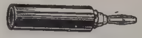
HARD RUBBER INSULATED GIANT PLUG



Especially designed for use with diathermy cables. It has a ⅝″ dia. hole in the handle to take the largest cable. It is made of polished black hard rubber. The handle is 3″ long by ⅞″ dia. Overall length is 4$\frac{3}{16}$″.

No. 342—Hard Rubber Insulated Plug......................List Price $1.25

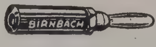
No. 341 Insulated Banana Plug



This plug consists of our No. 404A plug with a larger handle 1⅞″ long by ½″ dia. Used on a therapeutic apparatus and test equipment. Overall length 2⅝″. Colors: red or black.

No. 341—Insulated Banana Plug..........................List Price $0.35

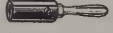
No. 404 Insulated Banana Plug



The plug is for experimental test leads because of its Scrulok solderless connection and the non-collapsible special alloy springs assembled on a pin preventing collapse of the plug spring. The handle is made of phenolic resin and is ⅜″ by 1″ long. Colors: red, black, yellow and green.

No. 404—Insulated Banana Plug.......Std. Pkg. 50.......List Price $0.18

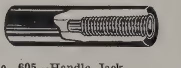
No. 604 BANANA PLUG



Made of solid brass nickel-plated, with the end being slotted. The cast phenolic handle is 1″ long by ⅜″ dia, and is held on by the screw that secures the wire to the plug. Colors: red, black, yellow and green.

No. 604—Plug...............Std. Pkg. 50...............List Price $0.14

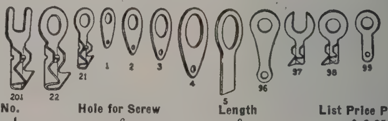
No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jack. Handle is made of cast phenolic resin ⅜″ dia. by 1¼″ long. Colors: red, black, yellow and green.

No. 605—Handle Jack............Std. Pkg. 50............List Price $0.18

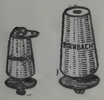
TINNED LUGS



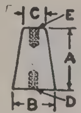
No.	Hole for Screw	Length	List Price Per M
1	6	$\frac{9}{16}$	$ 3.25
2	10	⅝	3.25
3	¼	⅝	3.25
4	⅜	⅞	19.25
5	½	1$\frac{3}{16}$	24.50
21	10	1$\frac{3}{16}$	6.00
22	¼	1$\frac{3}{32}$	15.00
201	8	1$\frac{3}{16}$	6.00
96	6-8-10	⅞	5.00
97	8	⅝	5.00
98	6-8	$\frac{11}{16}$	6.00
99	4-6-8	$\frac{11}{16}$	6.00

Birnbach INSULATORS

CONE STANDOFF INSULATORS

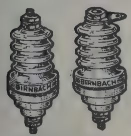


Made of low absorption high tensile strength porcelain with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Range of sizes are adequate for all needs. They are available only in a white glaze and come complete with screws, metal and cork washers.

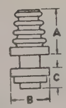


No.	Height A	Std. Pkg.	B	C	Threaded Holes D	E	Mounting Hole	List Price each
430	⅝″	100	⅝″	$\frac{7}{16}$″	6-32	6-32	$\frac{5}{32}$″	$.12
431	1″	50	$\frac{11}{16}$″	½″	8-32	8-32	$\frac{3}{16}$″	.15
431J	1″	50	$\frac{11}{16}$″	½″	8-32	No. 430 Jack	$\frac{3}{16}$″	.21
432	1½″	50	⅞″	⅝″	10-32	10-32	$\frac{7}{32}$″	.19
432J	1½″	50	⅞″	⅝″	10-32	No. 403 Jack	$\frac{7}{32}$″	.24
433	2¾″	25	1¼″	¾″	¼-20	¼-20	$\frac{9}{32}$″	.30
433J	2¾″	25	1¼″	¾″	¼-20	No. 395 Jack	$\frac{9}{32}$″	.45

CORRUGATED FEEDTHRU INSULATORS

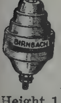


The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.



No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
479	1⅜″	25	1¼″	$\frac{11}{16}$″	$\frac{9}{16}$″	10-32	ea. $ .38
479J	1⅜″	25	1¼″	$\frac{11}{16}$″	$\frac{9}{16}$″	No. 403 Jack	ea. .44
4276	2¾″	10	1⅝″	1″	¾″	¼-20	ea. .65
4276J	2¾″	10	1⅝″	1″	¾″	No. 394 Jack	ea. .80
4452	4½″	5	2⅛″	1½″	1″	¼-20	ea. 1.00
4452J	4½″	5	2⅛″	1½″	1″	No. 394 Jack	ea. 1.20

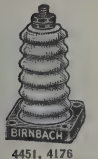
HIGH VOLTAGE FEEDTHRU INSULATOR

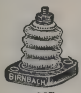


This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of $1\frac{1}{16}$″ where the electric stress is greatest.

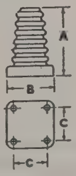
Height 1⅝″....Base Dia. 2″....Mounting Hole 1¼″....Hardware ¼-20
No. 4233..List Price $0.55

METAL BASE INSULATORS


4451, 4176

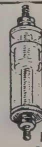

867

Designed to replace conventional porcelain insulators where failure of the base is due to cracking when fastened down. Extremely long leakage paths due to the corrugated surface is one of the important characteristics. They are made from high tensile strength low absorption porcelain smoothly glazed all over. Supplied with nickel-plated brass screws and nuts and cadmium plated drawn steel bases.



Cat. No.	Height A	Std. Pkg.	Base Dimen. B	C	Mounting Screw D	Hardware	List Price
867	1⅜″	25	1⅞″ x $1\frac{5}{16}$″	1½″	2 No. 8	10-32	ea. $0.22
67J	1⅜″	25	1⅞″ x $1\frac{5}{16}$″	1½″	2 No. 8	No. 403 Jack	ea. .27
176	2¾″	10	1¾″ x 1¾″	1⅜″	4 No. 10	¼-20	ea. .38
176J	2¾″	10	1¾″ x 1¾″	1⅜″	4 No. 10	No. 395 Jack	ea. .50
4451	4½″	5	2¼″ x 2¼″	1¾″	4 No. 10	¼-20	ea. .55
4451J	4½″	5	2¼″ x 2¼″	1¾″	4 No. 10	No. 395 Jack	ea. .75

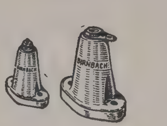
"LUCITE" FEEDTHRU INSULATORS



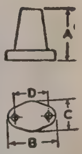
These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The ½″ dia. insulators have brass nickel plated 8-32 hardware and the ¾″ have 10-32 hardware.

No.	Height above Panel	Insulator Dia.	Mtg. Hole	Bottom Height	List Price
377	¼″	½″	$\frac{5}{16}$″	¼″	$ .22
378	½″	½″	$\frac{5}{16}$″	¼″	.28
379	1″	½″	$\frac{5}{16}$″	¼″	.33
475	1½″	¾″	$\frac{7}{16}$″	½″	.60
476	2″	¾″	$\frac{7}{16}$″	½″	.70

STANDOFF INSULATORS

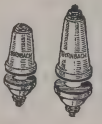


The sizes range from ⅝″ to 4½″ high in five properly graduated heights. Made of highly vitrified low absorption glazed porcelain. No washers are necessary for mounting as the mounting surface is ground flat; but for the No. 405 and No. 966 Standoff insulators, it is advisable to use cork washers which are available as they will permit mounting securely without breakage. All brass nickel-plated hardware is supplied. Available in white or brown glaze.

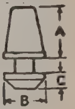


No.	Height A	Std. Pkg.	B	C	D	Mounting Holes	Hardware	List Price each
405	⅝″	100	1″	$\frac{17}{32}$″	$\frac{11}{16}$″	$\frac{5}{32}$″	6-32	$0.07
965	1″	50	1¼″	¾″	$\frac{13}{16}$″	$\frac{5}{32}$″	8-32	.09
966	1″	50	1⅜″	⅞″	1″	$\frac{5}{32}$″	8-32	.09
966J	1″	50	1⅜″	⅞″	1″	$\frac{5}{16}$″	No. 403 Jack	.12
866	1½″	25	1¾″	1⅛″	1¼″	$\frac{5}{32}$″	10-32	.13
866J	1½″	25	1¾″	1⅛″	1¼″	$\frac{5}{16}$″	No. 403 Jack	.17
866SJ	1½″	10	1¾″	1⅛″	1¼″	$\frac{5}{32}$″	No. 395 Jack	.40
4275	2¾″	10	2¾″	2″	2⅛″	¼″	¼-20	.35
4275J	2¾″	10	2¾″	2″	2⅛″	¼″	No. 399 Jack	.60
4450	4½″	5	3⅝″	2½″	2⅝″	$\frac{9}{32}$″	¼-20	.65
4450J	4½″	5	3⅝″	2½″	2⅝″	$\frac{9}{32}$″	No. 399 Jack	.90

FEEDTHRU INSULATORS

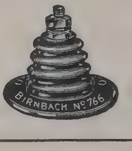


Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel-plated hardware.



No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
458	⅝″	50	$\frac{11}{16}$″	¼″	$\frac{5}{16}$″	6-32	ea. $ .14
478	1″	25	$\frac{13}{16}$″	$\frac{5}{16}$″	$\frac{7}{16}$″	10-32	ea. .22
478J	1″	25	$\frac{13}{16}$″	$\frac{5}{16}$″	$\frac{7}{16}$″	No. 403 Jack	ea. .28
4125	1¼″	25	⅞″	⅜″	$\frac{7}{16}$″	10-32	ea. .28
4125J	1¼″	25	⅞″	⅜″	$\frac{7}{16}$″	No. 403 Jack	ea. .33
4234	2¾″	10	2″	1″	¾″	¼-20	ea. .60
4175	2¾″	10	1¼″	¾″	⅝″	¼-20	ea. .55
4175J	2¾″	10	1¼″	¾″	⅝″	No. 394 Jack	ea. .85

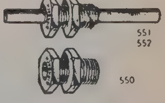
BEE-HIVE STANDOFF



Base measures 2″ dia. with 3 holes on a 1⅝″ circle, for No. 6 screws. Supplied complete with 12-24 nickel-plated brass screw and nuts. The No. 766J has a No. 403 Jack. Available white or brown glaze.

No.	Hardware	Std. Pkg.	List Price
766—Standoff Insulator	12-24 Screw	10	$0.17
766J—Jack Type	No. 403 Jack	10	.22

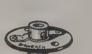
FRONT PANEL BEARING



The No. 550 Front Panel Bearing is cadmium plated brass for panels up to ⅜″ in thickness and for ¼″ dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and ¼ dia. brass shaft cadmium plated.

Cat. No.		List Price
550—Front Panel Bearing	each	$ .18
551—Front Panel Bearing, ¼ shaft, 3″ long	each	.36
552—Front Panel Bearing, ¼ shaft, 6″ long	each	.50

FLEXIBLE COUPLINGS

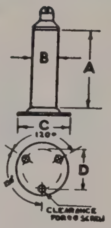


These flexible couplings cover all needs of the constructor. Tandem operation of two or more units is possible without having the shafts in exact alignment. Flexibility without back-lash is obtained by the cadmium plated phosphor bronze springs, which are rigidly riveted to the insulation. All units fit ¼″ dia. shafts.

No.	Dia.	Insulation		List Price
360	1¼	Fibre	each	$ .35
361	1¼	Bakelite	each	.50
362	$1\frac{1}{16}$	Steatite	each	.60

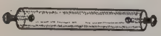
Birnbach INSULATORS

STEATITE PILLARS



These (steatite) pillar insulators have great tensile strength with extremely low losses at very high frequencies and are glazed on the outside to decrease surface leakage.. They are tapped on both ends and are supplied complete with nickel-plated mounting base and top hardware.

No.	Height A	Std. Pkg.	B	Hardware	Base Dia. C	D	List Price each
450	1″	10	½″	6-32	1⅛″	⅞″	$ .35
450J	1″	10	½″	No. 403 Jack	1⅛″	⅞″	.40
451	1½″	10	½″	6-32	1⅛″	⅞″	.40
451J	1½″	10	½″	No. 403 Jack	1⅛″	⅞″	.45
452	2½″	10	½″	6-32	1⅛″	⅞″	.45
452J	2½″	10	½″	No. 403 Jack	1⅛″	⅞″	.55
453	2½″	5	¾″	¼-20	1 9/16″	1 3/16″	.75
453J	2½″	5	¾″	No. 395 Jack	1 9/16″	1 3/16″	.90
454	4″	5	¾″	¼-20	1 9/16″	1 3/16″	1.00
454J	4″	5	¾″	No. 395 Jack	1 9/16″	1 3/16″	1.10



LUCITE SPREADERS

They are made of Dupont Lucite rod which has a very low loss at radio frequencies. It is water clear and has very low water absorption. The holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

LUCITE SPREADERS

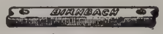
No.	Wire-Spacing	Std. Pkg.	List Price Each
436	2″	25	$0.28
437	4″	25	.33
438	6″	25	.40

LUCITE RODS

No.	Dia.	List Price per Ft.
455	¼″	$0.50
459	⅜″	.60
460	½″	1.05
461	¾″	1.80

Available in lengths up to 48 inches

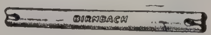
FEEDER SPREADERS

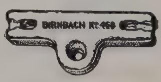


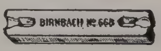
They have a cross section of ⅜″ x ½. Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth while glaze overall.

No.	Std. Pkg.	List Price
462—Spreader, 2″ long	25	each $0.14
464—Spreader, 4″ long	25	each .19
469—Spreader, 6″ long	25	each .24

ANTENNA INSULATORS



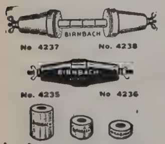




These Antenna Insulators have exceptional low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. A smooth white glaze overall prevents the accumulation of dirt or ice.

No.	Std. Pkg.	List Price
668—4¼″ long	25	each $ .17
470—7″ long	10	each .68
471—12″ long	5	each .85
468—4½″ long Center Insulator	10	each .30

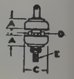
LEADIN INSULATORS



Each cone is 2¾″ high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, ¼″ and ½″ long, allowing complete insulation of the threaded rod of any length in multiples of ¼″. They come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal.

No.	Description	List Price
4235	—10″ Rod	$1.15
4236	—15″ Rod	1.30
4237	—10″ Rod with bushings	1.50
4238	—15″ Rod with bushings	1.90

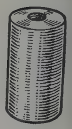
STEATITE BUTTON



These specially designed steatite buttons are intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

A 5/16″..............B ½″..............C ¾″..............D ½″..............E 6-32
No. 457..........................Std. Pkg. 25..........................List Price $ .25

STEATITE PILLARS
(Without Hardware)



In many constructions, these unmounted threaded steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of glazed Steatite with threaded holes on both sides.

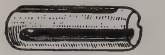
No.	Height	Dia.	Threaded Hole	List Price
445	1″	½″	6-32	$0.25
446	1½″	½″	6-32	.30
447	2½″	½″	6-32	.35
448	2½″	¾″	¼-20	.55
449	4″	¾″	¼-20	.90

AIRPLANE INSULATORS

Used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of white glazed low absorption porcelain.

No.	Length	Std. Pkg.	List Price
473	—2″	100	each $0.08
474	—1½″	100	each .07

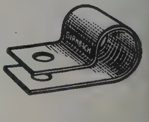
STEATITE AIRPLANE INSULATORS



A very small compression type insulator with small wind resistance. It is 1½″ long and ½″ dia.

No. 463—Std. Pkg. 25, List Price $.30 ea.

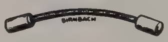
TUBE CLAMPS



These tube clips will be found extremely desirable when mounting resonant lines or elements of directive beam antennas. They are made of hard drawn aluminum and are available for 5/16″, ⅜″, ½″, ¾″ and 1″ dia. tubes. The 5/16″, ⅜″, and ½″ have a clearance hole for No. 10 screw and the ¾″ and 1″ dia. clamps have holes for ¼″ bolts.

Cat. No	To Fit Tube	List Price
51—Clamp	¼″ Dia.	each $0.15
52—Clamp	5/16″ Dia.	each .15
53—Clamp	⅜″ Dia.	each .15
54—Clamp	½″ Dia.	each .15
55—Clamp	¾″ Dia.	each .25
56—Clamp	1″ Dia.	each .25
57—Clamp	⅞″ Dia.	each .30

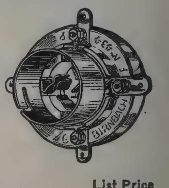
FLEXIBLE SHAFTS



At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into ¼″ dia. hubs.

Cat. No.	List Price
553—Flexible Shaft, 3″ long	each $0.45
554—Flexible Shaft, 6″ long	each .60

TRANSMITTING TUBE SOCKETS



Improved design and additional features of the Birnbach transmitting sockets has increased their popularity and are accepted as standard. The 50 watt socket has extra heavy side-wiping phosphor bronze contact spring with the filament spring having a double contact to safely carry the heavy current. The tube base is supported by the highly polished nickel-plated brass shell set in a highly vitrified low absorption porcelain base which is ground flat to prevent breakage. All brass nickel-plated screw and milled nuts are used.

Cat. No.	List Price
434—50 Watt Socket	each $1.40
435—10 Watt Socket	each .95

No 14
CORWICO
NOISE-MASTER
ALL-WAVE ANTENNA

NOISE-MASTER
ALL-WAVE ANTENNA

FOR EVERY SET AND LOCATION

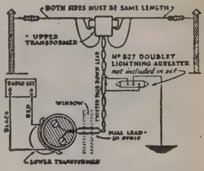
Eliminates "man-made" static on broadcast as well as short wave bands.

There is a correct "NOISE-MASTER" antenna for every set and location. Radio reception is enjoyed to its fullest extent by installing one of these competent units. "NOISE-MASTER" is scientifically engineered to filter out the innumerable nuisance noises caused by electrical devices . . . assuring perfect reception over broadcast as well as short-wave frequency.

No. 14 "NOISE-MASTER"

$6.75 LIST. Code: CORAL, Wt. 2 lbs. 12 oz.

Recommended where there are sufficient "man-made" noises to interfere with radio reception over both the short-wave and broadcast bands. Licensed under Amy, Aceves & King patent No. Re. 19854. A highly engineered product which makes one aerial act electrically as two perfect antennas. Two or more sets (preferably not more than 4) can be operated at the same time on the same antenna by using an additional lower transformer unit on each additional set. Assures highest efficiency over the entire receiving band.


BOTH SIDES MUST BE SAME LENGTH
UPPER TRANSFORMER
No 827 DOUBLET LIGHTNING ARRESTER not included in set
RADIO SET
TWISTED PAIR DOWN LEAD
BLACK
RED
WINDOW
DUAL LEAD-IN STRIP
LOWER TRANSFORMER

No. 14

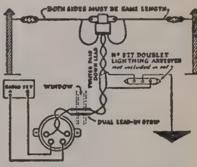
CONTENTS:

2—30 foot coils of stranded copper antenna wire
1 upper transformer assembly
2 glass insulators
75 feet twisted pair down lead
3—6" screw eye insulators
1 No. 755 dual lead-in strip
1 lower transformer unit
1—4" porcelain tube
1 instruction sheet

No. 14a (Code: CUTAT)—Kit containing upper and lower transformers only	List $5.00
No. 127 (Code: CYTAT)—Extra lower transformers, each	List 2.25
No. 14b (Code: CATAW)—"EUROPEAN NOISE-MASTER." Same as No. 14 except that transformers are designed to operate on 15 to 2100 meters	List 7.00
No. 128 (Code CYTAR)—European type lower transformer	List 2.50

No. 19 "NOISE-MASTER" . . $4.95 LIST. Code: CYRAX. Wt. 3 lbs. 13 ozs.

This antenna is a deluxe doublet employing an Amy, Aceves & King licensed Self-Selecting matching transformer and a junction box in the antenna line. Easy to install and factory fabricated. When properly erected it assures excellent all-wave reception.


BOTH SIDES MUST BE SAME LENGTH
No 827 DOUBLET LIGHTNING ARRESTER not included in set
TWISTED PAIR DOWN LEAD
RADIO SET
WINDOW
DUAL LEAD-IN STRIP

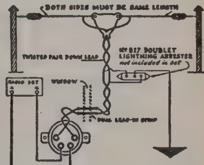
No. 19

CONTENTS:

2—30 ft. coils 7/23 aerial wire
2—No. 1 porcelain insulators
1 junction-box assembly
75 ft. No. 123 twisted pair down lead
3—6" screw eye insulators
1 No. 755 dual lead-in strip
1—4" porcelain tube
1 No. 129 Self-Selecting transformer
1 instruction sheet.

No. 18 "NOISE-MASTER" . . $3.75 LIST. Code: CIRAM. Wt. 3 lbs. 12 ozs.

A licensed Amy, Aceves & King antenna at a popular price! Simple doublet type, featuring a high-grade Self-Selecting licensed matching transformer. Easy to install and completely factory fabricated. Recommended for locations where "man-made" static interferes with short-wave but not with ordinary broadcast reception.


BOTH SIDES MUST BE SAME LENGTH
TWISTED PAIR DOWN LEAD
No 827 DOUBLET LIGHTNING ARRESTER not included in set
RADIO SET
WINDOW
DUAL LEAD-IN STRIP

No. 18

CONTENTS:

2—30 ft. coils 7/24 "TRI-COR" all-wave aerial wire.
2 No. 2 glass insulators
1 triangular porcelain center insulator
50 ft. No. 117 stranded twisted "TU KOLOR" down lead (connected at our factory to the two coils of aerial wire at center insulator)
10 ft. coil stranded twisted pair brown inside lead-in wire
3—6" screw eye insulators
1 No. 755 dual lead-in strip
1—4" porcelain tube
1 No. 129 Self-Selecting transformer
1 instruction sheet

BROADCAST ANTENNA KITS

These are popular priced broadcast kits of the "L" type. Each kit contains the necessary parts for the installation of the complete antenna. They are furnished in an attractive two-color box.

Kit No. 3
THE MAJOR

Code: CYTAM. Wt. 3 lbs.

CONTENTS:

75 ft. No. 15 stranded aerial wire; 35 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 glass insulators; 2 glazed porcelain nail knobs; 1—3" screw eye stand-off insulator; 1 No. 760 high gloss lead-in strip; 1 No. 710 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 6 insulated staples; 2 wood screws.

$1.55 List

Kit No. 4
THE CAPTAIN

Code: CYTON. Wt. 2½ lbs.

CONTENTS:

75 ft. 7/24 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 glazed porcelain nail knobs; 1 No. 760 high gloss lead-in strip; 1 No. 712 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 2 wood screws.

$1.25 List

Kit No. 5
THE LIEUTENANT

Code: CYTAO. Wt. 2 lbs.

CONTENTS:

75 ft. 7/27 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 nail knobs; 1 No. 707 strap type ground clamp; 1 No. 770 lead-in strip; 2 wood screws.

95c List

ALL PRICES SUBJECT TO CHANGES WITHOUT NOTICE. PRICES WILL BE THOSE IN EFFECT ON DATE OF SHIPMENT. DUE TO CONDITIONS BEYOND OUR CONTROL, SOME OF THE ITEMS SHOWN ARE NOT AVAILABLE.

CORWICO RADIO WIRE *products*

AERIAL WIRE

The most careful attention has been given to those properties which make CORWICO aerial wire the most suitable for radio reception; viz., large surface area, high electric conductivity, and tensile strength.

STRANDED BARE WIRE

No.		List Price
	7/20	
64	100-ft. coil	$1.38
	7/22	
40A	75-ft. coil	.63
40	100-ft. coil	.84
40B	1000-ft. spool	8.40
	7/22 (14 B&S)	
51A	75-ft. coil	.59
51	100-ft. coil	.78
51B	1000-ft. spool	7.80
	7/23	
41A	75-ft. coil	.53
41	100-ft. coil	.70
41B	1000-ft. spool	7.00
	7/23 (15 B&S)	
31A	75-ft. coil	.49
31	100-ft. coil	.62
31B	1000-ft. spool	6.20
	7/24	
42A	75-ft. coil	.44
42	100-ft. coil	.57
42B	1000-ft. spool	5.70
	7/24 (16 B&S)	
50A	75-ft. coil	.41
50	100-ft. coil	.54
50B	1000-ft. spool	5.40
	7/26	
30A	75-ft. coil	.30
30	100-ft. coil	.39
30B	1000-ft. spool	3.90

SOLID BARE WIRE

No.		List Price
	No. 14	
57	100-ft. coil	.67
57B	1000-ft. spool	6.70
	No. 15	
55	100-ft. coil	.54

STRANDED TINNED WIRE

No.		List Price
	7/22	
45A	75-ft. coil	.73
45	100-ft. coil	.95
45B	1000-ft. spool	9.50

No.	(Tinned, Continued)	List Price
	7/22 (14 B&S)	
53A	75-ft. coil	.67
53	100-ft. coil	.88
53B	1000-ft. spool	8.80
	7/23 (15 B&S)	
35A	75-ft. coil	.58
35	100-ft. coil	.75
35B	1000-ft. spool	7.50
	7/24 (16 B&S)	
52A	75-ft. coil	.48
52	100-ft. coil	.64
52B	1000-ft. spool	6.40

STRANDED ENAMEL WIRE

No.		List Price
	7/20	
73	100-ft. coil	2.04
	7/22	
37A	75-ft. coil	.80
37	100-ft. coil	1.10
37B	1000-ft. spool	11.00
	7/22 (14 B&S)	
56A	75-ft. coil	.74
56	100-ft. coil	.96
56B	1000-ft. spool	9.60
	7/23 (15 B&S)	
33A	75-ft. coil	.63
33	100-ft. coil	.83
33B	1000-ft. spool	8.30
	7/24 (16 B&S)	
54A	75-ft. coil	.54
54	100-ft. coil	.70
54B	1000-ft. spool	7.00

SOLID ENAMEL WIRE

No.		List Price
	No. 12	
61	100-ft. coil	1.28
61F	150-ft. coil	1.93
61G	200-ft. coil	2.58
61B	1000-ft. spool	12.80
	No. 14	
60	100-ft. coil	.83
60B	1000-ft. spool	8.30
	No. 15	
36	100-ft. coil	.70

LEAD-IN WIRE

STRANDED

No.	Ft.		Size	List Price
300	50	coil	18-$\frac{1}{32}$″	.43
301	100	spool	18-$\frac{1}{32}$″	.85
302	500	spool	18-$\frac{1}{32}$″	4.00
303	1000	spool	18-$\frac{1}{32}$″	7.80
310	50	coil	16-$\frac{1}{32}$″	.56
311	250	spool	16-$\frac{1}{32}$″	2.80
312	500	spool	16-$\frac{1}{32}$	5.40
313	1000	spool	16-$\frac{1}{32}$″	10.50

SOLID

No.	Ft.		Size	List Price
320	25	coil	18-$\frac{3}{64}$″	.20
321	50	coil	18-$\frac{3}{64}$″	.38
322	500	spool	18-$\frac{3}{64}$″	3.60
323	1000	spool	18-$\frac{3}{64}$″	7.00
330	25	coil	20-$\frac{3}{64}$″	.17
331	50	coil	20-$\frac{3}{64}$″	.33
332	500	spool	20-$\frac{3}{64}$″	3.10
333	1000	spool	20-$\frac{3}{64}$″	5.90

COLORED RUBBER LEAD-IN AND GROUND WIRE

Colors: Red, Black, Green, White

No.		List Price, Each
215	No. 16 str., 25-ft.	.35
216	No. 16 str., 50-ft.	.68
217	No. 16 str., 100-ft.	1.25
218	No. 16 str., 1000-ft.	12.50

TWISTED PAIR DOWNLEADS

No. 122—List Mft. $18.00

This is a popular-priced twisted pair down lead consisting of two conductors, each No. 22 stranded copper, 1/32″ and rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 116—List Mft. $35.00

This is a heavy twisted pair down lead especially designed for use in doublet type antennas. Each conductor consists of No. 16 (26/30) stranded tinned copper wire with a 1/32″ rubber covering and a single white weatherproof braid. The two conductors are then twisted together.

No. 120—List Mft. $20.00

This is a cheaper twisted pair down lead consisting of two conductors each No. 20 (10/30) stranded copper, 1/32″ rubber covered twisted and covered with an overall black weatherproof braid.

ANTENNA ACCESSORIES

LIGHTNING ARRESTERS

LIGHTNING ARRESTER

Extreme care has been given to the design of these arresters to produce low-priced products of greatest possible value.

	List Price
No. 825—2 Pole	25c
No. 827—3 Pole (Doublet)	35c

LEAD-IN STRIPS

All Strips 12″ Long—Packed 50 to a Carton

No.		List per C
760	½″ Zinc, High Gloss, Soldered Terminals	$5.85
761	½″ Zinc, High Gloss, not Soldered Terminals	5.35
770	$\frac{7}{16}$″ Zinc, Dull Finish, not Soldered Terminals	4.50
771	$\frac{7}{16}$″ Zinc, Dull Finish, Soldered Terminals	5.00
750	½″ Copper, High Gloss, Soldered Terminals	6.75
751	½″ Copper, High Gloss, not Soldered Terminals	6.25

SCREW END LEAD-IN STRIPS

Equipped with screw-type terminals, insuring positive and lasting contact. Length 12″—Packed 50 to a Carton.

No. 780—Copper, High Gloss	List per C	$7.00
No. 781—Zinc, High Gloss	List per C	6.40
No. 755—Doublet, Copper, High Gloss	List per C	18.00

SCREW EYE INSULATORS

Packed 50 to a Carton

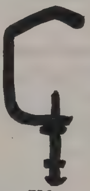
No.		List per C
795	Porcelain Eye, 3″	$3.90
796	Porcelain Eye, 6″	4.50
797	Bakelite Eye, 3″	4.70
798	Bakelite Eye, 6″	5.70

BATTERY CLIPS

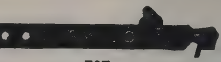
Spring jaw clips for instant connection to wet or dry batteries. Packed 30 to carton.

No.		List per C
1	50 amp.	$15.00
2	25 amp.	8.75
3	10 amp.	6.00
4	5 amp.	5.00

GROUND CLAMPS



710



707

700

We manufacture a complete line of ground clamps of all types, for every purpose.

"C" TYPE GROUND CLAMP.

Hardened steel point, assures positive ground connection. Opening 1¾″. Packed 50 to a carton.

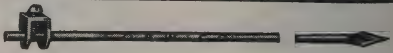
No. 710—Cadmium Plated	List per C	$6.00
No. 713—Plain Finish	List per C	4.80

SADDLE TYPE GROUND CLAMP. Hardened steel point assures positive contact. Easily applied to any pipe or rod from ½″ to 2½″ in diameter. Cadmium Plated. Packed 50 to a carton.

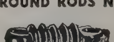
No. 700—Saddle Type	List per C	$5.50

STRAP TYPE GROUND CLAMP. Packed 50 to a carton. The No. 708 Clamps have a copper finish.

No. 707—Copper Strap Clamp	List per C	$4.25
No. 708—Steel Strap Clamp	List per C	3.80



GROUND RODS No. 785 Made of ⅜″ coppered steel, 4 ft. long. Has adjustable saddle with pointed screw for positive ground connection. Packed—12. Weight 20 lbs. Each 50c



GLASS INSULATORS

Substantially made of non-brittle crystal glass.

No. 1—3″ length, 100 per carton	List per C	$6.00
No. 2—3¾″ length, 25 per carton	List per C	6.50

PORCELAIN INSULATORS

Made of high grade glazed porcelain for long and short wave antennas.

No. 790	List per C	$3.90

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CORWICO RADIO WIRE *products*

P-A WIRES and CABLES

HOLLYWOOD MICROPHONE CABLES

(Shielded—Rubber Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded rubber used on conductors. Braided with tinned copper shield. Tough weatherproof polished rubber jacket overall.

Single conductor—unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.

Cat. No.	Conductors	Feet on Spool	Approx. Outside Diam.	List Price
1105	1	100	9/32″	$ 7.00
2104	1	500	9/32″	27.00
2101	1	1000	9/32″	53.00
Two conductor, for low impedance microphones and transmission lines.				
1152	2	100	11/32″	7.60
1153	2	250	11/32″	18.50
2152	2	500	11/32″	36.00
1154	3	100	11/32″	10.25
1155	3	250	11/32″	20.75
2153	3	500	11/32″	41.50
1156	4	100	3/8″	13.00
1157	4	250	3/8″	26.25
2154	4	500	3/8″	52.50
1158	5	100	3/8″	16.50
1159	5	250	3/8″	33.50
1160	6	100	7/16″	18.75
1161	6	250	7/16″	38.00

MULTI-CONDUCTOR RUBBER JACKETED CABLES

(Not Shielded)

Principally Used as Speaker Extension Cables

2160	2	100	1/4″	5.00
2161	2	250	1/4″	12.00
2162	2	500	1/4″	24.00
2163	3	100	1/4″	6.80
2164	3	250	1/4″	16.75
2165	3	500	1/4″	33.50
2166	4	100	5/16″	8.65
2167	4	250	5/16″	21.00
2168	4	500	5/16″	42.00

SHIELDED CABLES

These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton.

Cat. No.	Put-Up	List Price Each
1114	100 spool 2 Conductor	$ 5.30
1115	250 spool 2 Conductor	12.00
1116	100 spool 3 Conductor	7.50
1117	250 spool 3 Conductor	17.50
1118	100 spool 4 Conductor	9.15
1119	250 spool 4 Conductor	21.60
1120	100 spool 5 Conductor	10.80
1121	250 spool 5 Conductor	25.75
1122	100 spool 6 Conductor	12.20
1123	250 spool 6 Conductor	29.25

SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price Each
1124	100 spool 2 Conductor	$ 6.60
1125	250 spool 2 Conductor	15.25
1126	100 spool 3 Conductor	9.00
1127	250 spool 3 Conductor	21.25
1128	100 spool 4 Conductor	10.30
1129	250 spool 4 Conductor	24.50
1130	100 spool 5 Conductor	12.50
1131	250 spool 5 Conductor	30.00
1132	100 spool 6 Conductor	14.10
1133	250 spool 6 Conductor	34.00

RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Made of multi-conductor cable. Flexible conductors with over-all heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. systems.

Cat. No.	Put-Up	List Price Each
228	3 wire-100 Ft. Spool	4.00
219	4 wire-100 Ft. Spool	5.00
221	5 wire-100 Ft. Spool	6.00
231	6 wire-100 Ft. Spool	7.00
241	7 wire-100 Ft. Spool	8.00
222	8 wire-100 Ft. Spool	9.00
223	9 wire-100 Ft. Spool	10.00
224	10 wire-100 Ft. Spool	11.00
227	12 wire-100 Ft. Spool	13.00

SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

Cat. No.	Put-Up	List Price Each
No. 20 FLEXIBLE 1/32" R.C.		
1143	50 Ft. Coil	$ 1.35
1144	250 Ft. Spool	5.35
1145	1000 Ft. Spool	20.00
No. 18 FLEXIBLE 1/32" R.C.		
1146	50 Ft. Coil	$ 1.30
1147	250 Ft. Spool	6.20
1148	1000 Ft. Spool	22.50
No. 16 FLEXIBLE 1/32" R.C.		
1149	50 Ft. Coil	$ 1.60
1150	250 Ft. Spool	7.75
1151	500 Ft. Spool	15.00

AUTO RADIO WIRES and CABLES

SHIELDED LOW CAPACITY CABLE

Extremely low capacity between conductor and shield used in auto radio for antenna lead-in and elsewhere where a low capacity wire is required.

Cat. No.	Put-Up	List Price Each
1100	50′ Coil 1/2″ O.D.	$5.65
1101	100′ Coil 1/2″ O.D.	10.70
1102	50′ Coil 1/4″ O.D.	4.20
1103	100′ Coil 1/4″ O.D.	7.95

BRAIDED TINNED COPPER TUBULAR SHIELDING

Convenient shielding for auto radio installations. We recommend the 1/4″ width for wires up to 3/16″ O.D. and the 1/2″ width for larger wires.

Cat. No.	Put-Up	Width	List Price Each
1108	50 Ft. Spool	1/4″	$2.70
1109	100 Ft. Spool	1/4″	4.60
1110	250 Ft. Spool	1/4″	10.50
1111	50 Ft. Spool	1/2″	4.55
1112	100 Ft. Spool	1/2″	8.65
1113	250 Ft. Spool	1/2″	21.00

SHIELDED LOW CAPACITY LOOM

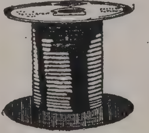
Frequently used in auto radio as a shield for the antenna lead-in. Inside Diameter 3/16″ (Approx.). Outside Diameter 1/4″ (Approx.)

Cat. No.	Put-Up	List Price Each
1106	50′ Coil 3/16″ I.D.	$5.50
1007	100′ Coil 3/16″ I.D.	10.00

SHIELDED IGNITION CABLE

Consists of a No. 16 Stranded Conductor with high grade rubber wall with a lacquered braid and overall tinned copper shield. This wire is effectively used in secondary circuits in auto radio and also in photo electric cell leads.

Cat. No.	Type	Spool	List Price Each
1134	7MM	R.W.—100′	$ 9.80
1136	7MM	R.W.—250′	24.00
1137	1/32″	R.W.—100′	4.30
1139	1/32″	R.W.—500′	18.50



FLEXIBLE CORDS

(Fixture Wires—Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords. Colors: Brown, Black, Ivory.

Cat. No.	Put-up	List Price per M ft.
133—No. 20 Single, Type F, Cotton	1000 ft.	$ 8.50
136—No. 18 Single, Type F, Cotton	1000 ft.	10.50
*138—No. 18 Parallel, Type PO. Rayon	250 ft.	24.00
*139—No. 18 Parallel, Type POSJ, All Rubber	250 ft.	21.00
*132—No. 18 All Rubber Service Cord, Type SJ	250 ft.	40.00

* Has Underwriter's Labels.

TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering.

Cat. No.	Put-Up	List Price Each
1140	100 Ft. Spools	$ 2.75
1141	500 Ft. Spools	12.50
1142	1000 Ft. Spools	24.00

AC-DC Antenna Lead Wire

A replacement antenna wire for Universal Sets at a minimum cost. The type of wire used incorporates the well-known Corlac Insulation between the copper conductor and the outside brown cotton braid which not only assures a moisture-proof product but also greatly tends to make the wire non-kinkable.

Cat. No.	Put-Up	List Price Each
660A	25 Ft. on Fibre	$0.30
660B	100 Ft. on Spools	.90
660C	500 Ft. on Spools	4.00
660	1000 Ft. on Spools	|7.50
Same Wire Without Corlac Insulation		
661	on 1000 Ft. Spools	5.90

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CORWICO RADIO WIRE *products*

RADIO HOOK-UP WIRES

"BRAIDITE" PUSH-BACK WIRE

CORWICO
Braidite
CORNISH WIRE CO.

These Hook-Up wires are the standard type of push back wires. They have a cotton serve and an impregnated braid which slides back easily from the tinned copper conductor, thus making it easy to solder.

Plain			Lacquered		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
		No. 22 SOLID			
398	25 Ft. Cartons	$0.28	416	25 Ft. Cartons	$0.31
399	100 Ft. Spools	0.94	417	100 Ft. Spools	1.05
400	1000 Ft. Spools	5.90	418	1000 Ft. Spools	6.80
		No. 20 SOLID			
401	25 Ft. Cartons	$0.30	419	25 Ft. Cartons	$0.34
402	100 Ft. Spools	1.05	420	100 Ft. Spools	1.22
403	1000 Ft. Spools	6.75	421	1000 Ft. Spools	8.00
		No. 18 SOLID			
404	25 Ft. Cartons	$0.36	422	25 Ft. Cartons	$0.39
405	100 Ft. Spools	1.33	423	100 Ft. Spools	1.54
406	1000 Ft. Spools	8.70	424	1000 Ft. Spools	10.00
		No. 22 STRANDED			
407	25 Ft. Cartons	$0.32	425	25 Ft. Cartons	$0.36
408	100 Ft. Spools	1.12	426	100 Ft. Spools	1.23
409	1000 Ft. Spools	6.40	427	1000 Ft. Spools	7.40
		No. 20 STRANDED			
410	25 Ft. Cartons	$0.36	428	25 Ft. Cartons	$0.40
411	100 Ft. Spools	1.23	429	100 Ft. Spools	1.38
412	1000 Ft. Spools	7.50	430	1000 Ft. Spools	8.70
		No. 18 STRANDED			
413	25 Ft. Cartons	$0.41	431	25 Ft. Cartons	$0.46
414	100 Ft. Spools	1.56	432	100 Ft. Spools	1.77
415	1000 Ft. Spools	10.00	433	1000 Ft. Spools	11.75

"CORLAC" HOOK-UP WIRE

CORWICO
18 SOLID

For the discriminating service man who knows the importance of voltage break down and insulation resistance. Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back. Tinned copper conductors.

Plain			Lacquered		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
		No. 22 SOLID			
434	25 Ft. Cartons	$0.33	452	25 Ft. Cartons	$0.37
435	100 Ft. Spools	1.14	453	100 Ft. Spools	1.32
436	1000 Ft. Spools	7.00	454	1000 Ft. Spools	8.30
		No. 20 SOLID			
437	25 Ft. Cartons	$0.37	455	25 Ft. Cartons	$0.44
438	100 Ft. Spools	1.34	456	100 Ft. Spools	1.56
439	1000 Ft. Spools	8.50	457	1000 Ft, Spools	10.30
		No. 18 SOLID			
440	25 Ft. Cartons	$0.43	458	25 Ft. Cartons	$0.48
441	100 Ft. Spools	1.66	459	100 Ft. Spools	1.80
442	1000 Ft. Spools	10.75	460	1000 Ft. Spools	13.20
		No. 22 STRANDED			
443	25 Ft. Cartons	$0.37	461	25 Ft. Cartons	$0.42
444	100 Ft. Spools	1.32	462	100 Ft. Spools	1.44
445	1000 Ft. Spools	8.00	463	1000 Ft. Spools	9.50
		No. 20 STRANDED			
446	25 Ft. Cartons	$0.44	464	25 Ft. Cartons	$0.49
447	100 Ft. Spools	1.54	465	100 Ft. Spools	1.71
448	1000 Ft. Spools	9.60	466	1000 Ft. Spools	11.40
		No. 18 STRANDED			
449	25 Ft. Cartons	$0.51	467	25 Ft. Cartons	$0.59
450	100 Ft. Spools	1.88	468	100 Ft. Spools	2.05
451	1000 Ft. Spools	12.80	469	1000 Ft. Spools	15.00

COLORED RUBBER HOOK-UP WIRE

CORWICO
Hook-up Wire
(Rubber Covered)
CORNISH WIRE CO.
NEW YORK NY

When a rubber covered hook-up wire is necessary the following products are recommended. They are made of Stranded Tinned Copper Wire covered with live rubber sufficient to withstand any voltage ordinarily used in radio. For circuit distinction these products are covered with colored rubber in Red, Green, Black and White.

No. 515	25 Ft. Cartons	No. 18—1/64" R.C.	$0.37
No. 515B	1000 Ft. Spools	No. 18—1/64" R.C.	9.25
No. 215	25 Ft. Coils	No. 16—1/32" R.C.	.35
No. 218	1000 Ft. Coils	No. 16—1/32" R.C.	12.50

"NUCOR" HOOK-UP WIRE

By using a special soft rubber insulation this wire has the highest possible electrical properties of insulation resistance and voltage break-down for a push back wire (13,000 volts as per certified report of Electrical Testing Laboratory of New York City). Tinned Copper conductors.

Plain			Lacquered		
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
		No. 22 SOLID			
470	25 Ft. Cartons	$0.40	485	25 Ft. Cartons	$0.45
471	100 Ft. Spools	1.48	486	100 Ft. Spools	1.70
472	1000 Ft. Spools	8.40	487	1000 Ft. Spools	9.90
		No. 20 SOLID			
473	25 Ft. Cartons	$0.43	488	25 Ft. Cartons	$0.49
474	100 Ft. Spools	1.55	489	100 Ft. Spools	1.75
475	1000 Ft. Spools	9.75	490	1000 Ft. Spools	10.85
		No. 22 STRANDED			
476	25 Ft. Cartons	$0.435	491	25 Ft. Cartons	$0.49
477	100 Ft. Spools	1.55	492	100 Ft. Spools	1.70
478	1000 Ft. Spools	9.60	493	1000 Ft. Spools	10.65
		No. 20 STRANDED			
479	25 Ft. Cartons	$0.52	494	25 Ft. Cartons	$0.58
480	100 Ft. Spools	1.82	495	100 Ft. Spools	2.02
481	1000 Ft. Spools	11.40	496	1000 Ft. Spools	12.65
		No. 18 STRANDED			
482	25 Ft. Cartons	$0.62	497	25 Ft. Cartons	$0.72
483	100 Ft. Spools	2.40	498	100 Ft. Spools	2.90
484	1000 Ft. Spools	14.90	499	1000 Ft. Spools	16.50

"HANDY" SPOOL ASSORTMENT

HANDY
SPOOL ASSORTMENT
CORWICO

(One Price Spools)

This "Silent Sam" works day and night. An easy, attractive way to sell the fast moving kinds of wire. . . . All one price.

FREE DISPLAY WITH INITIAL ORDER FOR 100 SPOOLS

Extra Display Racks $1.50

LIST PRICE, per spool . 65c

Cat. No.		Approx. ft.
1250	No. 22 Solid Push Back	80
1251	No. 20 Solid Push Back	70
1252	No. 18 Solid Push Back	60
1253	No. 16 Solid Push Back	40
1254	No. 22 Stranded Push Back	70
1255	No. 20 Stranded Push Back	60
1256	No. 18 Stranded Push Back	50
1257	No. 16 Stranded Push Back	35
1258	No. 18 Stranded Colored Rubber	60
1259	No. 16 Stranded Colored Rubber	40
1260	AC-DC Aerial Wire	100
1261	No. 18 Solid Lead-in Wire	70
1262	No. 18 Stranded Lead-in Wire	75
1263	No. 20 Single Fixture Wire	65
1264	No. 18 Single Fixture Wire	55
1265	No. 18 Stranded $\frac{1}{32}$" R.C. Lacquered	40
1266	No. 18 White Bell Wire	100
1267	No. 18 Solid Tinned Copper (Bare)	100
1268	No. 18 Parallel Silk Lamp Cord	30
1269	No. 18 Parallel All Rubber Lamp Cord	30
1270	No. 18 Twisted Lamp Cord	25
1271	Test Lead Wire	35
1272	No. 18 Stranded Shielded	20

MAGNET WIRE DISPLAY

The best way to sell magnet wire. Supplied in even gauges from 16 to 36, on one price spools in plain enamel, double cotton and double silk.

LIST PRICE, per spool. 40c

Free display rack with initial orders for 100 spools.
EXTRA RACKS, $1.50

ALL PRICES SUBJECT TO CHANGES WITHOUT NOTICE. PRICES WILL BE THOSE IN EFFECT ON DATE OF SHIPMENT. DUE TO CONDITIONS BEYOND OUR CONTROL, SOME OF THE ITEMS SHOWN ARE NOT AVAILABLE.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

Columbia

COLUMBIA WIRE and SUPPLY COMPANY
5734 Elston Ave., Chicago 30, Illinois

— ELECTRICAL WIRE AND CORD SETS —

LINE CORD SETS

Rubber-covered cord set for Lamps, Radios, Fans, etc. Underwriters approved molded rubber plug and cord. Free end stripped and tinned ready for attaching.

No.	Size	List Price
608	6 Foot	$ .35
618	9 Foot	.43

CUBE TAP EXTENSION CORD SETS

Made with underwriters approved rubber cord, and molded rubber plug, with 3 outlet bakelite cube tap. Excellent for extension cord and convenience outlets for home, office and shop.

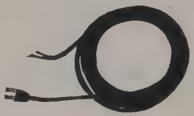
No.	Size	List Price
629	6 Foot	$ .70
639	10 Foot	.83

ELECTRICAL INSULATED WIRE

We carry in stock many other gauges and insulations other than those listed. Your inquiries will receive our prompt attention.

No.	DESCRIPTION	List Price Per 100 Feet
	18 - 2 POSJ	
500	UNDERWRITERS APPROVED For small appliances such as Lamps, Radios, etc. 18 Ga.—2 Cond. Parallel Rubber Covered Rip cord Integral Synthetic Rubber Sheath.	$7.60
	18 - 2 POT	
510	Same as No. 500 except plastic insulation. Highly resistant to oils, water, abrasion and flame. Underwriters approved.	$9.00
	18 - 2 SV	
520	Ideal for Appliances, Vacuum cleaners, Food mixers, etc. Underwriters approved.	$12.95
	18 - 2 SJ	
530	UNDERWRITERS APPROVED For appliances, small equipment such as Refrigerators, Washing machines, etc. 18 Ga.—2 Cond. Type SJ Round Rubber Jacket. 300 O.D.	$15.65
	18 - 3 SJ	
540	UNDERWRITERS APPROVED For appliances, small equipment such as Refrigerators, Washing Machines, etc. 18 Ga.—3 Cond. Type SJ Round Rubber Jacket. 340 O.D. For use where ground lead is required.	$19.80
	16 - 2 SJ	
550	Used on hard usage Equipment, Machine Tools Grinders, Drills, etc. Underwriters approved.	$19.50
	HEATER CORD	
560	Underwriters approved for all Heating appliances, Irons, Toasters, Electric Heaters, etc.	$11.95

VACUUM CLEANER CORD SET



Columbia's replacement cord and plug set, widely used for Vacuum Cleaners. Consists of 21 feet of round rubber jacketed cord, with molded rubber plug. Underwriters Approved. Free end stripped and tinned.

Size	No.	List Price
21′ 18-2 SV	660	$1.37

HEAVY DUTY POWER CORD SETS

Heavy duty rubber power cord set. Molded nonbreakable rubber plug. For portable tools, refrigerators, washing machines, etc. Underwriters approved. Open end stripped and tinned for ease of attaching.

Description	No.	List Price
8′ 18-2 SJ	671	$ .75
8′ 16-2 SJ	681	.90

HEAVY DUTY EXTENSION CORD SET

Ideal for extending power to motors, washing machines and portable tools. Constant service round rubber jacketed cord with heavy duty nonbreakable molded rubber plug on one end: Other end has female connector. Underwriters Approved.

Desccription	No.	List Price
10′ 18-2 SJ	692	$1.25

HEATER CORD SET

A replacementer heater cord set made by Columbia for all heating appliances. Insulated asbestos cord, molded rubber plug and universal bakelite appliance connector. Underwriters Approved.

Description	No.	List Price
6′ Cord Set	650	$ .83

AC-DC RESISTANCE CORDS

AC-DC Line cords with built in resistance reduces line voltage and eliminates heat generated by Radio receivers and Electronic devices. Nonbreakable rubber plug.

Ohm	No.	Ohm	No.
135	810	250	850
160	820	290	860
180	830	330	870
220	840	360	880

List Price...... Each $.73

220-110 VOLTAGE DROP CORD

Made for reducing line voltage of 220 volts to 110. Non-breakable rubber plug one end. Other end has female attachment.

Description	No.	List Price
220-110 Cord Set	890	$1.67

We have a large assembly plant for the manufacture of cord sets and cable assemblies, of all types. We also attach switches, lugs, terminals, feed thru switches, markers, sleeves, etc. Send us your prints or specifications for prompt action on all your electrical wire problems. Our wire mills have a capacity for manufacturing wire, gauges No. 22 to 2 Cables and special wires made to print.

Columbia

COLUMBIA WIRE and SUPPLY COMPANY
5734 Elston Ave., Chicago 30, Illinois

— WIRE and CABLE —

PUSH-BACK WIRE

Columbia's push-back wire. Recommended for all types of Radio and Electronic hook-up work. Tinned copper conductors. Paraffin treated braid for easy push-back.

Size	Strand	No.	List Price 100′	No.	List Price 1000′
22	Solid	P-10	$ .96	P-11	$ 8.78
22	Stranded	P-12	1.07	P-13	9.60
20	Solid	P-14	1.10	P-15	10.10
20	Stranded	P-16	1.28	P-17	11.72

PLASTIC HOOK-UP WIRE

The newest in non-push back plastic wire. Highest dielectric. Excellent for all Radio, Electrical and Electronic uses. Resists oil, water and flame. Columbia's best in low-cost high quality wire.

Size	Strand	No.	List Price 100′	No.	List Price 1000′
22	Solid	G-20	$ .85	G-21	$ 7.70
22	Stranded	G-22	.98	G-23	8.90
20	Solid	G-24	.92	G-25	8.35
20	Stranded	G-26	1.10	G-27	9.85
18	Stranded	G-28	1.55	G-29	14.10
16	Stranded	G-30	1.80	G-31	16.35
14	Stranded	G-32	2.35	G-33	21.50

SHIELDED WIRE

Stranded tinned copper conductors with high dielectric insulation and closely woven copper shield over all. Ideal for shielded lead-in and wherever electrostatic shield is necessary.

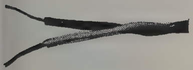
Size	Strand	No.	List Price 100′	No.	List Price 1000′
22	Stranded	S-40	$3.60	S-41	$32.80
20	Stranded	S-42	3.85	S-43	35.00
18	Stranded	S-44	4.15	S-45	37.40
16	Stranded	S-46	4.45	S-47	40.50

BRAIDED SLEEVING

The best for shielding, for bonding braid, lead-in wires, amplifiers and other radio applications. Closely woven tinned copper rolled flat.

Size	No.	List Price 100′	Size	No.	List Price 100′
$\frac{1}{16}$″	S-50	$1.60	¼″	S-56	$4.40
⅛″	S-52	2.25	⅜″	S-58	5.65
$\frac{3}{16}$″	S-54	3.25	½″	S-60	8.70

INTERCOMMUNICATION WIRE



2 and 3 conductor twisted communication wire. Made by Columbia for all intercommunication and transmission purposes. Consists of color coded twisted wires with geon plastic insulation, insuring high resistance to dirt, oil, water, flame and many other normally destructive factors. Solid and stranded tinned copper conductors.

2 Conductor Description	No.	List Price 100′	No.	List Price 1000′
Plain Solid	210	$2.05	211	$18.70
Plain Strand	220	2.40	221	21.90
Shielded Str.	230	4.80	231	43.80
Str. Shield and Braid	240	6.20	241	56.50

3 Conductor Description	No.	List Price 100′	No.	List Price 1000′
Plain Solid	250	$3.10	251	$28.05
Plain Strand	260	3.60	261	32.85
Shielded Str.	270	7.20	271	65.70
Shield and Braid Str.	280	9.30	281	84.75

AERIAL WIRE

Columbia's finest quality drawn copper wire. Ideal for all antenna requirements. Bare and tinned copper. Maximum tensile strength. Guaranteed as to weight, gauge and length.

Strand	No.	List Price 50′	No.	List Price 100′
7 x 27 Bare	310	$ .29	311	$ .52
7 x 24 Bare	320	.48	321	.99
7 x 22 Bare	330	.67	331	1.21
7 x 24 Tinned	340	.58	341	1.10
7 x 22 Tinned	350	.74	351	1.44
No. 14 Solid Bare	360	.48	361	.89

MICROPHONE CABLE

Low loss, designed for better use with crystal, dynamic and ribbon type microphones. Low capacity core with tough wear resistant insulation.

	No.	List Price 100′	No.	List Price 1000′
Stranded	410	$9.55	411	$87.00

AC-DC ANTENNA WIRE

Excellent replacement wire for AC-DC radio sets and indoor antennas. Extra flexible.

No.	List Price 20′	No.	List Price 100′	No.	List Price 1000′
420	$ .23	421	$1.07	422	$9.60

LEAD-IN WIRE

No. 18 stranded rubber covered wire with 1/32 wall. Suitable for all lead-in purposes.

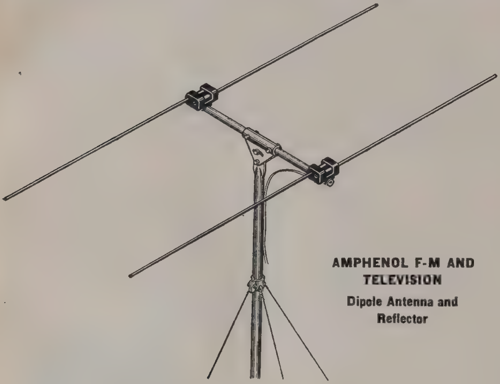
Size	No.	List Price 100′	No.	List Price 1000′
18—$\frac{1}{32}$ Wall	430	$1.35	431	$12.30

We carry stocks of insulated electrical wire in gauges 24 to 2, in a variety of insulations and strandings. Single and multiple conductor cable in addition to items listed may be obtained from our mills. We invite your inquiries. Specify gauge, insulation, stranding and color desired when requesting information.

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

AMPHENOL

BETTER F-M AND TELEVISION RECEPTION WITH AMPHENOL DIPOLE ANTENNAS



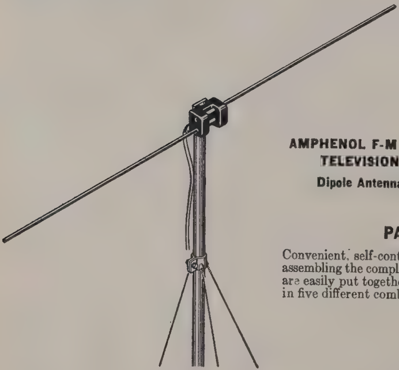
AMPHENOL F-M AND TELEVISION
Dipole Antenna and Reflector

Amphenol F-M and Television Antennas are engineered to provide satisfactory reception in zones of low signal strength. Directional array helps eliminate interfering signals and builds up desired signal.

- High gain that assures improved reception in the F-M and Television bands.
- Swivel feature on mounting bracket and mast head allows polarization adjustment in two planes.
- Innovation in parallel low-loss transmission line for antenna to receiver connection.

AMPHENOL ANTENNA AND ARRAY EQUIPMENT PACKAGED AS FOLLOWS

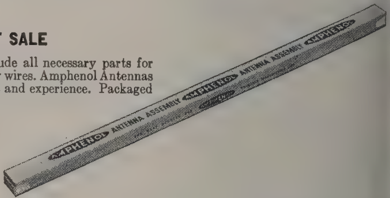
	Shipping Weights	List Price
107-114 — Dipole Antenna — 88-106 Mc	3 lbs. 12 oz.	$ 5.50
107-104 — As above with 75 feet Amphenol 300 ohm Twin-Lead	4 lbs. 14 oz.	9.00
107-113 — Dipole and Reflector Array — 88-106Mc	5 lbs. 8 oz.	10.50
107-103 — As above with 75 feet Amphenol 300 ohm Twin-Lead	6 lbs. 10 oz.	14.00
107-109 — Reflector Array Conversion Kit — 88-106 Mc	2 lbs. 3 oz.	5.50
107-110 — Extra Mounting Bracket (when required for Side Mounting)	6 oz.	.50



AMPHENOL F-M AND TELEVISION
Dipole Antenna

PACKAGED FOR UNIT SALE

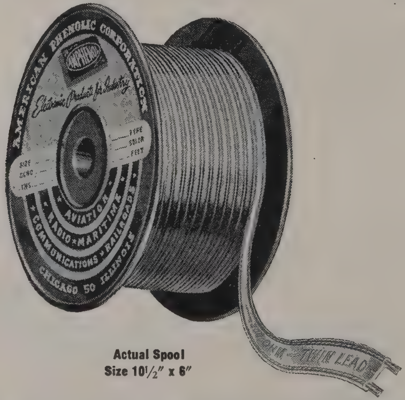
Convenient, self-contained Amphenol kits include all necessary parts for assembling the complete antenna, except the guy wires. Amphenol Antennas are easily put together with a minimum of time and experience. Packaged in five different combinations.



THE IDEAL LEAD-IN WIRE

TWIN LEAD

EXTRUDED WITH POLYETHYLENE DIELECTRIC



Actual Spool Size 10½" x 6"

This is Amphenol's latest development — a highly efficient, low-loss, transmission line that is inexpensive, weather-resistant and rugged in service. Twin-Lead carries signals from antenna to F-M and Television receivers with minimum loss.

AMPHENOL 300 OHM TWIN-LEAD TRANSMISSION LINE provides best match of impedance to F-M receivers. It is further recommended by RMA for television, being most efficient over broadband operation.
14-056 — Per 1000 Feet .... **$48.50 list**

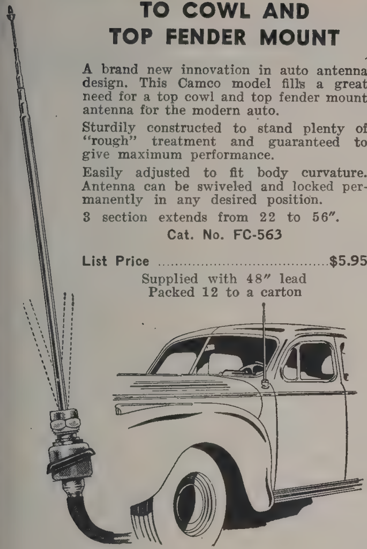
AMPHENOL 150 OHM TWIN-LEAD also supplied to those who desire it for particular applications and experimental work.
14-079 — Per 1000 Feet .... **$40.37 list**

AMPHENOL 75 OHM TWIN-LEAD was especially designed for amateurs who are going to operate in very narrow bands of frequency or one particular frequency. Suitable for dipoles that have a nominal impedance of 72 ohms at the frequency for which they are cut.
14-080 — Per 1000 Feet .... **$33.45 list**

AMERICAN PHENOLIC CORPORATION

CHICAGO 50, ILLINOIS
In Canada • Amphenol Limited • Toronto

Camco AUTO ANTENNAS
"for top performance"



TO COWL AND TOP FENDER MOUNT

A brand new innovation in auto antenna design. This Camco model fills a great need for a top cowl and top fender mount antenna for the modern auto.

Sturdily constructed to stand plenty of "rough" treatment and guaranteed to give maximum performance.

Easily adjusted to fit body curvature. Antenna can be swiveled and locked permanently in any desired position.

3 section extends from 22 to 56".

Cat. No. FC-563

List Price $5.95

Supplied with 48" lead
Packed 12 to a carton

FREE . . . FIVE COLOR SALES DISPLAY

One of the most attractive antenna displays made, a real "sales-getter". A perfect combination . . . a self-selling antenna sales display and "top performance" Camco antennas.

Display consists of:

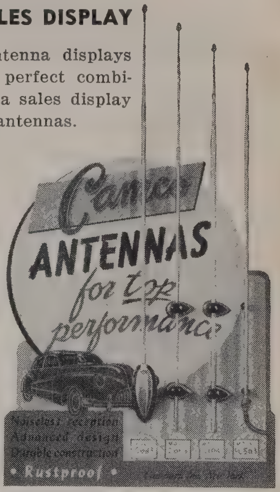
One Model C663
One Model C104
One Model S683
One Model FC563

You pay for antennas only

Cat. No. 12
List Price

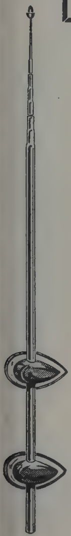
$25.90

All leads supplied with Pin Tip and Delco Fitting.



Camco antennas are rattle proof, rustproof and precisely engineered to prevent moisture and dirt from entering tubes.

Tested for perfect mechanical performance.



SIDE COWL MOUNT

Insulators—Bakelite and Brass Chromed Combination. Individual in design.

Low Loss Lead—Last word in science and plastics. Vinylite jacketed moisture and corrosion proof. Aircraft type fittings insuring positive ground of lead, shield prevents shorts to car body. Installation simplified.

Conversion Kit—Adaptor supplied for curved cowls.

Construction—Rattle Proof. Swaged part of tube prevents entry of dust and moisture.

Cat. No.	List Price
C-663—3 Section Extends from 26" to 66"	$5.45
C-963—3 Section Extends from 36" to 96"	6.45
C-104—4 Section Extends from 30" to 100"	7.25

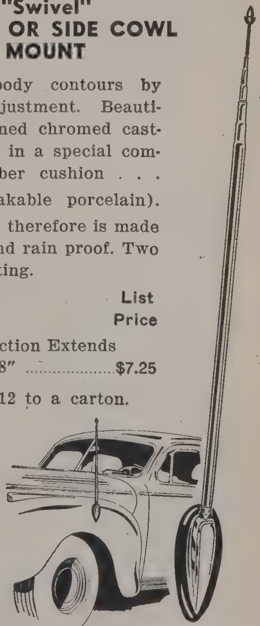
Packed 12 to a carton.

"Swivel" FENDER OR SIDE COWL MOUNT

Fits all body contours by simple adjustment. Beautifully designed chromed casting, nested in a special compound rubber cushion . . . (NOT breakable porcelain). Installation therefore is made moisture and rain proof. Two hole mounting.

Cat. No.	List Price
S-683—3 Section Extends to 68"	$7.25

Packed 12 to a carton.



Manufactured by CAMBURN, Inc. WOODSIDE, L. I., N. Y.

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ELECTRONIC
INDICATOR
CORP.

·ELINCOR·
ANTENNAS

WOODSIDE
LONG ISLAND
NEW YORK

AUTOMATIC SELECTING • NOISE REDUCING • ALL WAVE RECEIVING ANTENNAS

Models 80, 100, and 500 shown below are furnished with multi-winding *patented transformer couplers which automatically tune the antenna to the same frequency as the receiver. The antenna coupler is mounted in a porcelain transformer housing which acts as the center insulator of the doublet antenna. The radio energy is picked up by the antenna, passed through the antenna transformer and down the transmission line, through the receiver coupler to the receiver. This balanced 2 wire isolated transmission system reduces noise pickup to a minimum. Each antenna is furnished complete with tested transformer couplers, antenna wire, transmission line, nail it knobs antenna insulators, lead strips and easy to understand instructions.

***Model 100** ALL WAVE. Covers Standard Broadcast Band and Shortwave Bands. Freq. Range 540 kc. to 20 Mc. Consists of 2-30 ft. coils 7/22 antenna wire—50 ft. Twinnax transmission line—2 transformer couplers. **List Price $10.00**

***Model 80** ALL WAVE Amateur Communications. Freq. Range 540 kc. to 30 Mc. Consists of 2-30 ft. coils 7/22 antenna wire—60 ft. twinnax transmission line. The transformer couplers in this kit are designed to work into a communications type receiver. **List Price $13.50**

***Model 500** ALL WAVE Covers Broadcast band—Shortwave—Frequency Modulation Band. Uses 7/22 copper wire for antenna and twinnax high frequency low loss transmission line for maximum efficiency. Furnished with 2 transformer couplers plus specially designed frequency dividing network for FM reception. **List Price $14.00**

Model 1000 All wave doublet—Covers broadcast and shortwave. Consists of 2-30 ft. coils 7/24 copper antenna wire—50 ft. twisted pair transmission line—For use in noise free locations. **List Price $3.50**

VERTICAL WHIP ANTENNAS

Noise Reducing - ALL Wave - Built Like an Auto Antenna

A tapered aluminum alloy mast with a bakelite rotor mounted on an aluminum swivel base. Mounts in 3 inches of space—Ideal for window mounting.

Designed for standard broadcast and shortwave receivers.

Frequency range 500 kc. to 30 Mc.—600 to 10 meters. Furnished with or without balanced transformers and special low loss twin transmission line.

***Model 9X** An all wave—automatic frequency selecting—noise reducing antenna using a 9 ft. 3 section mast. Provided with an upper unit transformer which matches the vertical mast to the low loss twinnax transmission line. Another lower unit transformer matches the transmission line to the receiver. This gives a balanced=isolated transmission system which reduce noise to a minimum. The transformers are mounted in bakelite shells and thoroughly impregnated. Furnished complete with 35 ft. high frequency low loss twinnax transmission line—2 lead strips, 2 porcelain nail it knobs, mounting hardware and instructions. **List Price $15.00**

Model 9 A 9 ft. 3 section mast. Furnished complete with 15 ft. lead in wire, window lead in strip, mounting hardware and instructions. **List Price $5.00**

Model 12 Similar to Model 9 except the vertical mast is made in 4 sections and is 12 ft. long. **List Price $6.50**

***Model 12X** Has the same noise reducing features as the Model 9X but uses the 12 ft. vertical mast. **List Price $16.50**

AMATEUR BEAM ANTENNAS

Model 400 Series

The 400 Series of antennas are designed for the amateur 10 meter band. They are rigidly constructed of ¾" aluminum tubing telescoping to ⅝". The elements are mounted on 1" aluminum angle and supported by 2½" steatite standoff insulators. Elements are adjustable over a range of several feet.

Model 400-RA 3 element 10 meter beam using .1 wavelength spacing for the director and .15 wavelength spacing for the reflector. Designed to be fed with 300 ohm twinnax. Furnished complete with all aluminum ladder. Elements are ¾" aluminum tubing telescoping to ⅝". Adjustable from 14 to 18 ft. Weight 15 lbs. **List Price $45.00**

Model 400-EA 3 element 10 meter beam with folded di-pole driven element. Uses .1 wavelength spacing for the director and .15 wavelength spacing for the reflector. Furnished complete with aluminum ladder. The folded di-pole gives a much broader response than the regular single di-pole beams and allows this beam to be fed directly with 50 ohm coaxial cable. Weight 17 lbs. **List Price $52.00**

Model 400-BA 2 element 10 meter beam with .2 wavelength spacing. Furnished complete with 7 ft. aluminum ladder. Designed to be fed directly with 50 ohm coaxial cable, RG8/U or equivalent. Weight 12 lbs. **List Price $34.00**

Model 400-AA 10 meter di-pole with adjustable elements. All aluminum with steatite insulators. **List Price $13.00**

Model 405-CA 10 meter folded di-pole—5 inch spacing. Aluminum supporting angle and adjustable elements. Designed to be fed directly with 300 Ohm twinnax line. Weight 5 lbs. **List Price $22.00**

Model 401-AA Set of 10 meter director and reflector elements with aluminum supporting angles. Elements are adjustable over a range of several feet. Can be used with either the 405-CA or the 400-AA to make up a 3 element beam. Ideal for the ham who wants to build his own ladder. **List Price $22.00**

MODEL 400EA

Model 200-EA Five element beam for the amateur 2 meter band, with folded di-pole driven element—3 directors and 1 reflector. Constructed entirely of aluminum with steatite standoff insulators. Designed to be fed with low impedance coaxial cable. **List Price $14.00**

TELEVISION AND FM ANTENNAS

***Model 250** Combination FM and Television Antenna. A multi-element array using 2 folded di-poles coupled together by frequency dividing networks which automatically select the desired band of frequencies.

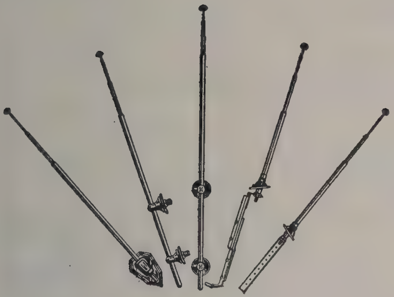
Prices slightly higher in the far west.

We also manufacture a full line of FM and Television antennas consisting of single, folded, fan type and cone type di-poles both with and without reflectors. Literature available on request.

*Licensed A.A.K. Pats. 1938092, Re 19854, 2002844.

GENERAL ELECTRIC

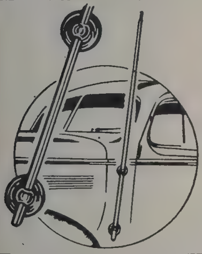
AUTO ANTENNAS



For the Finest in High Efficiency, Low Noise Reception, Together with Lasting Durable Construction, SELECT General Electric Antennas.

NEW EXCLUSIVE FEATURES

- Completely equipped with a newly developed low capacity, low loss lead cable
- Speedy installation. positive interference-proof, lead coupling
- Ferrule-set connection with bayonet adapter
- Rattle-proof, no-slip, fluid type construction
- High efficiency, low resistant silver to silver contacts
- Finest Admiralty brass, beautifully chrome plated



MODEL UZA 007

DELUX RECEPTION MASTER

Side Cowl Mount

- 4 Section—100 inch
- 2 Stanchion ceramic insulators
- Includes Bayonet Adapter and conversion kit for Torpedo Bodies Shipping Wt. 1 lb. 15 oz.

Suggested List $7.45

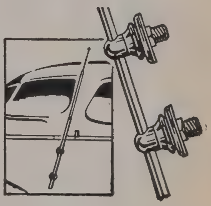
MODEL UZA 006

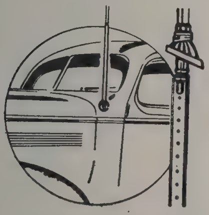
STANDARD RECEPTION MASTER

Side Cowl Mount

- 3 Section—66 inch
- 2 Stanchion ceramic insulators
- Includes Bayonet Adapter and conversion kit for Torpedo Bodies Shipping Wt. 1 lb. 4 oz.

Suggested List $5.45





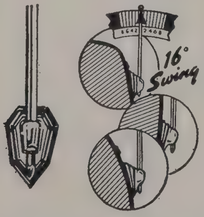
MODEL UZA 010

COWL ANGLE-JUST

Universal Top Cowl Mount

- 3 Section—56 inch
- Single stanchion ceramic insulator, Chrome trim
- Fits all car cowls regardless of contour Shipping Wt. 1 lb. 5 oz.

Suggested List $5.95



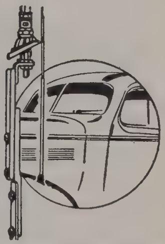
MODEL UZA 008

UNIVERSAL ANGLE-JUST

Fender or Cowl Mount

- 3 Section—68 inch
- Single stanchion ceramic insulator, chrome trim
- New positive shielding eliminates use of prewar shield cans Shipping Wt. 1 lb. 8 oz.

Suggested List $5.95



MODEL UZA 009

FENDER ANGLE-JUST

Fender Mount

- 3 Section—56 inch
- Single stanchion ceramic insulator, chrome trim
- Fits all car fenders regardless of contour Shipping Wt. 3 lbs.

Suggested List $8.75

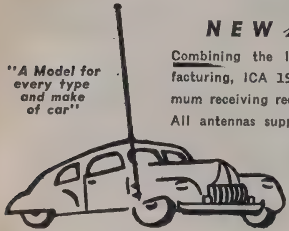
All Prices Subject to Change Without Notice

ICA INSULINE ICA
RADIO PRODUCTS

I. C. A. "DE LUXE" AUTO RADIO ANTENNAS

NEW *1947* ICA AUTO ANTENNAS

Combining the latest engineering features with precision manufacturing, ICA 1947 Series automotive radio antennas ocers maximum receiving reception. There's an ICA antenna for every purpose. All antennas supplied with both Delco and Motorola fittings.



"A Model for every type and make of car"

ICA TOPPER ANTENNA

For tops of fenders and cowls of newest streamlined cars.

Has these latest features:

- Rust-proof Admiralty brass. Triple chrome-plated.
- Snug - fitting tapered telescopic joints.
- Patented brass shim contacts prevent rattling and vibration.
- Fitted with static-discharge ball.
- Patented swivel coupling for easy mounting.
- Shielded loom cable.

No. 4575......................................**Net $3.87**
3 Section—Extends from 20" to 63"
10 to a Standard Carton—Weight 10 lbs.

ICA DISAPPEARING ANTENNA

For Cowl and Fender Mount

Rustproof - Rattleproof - Weatherproof

Fits on either fender-top or cowl-top. Suitable for all cars—old and new.

- 3" of exposed Antenna telescopes to 50".
- Quickly and easily installed.
- Does not obstruct vision.
- Insulator of bakelite and chrome-plated brass for long service.
- Cable protected by ICA Shielded loom Vinylite insulation.

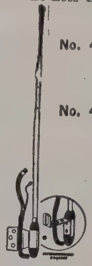
No. 4586—Three Section
Net $4.47
10 to Standard Carton
Weight 11 lbs.

UNI-MOUNT UNDERHOOD ANTENNA

Only One Aerial for All Type Mountings

Fits all model cars including latest '40 styles

- Dual Brackets designed so that they can be interchanged in a minute for both Underhood and Alligator types.
- Eliminates drilling of holes on body of car.
- Made of Admiralty Brass. Triple Chrome-Plated. Guaranteed Rust-proof, Rattle-proof.
- Both Underhood and Alligator Mounting Brackets are included as standard equipment with every aerial.
- All Antennas are supplied with Shielded Lo-Loss Lead-in Cable.



The "WASP"
2 Section Telescopic—49"
No. 4800..............................**Net $2.55**

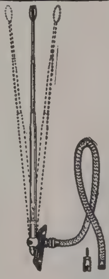
The "TRAVELLER"
3 Section Telescopic—63"
Extends from 20" to 63"
No. 4801..............................**Net $2.97**

The "CLIPPER"
3 Section Telescopic-72"
Extends from
23½" to 72"
No. 4802.......**Net $3.30**

The "NEW YORKER"
3 Section Telescopic-96"
Extends from
31½" to 96"
No. 4803........**Net $3.57**

ICA "*ROCKER*" AERIAL

A Variable Angle Antenna to Fit the Contours of All Car Bodies



- The adjustable mounting mechanism is concealed so as to make it both tamper-proof and weather-proof.
- Beautifully fashioned — Rugged construction.
- Easy to install, requiring the drilling of only 2 small holes, adjusting the antenna to the desired angle and tightening.

Completely assembled, ready for installation with 36" shielded Lo-Loss Cable and Universal plug - in attachment.

"ROCKER" ANTENNA
2 Section Telescopic—49"
Extends from 23" to 49"
No. 4540..**Net $3.00**
10 to a Standard Carton—Weight 12 lbs.

3 Section Telescopic—72"
Extends from 23½" to 72"
No. 4541..**Net $3.45**
10 to a Standard Carton—Weight 16 lbs.

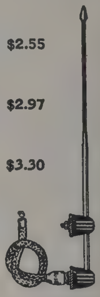
SIDE COWL AERIALS

Noiseless! - - Rattle Proof!

Lifetime Guarantee Against Rusting

Admiralty Brass and Stainless Steel Antennas

- Static Discharge Ball supplied on all aerials
- All Antennas supplied with 36" Fool-proof Spring Tensioned Lo-Loss Cables protected by Heavy Shielded Loom to prevent noise pick-up.



The "GOVERNOR"
Two Section Telescopic
49" Total Length
Extends from 23" to 49"
No. 4551.............................**Net $2.55**

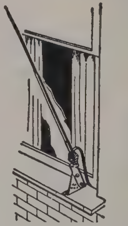
The "CHANCELLOR"
Three Section Telescopic
63" Total Length
Extends from 20" to 63"
No. 4566.............................**Net $2.97**

The "COMMODORE"
Three Section Telescopic
70" Total Length
Extends 23½ to 70"
No. 4555.............................**Net $3.30**

The "PRESIDENT"
Three Section Telescopic
93" Total Length
Extends from 31½" to 93"
No. 4553..............**Net $3.57**

The "COUNSELLOR"
FOR LONG DISTANCE RECEPTION AND POLICE WORK
Four Section Telescopic
106" Total Length
Made of Extra Large Diameter Brass Tubing
No. 4558A..**Net $4.47**

DE LUXE WINDOW ANTENNAS
8 Feet—12 Feet



Made of Admiralty Brass with Beautiful Nickel-Plated Finish

- For Homes, Apartments, Hotels, Office Buildings, and places where it is inconvenient to install outdoor aerials or to improve reception on indoor installations.
- Quickly and easily installed.
- Adjustable Bracket at base, permits the antenna to be focused in any position for best reception.
- Furnished completely assembled with mounting flange, insulator and lead-in strip.

Individually boxed.

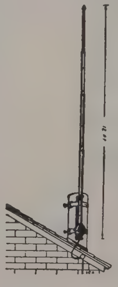
3 Section Telescopic Antenna Opens to 96" Total Length
No. 4527B..**Net $3.60**
10 to a Standard Carton—Weight 14 lbs.

4 Section Extra Long Window Antenna
12 Feet Long

Ideal for DX Reception and Rural Sections where extra length is needed for best results.
No. 4513..**Net $4.05**
10 to a Standard Carton—Weight 33 lbs.

HOME ANTENNAS
12 Feet—4 Sections

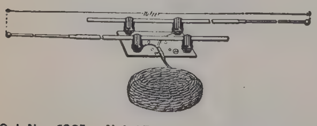
Made of Admiralty Brass—Guaranteed Rust Proof



- The Latest Type Home Antenna suggested by leading Radio Set Manufacturers for best results.
- Eliminates unsightly and dangerous wires.
- Clear, noise-free reception with no power line interference.
- Very sturdy construction—made of Admiralty Brass with Beautiful Nickel-Plated Finish.
- Guaranteed Rust-proof for the Life of Antenna.
- Universal Bracket allows permanent and convenient installation on soil pipe, window pipe, chimney, roof, gables, cornices, wall copings, etc.
- Individually boxed.

Vertical Mast with all accessories for Universal Mounting — including Lead-in Wire, Ground Wire, Brackets, Lightning Arrester, Screws, Insulators, etc.
No. 4516..**Net $4.17**
10 to a Standard Carton—Weight 33 lbs.

FM AND TELEVISION ANTENNAS



Newly designed, highly efficient television antenna. Admiralty brass; nickel plated. Highly di-electric, bakelite insulators and base. Covers continuous frequency range 42 to 112 megacycles covering all television frequencies and the 42 and 84 megacycles FM Band. Consists of two tubular collectors, each 5 feet long.

Cat No. 6001....**Net $5.10**

Cat. No. 6002 (with 60 ft. transmission cable)........**Net $6.30**

ANTENNA REFLECTOR

Increases effectiveness of television reception when used with ICA Television Antenna.
Cat. No. 6003..**Net $4.50**

ABOVE PRICES INDICATE SUGGESTED DEALER NET PRICES.
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

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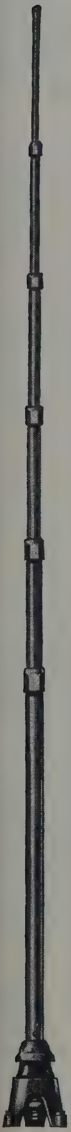
PREMAX TELESCOPING VERTICAL RADIATORS

For satisfactory operation under the most critical conditions found in marine installations and other commercial uses where high strength and unusual resistance to corrosion are prime considerations, Premax has developed special Monel and Aluminum Antennas which successfully resist the action of sea air, salt spray and other corrosive agents. These Antennas have satisfactorily stood up under the most severe wind and shock strains, and found extensive military application on the PT Boats and other craft of the Navy and Coast Guard in World War II.



Aluminum Radiators

Premax Adjustable Type Aluminum Antennas were first introduced to provide lightweight combined with corrosion resistance and adequate strength to meet the most exacting conditions. During World War II improvements were made in their design and versatility until today they are generally accepted in standard designs for marine and mobile installations where lightweight, convenience in erection and dependable performance are important considerations.

They are ideally adapted for use in radio telephone installations on fresh water craft and for commercial installations where convenience in extending and collapsing and attractive appearance are important considerations. Other popular uses are for police, fire, forestry, public utility and similar services, as well as for home receiving sets. Amateurs have discovered the excellent performance of these Antennas and they have a wide acceptance among the "hams" for both transmitting and reciving on any and all radio frequency bands.

The tubing is special drawn bright finish seamless tempered aluminum with diameters, gauges and temper engineered to withstand wind velocities up to 60 miles per hour. The locking device is simple in operation and provides efficient low-resistance contact between sections. Six units are available, all fully telescoping excepting the tapered top section.

HEAVY-DUTY NON-ADJUSTABLE MASTS

For special installations under extraordinarily trying conditions, the Heavy-Duty, Non-Adjustable Aluminum Antenna is recommended. In either the 17½-foot or the 35-foot lengths this special heat-treated aluminum alloy antenna is designed to withstand wind velocities up to 100 miles per hour. The tubing is graduated in steps from a base diameter of two inches to a top of one-half inch on the 35-foot mast and a base diameter of 31/32-inch to a top of one-half inch on the 17½-foot mast. The antenna has a smooth, polished finish to resist corrosion. The 35-foot mast is in two sections, with closely-machined joint, secured by two cross bolts.

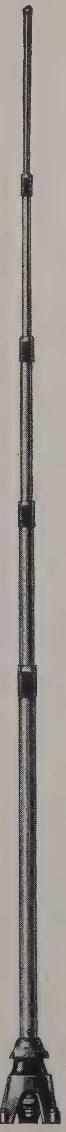
SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wt. ea. lbs.
AL-106	1-Pc. Taper Rod	6'-3"	6'-3"	.313"	...	¼
AL-312	2-Sec. Tel.	12'-4"	6'-4"	.500"	.334"	1½
AL-518	3-Sec. Tel.	18'-5"	6'-4"	.750"	.584"	3
AL-324	4-Sec. Tel.	24'-4"	6'-4"	1.000"	.834"	5
AL-530	5-Sec. Tel.	30'-0"	6'-5"	1.250"	1.084"	7
AL-535	6-Sec. Tel.	35'-8"	6'-5"	1.500"	1.310"	12

SPECIFICATIONS, HEAVY-DUTY ALUMINUM MASTS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wt. ea. lbs.
AM-017	1-pc. tapered tube	17'9"	17'9"	.969"	.689"	5½
AM-035	2-sec. tapered	35'0"	17'9"	2.000"	1.732"	19

(For Base Insulators and Mountings see page S-38)



Monel Radiators

Monel has proven to be the most practical material for radio antennas as it is far more resistant to corrosion than either the nickels or coppers which enter into the formulation of the monel. Its properties enable it to withstand weather conditions in the Tropics as well as above the Arctic Circle. Its mechanical properties enable it to satisfactorily resist shocks as its toughness and fatigue strength far exceed the limits of mild steel or all brasses and bronzes. This means freedom from internal structural failures, season cracking and other weaknesses which, in ordinary metal, result in poor contacts, increased resistance or mechanical breakdown. Rigid tests by both Government and private agencies have shown Premax Monel Antennas to be the most dependable units available for high efficiency and satisfactory service under all conditions.

Premax Monel Antennas are built up of multiple sections of hard-drawn monel tubing of a tensile strength exceeding 100,000 pounds per square inch and represent a cooperative development of Premax engineers and the Superior Tube Company of Norristown, Pennsylvania. Their rich, highly-polished, chrome-plated finish conforms perfectly with the equipment of even the finest craft, yet their cost is not excessive for the more modest installations when their long life and operating efficiency are considered.

Premax Monel Antennas are available in five standard units, fully telescoping and adjustable. The special knurled thimble and friction clutch sleeve locking device secure the sections firmly at any desired height and also provide perfect electrical contacts.

Various types of recommended mountings and supports are shown on page S-38 of of this Catalog.

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SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wt. ea. lbs.
MM-313	2-sec. tel.	about 13'	6'9"	.625"	.555"	2¾
MM-419	3-sec. tel.	about 19'	6'9"	.750"	.666"	5
MM-425	4-sec. tel.	about 25'	6'9"	.875"	.777"	8
MM-430	5-sec. tel.	about 30'	6'9"	1.063"	.935"	13
MM-435	5-sec. tel.	about 35'	7'8"	1.063"	.935"	15

(For Base Insulators and Mountings see page S-38)

PREMAX PRODUCTS, DIVISION CHISHOLM-RYDER CO., INC., NIAGARA FALLS, N. Y.

PREMAX TELESCOPING VERTICALS AND ELEMENTS

Premax Tubular Steel Antennas and Elements have been known to the radio field for a long period of years and have shown exceptionally efficient, dependable performance under most severe conditions. The low initial cost of these Antennas has put Premax equipment within the budget requirements for amateur, commercial and municipal installations of all types.

Steel Radiators

Premax Tubular Steel Antennas are made of high-tensile, copper-nickel steel tubing of carefully engineered diameters and wall thicknesses, heavily electro-plated and highly resistant to corrosion. These Antennas will withstand all ordinary stresses without guying, but should be supported by guys or standoff insulators against abnormal winds or extreme conditions.

Standard Premax Tubular Steel Antennas are available in two, three, four, five and six-section adjustable models, ranging from about twelve feet minimum to about thirty-four feet maximum height as shown in specifications below. While these Antennas possess unusual tensile strength, they are light in weight, easily handled and readily portable.

All units are fully telescoping and adjustable within the limits shown below. The locking device is simple in operation, positive in action and provides a secure, efficient contact between the sections.

Cadmium-plated Steel Antennas are NOT recommended for marine use on salt water.

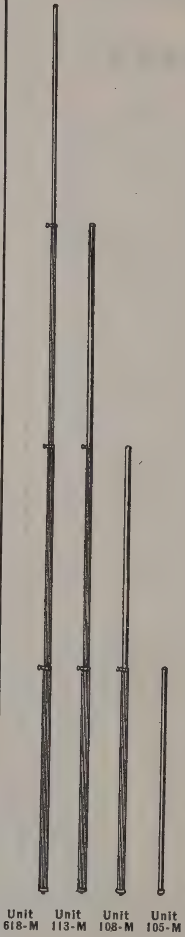
AVAILABLE IN FIVE STANDARD LENGTHS

The adaptability of Premax Tubular Steel Antennas is almost universal because of the five standard lengths available. By selecting the proper approximate height, the Antenna may be adjusted or tuned to the proper frequency by raising or lowering at one or more section locks. Because of their extreme durability and excellent performance, hundreds of amateur, public and commercial users are recommending them as dependable, low-cost equipment for a wide variety of radio services.

There are many practical and commonly used methods of mounting these Antennas, of which the most popular is the Heavy Duty Insulator Base, available in several styles. Special insulators are designed for use where installations are made through a roof or deck and others for offset or wall bracket mountings. Complete details of Premax Base Mountings and Insulators will be found on page S-38 of this Catalog.

SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wt. ea. lbs.
112-M	2-sec. tel.	11′8″	6′1″	.656″	.556″	4
318-M	3-sec. tel.	17′3″	6′2″	.875″	.775″	7
224-M	4-sec. tel.	22′9″	6′3″	1.063″	.963″	11
130-M	5-sec. tel.	28′3″	6′4″	1.250″	1.150″	15
136-M	6-sec. tel.	33′9″	6′5″	1.500″	1.400″	20



Corulite Elements

Premax Corulite Elements have been designed to meet the need for light-weight but sturdy elements for use in horizontal arrays and similar applications. They are exceptionally light in weight and their special design provides the necessary strength and rigidity so essential in horizontal types of installations—and at an extremely low cost.

The walls of Premax Corulite Elements range from twelve thousandths of an inch to twenty-two thousandths of an inch in thickness. The special steel tubing used in the construction of these Elements is a development of Premax Engineers to secure unusual stiffness and strength. All parts are heavily electro-plated to provide corrosion resistance and high electrical conductivity.

A positive clamp, spot-welded to the tubing, permits adjustment to any desired length and also assures rigid joints and positive electrical contact between the telescoping sections of the Elements.

Corulite Elements are available in one, two, three and four-section units, fully telescoping one within the other and adjustable between the limits shown in the table below. These Elements meet all requirements for various five to twenty-meter arrays in general use and are also ideal for combinations in the amateur, commercial, FM or television band. Ease of adjustment between the two halves of each complete element is provided by the Premax "Hairpin" Tuning Bar. By its use it is possible to have all of the elements set at a single physical length and the variation in their electrical length may be accomplished by the "Hairpin." Premax Corulite Elements are conveniently mounted on Premax Standoff Insulators shown on page S-38 of this Catalog or by special Premax Mounting Clips on any standard Standoff.

SPECIFICATIONS

No.	Description	Ext'd'd. Length	C'l'ps'd. Length	Base O.D.	Recommended For	Weight Per Pr.
105-M	1-sec., non-adjustable	5′0″	5′0″	.625″	6-meter	1 lb.
108-M	2-sec., telescoping	8′2″	4′7″	.750″	10-meter	2 lbs.
113-M	3-sec., telescoping	12′4″	4′8″	.875″	Double Zepp	3½ lbs.
618-M	4-sec., telescoping	17′0″	5′3″	1.000″	20-meter	5½ lbs.

(Premax Corulite Elements sold only in pairs, complete with Premax "Hairpin" Tuning Bar)

PREMAX POLICE ANTENNA—Receiving and Sending

Antenna Rods for Mobile Installations

Premax Engineers have developed many highly successful types of Police and Mobile Antennas which are finding wide use in Municipal and Commercial service because of their rugged strength and practical design. The solid rod or "whip" types, styles A and B, are designed of steel of an extremely high carbon content, heat-treated and oil-tempered to carefully develop physical properties. Rods of varying diameters, cold-drawn to rigidly-held tolerances, are joined securely and permanently into a single graduated length which provides high flexibility, minimum wind resistance and long life. Where ordinary antennas bend or break under stress of striking tree branches, bridges, garage doors and similar obstructions, Premax Antennas merely flex under the strain and immediately return to normal position when the obstacle is cleared. This eliminates the usual replacement costs and insures long and useful life for every Premax Antenna.

While Premax Antennas are heavily plated to give protection against corrosion in all ordinary atmospheres, the same designs in polished, hard-drawn stainless steel are available where corrosive conditions are extreme.

Premax Police Antennas are available in two styles of bases: Style A with a plain quarter-inch end and Style B which has a 7/16-inch threaded stud complete with hexagon nuts and lock washers.

Style A will fit the following Mountings: Styles K, L, TA, NA, R, S and SA. Style B Rods will fit only Style G or N Mountings.

For the larger mobile units, standard Premax Antennas in steel, aluminum and monel as described on the preceeding pages are employed. Their collapsing feature permits even a 35-foot radiator to be mounted on a truck, using the standard Premax Mounts. These radiators have a surprisingly long range and are widely used by state police, forestry and commercial mobile units.

SPECIFICATIONS ANTENNA RODS
(Without Mountings)

	STAINLESS STEEL			CADMIUM PLATED STEEL	
Length	Style A No.	Style B No.	Length	Style A No.	Style B No.
72″	AS-172	BS-172	72″	AC-172	BC-172
78″	AS-178	BS-178	78″	AC-178	BS-178
84″	AS-184	BS-184	84″	AC-184	BC-184
90″	AS-190	BS-190	90″	AC-190	BC-190
96″	AS-196	BS-196	96″	AC-196	BC-196

ONE-PIECE MONEL TAPERED TUBULAR ROD

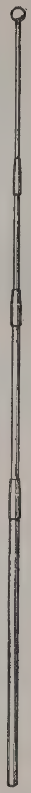
In order to provide a "whip" type Antenna of unusually light weight, extreme flexibility and the ability to withstand severe climatic and corrosive conditions, Premax has developed a one-piece tubular, tapered Monel Rod.

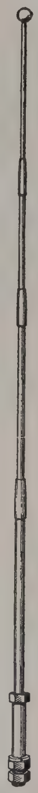
This consists of cold-drawn monel tubing with four graduations . . . the base section being from 36″ to 48″ long by ¼″ in diameter; the second portion 16″ long by 13/64″ diameter; the third portion 16″ long by 5/32″ diameter and top portion 16″ long by 7/64″ diameter. The finish is polished chrome plate which gives added protection. Will fit all standard type Premax Mountings except Type G or N.

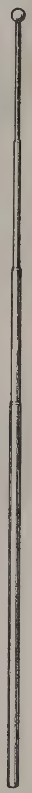
Amateur and commercial users will find these Antennas admirably suited for use as Dipoles where corrosion resistance is important.

SPECIFICATIONS—MONEL TUBULAR RODS

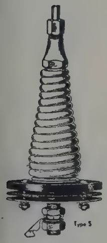
No.	Length	Base	No.	Length	Base	No.	Length	Base
MP-372	6′	¼″	MP-384	7′	¼″	MP-396	8′	¼″


Type A


Type B


1-Pc. Monel

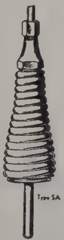
MOBILE TYPE MOUNTS



Type S

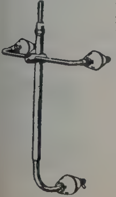
Premax Mountings for Police and other mobile type antenna installations have been designed to meet the need for sturdy, dependable, low-cost mountings that will withstand the shocks and jolts which are unavoidable in any installation of a mobile character. These Mountings are particularly adapted to use with "whip" antennas on police cars, utility and service vehicles where the shock of rough terrain demands the utmost in flexibility of the antenna.

TYPE S—Spring Mounting is primarily designed for auto roof-top installation or for use on any other flat surface. A special plastic insulating disc is part of the base of the Mounting. This is held to the flat surface by means of four bolts and a leak-proof insulation is secured by use of a rubber gasket and steel backing plate. A lug is attached to the 7/16″ lead-in stud for wire connection. This Mounting will take any Premax Type A Antenna. A retaining nut and tapered split bushing lock the antenna securely in the top socket and yet permit easy removal when necessary. The fittings are of solid brass, electroplated and will not corrode. The spring is of heavy tempered steel, electroplated for weather-resistance. Overall height of Mounting is about 5″; diameter of insulator disc about 3″. Comes complete with rubber gasket, steel backplate, lead-in lug and necessary mounting screws.

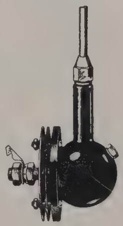


Type SA

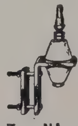
TYPE SA—Spring Adapter Mounting is similar in all details to Type S above, except that in place of the insulator disc it is equipped with an adapter stud and tapped base plug to fit any Premax Type K, L, NA, R or TA Mounting. These types of standard mountings may thus be quickly converted to a spring type by removing the clamping nut at the top and replacing with the Type SA Spring Mounting which is threaded to fit. The special stud extends into the mounting tube to give extra strength and support at the threaded end. The Type SA Mounting will take any Premax Style A Antenna. The overall height is about 4¾″ and the base diameter of the spring is about 1⅝″.


Type TA

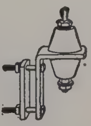
TYPE TA for attaching Style A Rod to trunk or car body. Lower support is solid brass rod securely joined to 12″ brass tube carrying antenna. Upper mounting assemblies to fit contour. Insulators are high-tension, white-glazed ceramic cones. Antenna tube provides maximum 10″ adjustment in antenna height. All metal parts heavily plated.


Type R

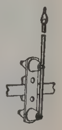
TYPE R Universal Mount; attaches to any surface and adjustable to any angle. Solid brass, black baked finish. Split sleeve antenna locking clamp. Fits Style A Rods. Complete with insulator disc, rubber gasket, steel backplate and necessary mounting screws.


Type NA

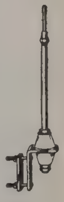
TYPE NA Adjustable Bumper Mount, same as Type N except locking nut and split sleeve permits removal of antenna. Fits Style A Rod.


Type N

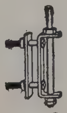
TYPE N Bumper Mount; cadmium plated steel with high tension ceramic cones. Fits Style B Rod.


Type L

TYPE L Adjustable Bumper Mount; similar to Type K in adjusting feature. Has 6″ spacing between insulators giving extra base support. Fits Style A Rod.


Type K

TYPE K Adjustable Bumper Mount; similar in design to Type NA but with longer socket tube which permits 10″ adjustment in height of Style A Rod.


Type G

TYPE G Grounded Bumper Mount; designed for Style B Rod.

PREMAX INSULATORS AND ACCESSORIES

BASE INSULATOR, TYPE 1—Heavy-duty type, employing wet-process, brown-glazed porcelain cones, held in compression for maximum strength. A Lapp design with compression rating up to 10,000 pounds. Height to top of cone 7″. Bolt circle 5¼″. Weight about 7 lbs. Complete with mounting bolts and nuts. In galvanized malleable iron or chrome-plated bronze.

Galv. No.	Bronze No.	Diamete Top Post	Fits Antennas
1PG-24*	1PB-24	3/4″	318-M, MM-425
1PG-26	1PB-26	13/16″	AL-324
1PG-30	1PB-30	15/16″	224-M, MM-430, MM-435, SM-725
1PG-34	1PB-34	1-1/16″	AL-530
1PG-41	1PB-41	1-9/32″	AL-535
1PG-44*	1PB-44*	1-3/8″	136-M

*—Can be used with adapters to fit other sizes of masts.

BASE INSULATOR TYPE 2—Light design for masts up to 18′ or longer lengths if guyed or supported with standoff insulators. Brown-glazed porcelain with galvanized malleable iron top post and base support cemented into insulator. Porcelain diameter 3¼″. Height to top of porcelain 6″. Flange diameter 3¼″. Weight 4 pounds. Furnished complete with necessary mounting bolts and nuts.

No.	Diameter Top Post	Fits Antennas
2P-24*	¾″	318-M, MM-425

*—Can be used with adapters to fit other sizes of masts.

ADAPTERS FOR BASE INSULATORS TYPES 1 and 2—Short lengths of cadmium plated steel tubing fitted with connection clamp to permit use of standard Type 1, 2 or 6 Base Insulators with other sizes of tubular masts.

No.	Used With Insulator No·	To Fit Antennas	Weight Each
A-20	1P-24, 2P-24, 6P24	MM-313 or ⅝″ O.D.	½ lb.
A-21	1P-24, 2P-24, 6P-24	112-M or 21/32″ O.D.	½ lb.
A-24	1P-24, 2P-24, 6P-24	AL-518, MM-419 or ¾″ O.D.	½ lb.
A-40	1P-44, 6P-44	AL-530, 130-M or 1¼″ O.D.	¾ lb.

BASE INSULATOR TYPE 6—For marine, mobile unit, tower platform, roof-top, etc. Simple to install, neat and compact. Lead-thru construction permits antenna connections below deck. General construction similar to Type 1. Flanges are 6″ diameter with six bolt holes on 5″ circle. Furnished with center stud and flange bolts for deck ½″ to 3″ thick. Total height above deck to base of post 4½″. Weight 11½ lbs.

Galv. No.	Bronze No.	Diameter Top Post	Fits Antennas
6PG-24*	6PB-24*	3/4″	318-M, MM-425
6PG-26	6PB-26	13/16″	AL-324
6PG-30	6PB-30	15/16″	224-M, MM-430, MM-425, SM-725
6PG-34	6PB-34	1-1/16″	AL-530
6PG-41	6PB-41	1-9/32″	AL-535
6PG-44*	6PB-44*	1-3/8″	136-M

*—Can be used with adapters to fit other sizes of masts.

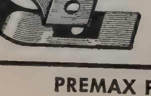
DECK BUSHING—Of brown-glazed porcelain cemented into hot galvanized malleable flange which bolts through rubber gasket to the deck or other surface. Provides additional support for antenna in lieu of guying.

No.	I.D.	Total Length	Above Deck	Flange Diameter	Weight Each
5D-24	¾″	6″	3″	4″	2 lbs.
5D-40	1¼″	8″	4¼″	4½″	3½ lbs.
5D-56	1¾″	8½″	4½″	5⅜″	4½ lbs.

WALL BRACKET—A heavy steel bracket designed for mounting Vertical Radiators on side walls, parapets or posts. Drilled to fit Premax Type 1 and Type 2 Base Insulators. Black baked enamel finish. Standoff Type 3, 4, 7 or 10 suggested for use with this mounting, in order to give additional support.

No.	Weight
WB-1	7 lbs.

BRONZE MOUNTING CLIPS—Formed bronze clips or clamps for mounting horizontal elements or vertical antennas on standard standoff insulators. Also used for connecting feed wires and transmission lines to antenna or elements. ¾″ wide, cadmium plated.



No.	Description
618C	Fits 1″ tube
113C	Fits ⅞″ tube
108C	Fits ¾″ tube

TYPE 10-S STANDOFF INSULATORS—A heavy, carefully engineered support specially developed for rugged military service. Chrome-plated bronze base and head caps cemented to brown-glazed, wet process porcelain insulator. Recommended for severe demands, especially commercial and marine. Weight each, about 2 lbs.

No.	Fits Tube Size	Height to Center
10S-28	7/8″	4-1/4″
10S-34	1 1/16″	4-1/4″
10S-40	1-1/4″	4-7/16″

TYPE 3 STANDOFF INSULATORS — For standoff support of vertical antennas, etc., or for use in pairs as complete mountings of vertical or horizontal elements. Galvanized or brass fittings attached to threaded studs cemented in brown-glazed porcelain body. Porcelain 3″ diameter. Height to top of porcelain 3″. Weight about 2 pounds each.

Type 3

TYPE 4 STANDOFF INSULATOR—Similar in design to Type 3 but with double clamp. Top clamp sizes available in same range as Type 3. Bottom clamp made to fit all standard pipe sizes from ¼″ to 3″. Available in galvanized or polished brass. State size of clamps desired, both top and bottom.

Type 4

Galvanized No.	Brass No.	Fits Tube O.D.
3SG-16	3SB-16	1/2″
3SG-20	3SB-20	5/8″
3SG-24	3SB-24	3/4″
3SG-28	3SB-28	7/8″
3SG-32	3SB-32	1″
3SG-34	3SB-34	1-1/16″
3SG-40	3SB-40	1-1/4″
3SG-42	3SB-42	1-5/16″
3SG-48	3SB-48	1-1/2″
3SG-52	3SB-52	1-5/8″

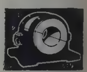
WALL MOUNT INSULATOR—Firm, serviceable side mounting which fastens securely to wall or post. Brown-glaze porcelain insulator similar to Type 2. Metal parts hot galvanized malleable iron. Standoff Insulator Type 3 or 4 suggested for use with this mounting.

No.	Post Diameter	Weight
2-WP	¾″	5 lbs.

TYPE 7 STANDOFF INSULATOR—A low-priced but substantial standoff mounting with wide application. Galvanized malleable iron frame enclosing white porcelain split bushing. Height 6″. Weight each, about 2½ lbs.

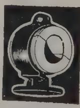
No.	Fits Tube O.D.
7S-20	⅝″
7S-24	¾″
7S-28	⅞″
7S-32	1″

TYPE 8-C INSULATED MOUNTING CLAMP—A better-than-ordinary insulated mounting support for horizontal elements, verticals, etc., in many of the new arrays. Galvanized malleable iron frame with white porcelain split bushing. Overall width 3½″. Weight each, about 1 pound.



No.	Fits Tube O.D.	No.	Fits Tube O.D.
8C-20	⅝″	8C-28	⅞″
8C-24	¾″	8C-32	1″

(Other sizes available to order)



TYPE 9-C INSULATED MOUNTING CLAMP — A simple, more compact mounting for horizontal elements, verticals, etc., as suggested for Type 8-C. Gray iron galvanized frame with white porcelain split center bushing. Height to center, 2″. Weight each, about 1 pound.

No.	Fits Tube O.D.
9C-20	⅝″
9C-24	¾″
9C-28	⅞″
9C-32	1″

TYPE 10-C INSULATED MOUNTING CLAMP—Similar to Type 9-C but with stamped steel electroplated frame. More compact, lighter in weight. Recommended for rotary beam and other dipole installations. Height to center 2″. Weight each, about ¾-pound.

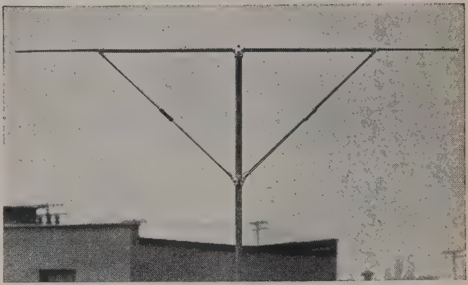
No.	Fits. Tube O.D.
10C-20	⅝″
10C-24	¾″
10C-28	⅞″
10C-32	1″

PREMAX PRODUCTS, DIVISION CHISHOLM-RYDER CO., INC., NIAGARA FALLS, N. Y.

PREMAX TELE AND FM ANTENNAS

Premax FM and Television Antenna No. FMT-150

Extended "V" Type with Dividers



Excellent response for all televis'on and FM bands, old and new. Patented feature provides the equivalent of two dipoles in one structure.

Novel "V" type design allows proper impedance matching to 300-ohm line.

Sturdy mechanical construction makes it easy to erect for home or apartment house use.

Simple design with pleasing appearance.

Requires less horizontal space than any other conventional dipole for the same frequency response.

For proper reception of both television and FM, a simple dipole will not suffice. Theoretically at least two dipoles should be used. This will require a more complicated structure and its higher cost may frighten the prospective purchaser of moderate means. It is for this reason that the Premax Antenna Extended "V" type Model FMT-150, was designed. Structurally, it looks like a single dipole, but electrically it is the equivalent of two dipoles. Again, its great simplicity of construction and its neat appearance, combined with its remarkable electrical characteristics, will appeal strongly to every owner desiring the utmost performance from his FM and Television instrument.

The Premax Model FMT-150 has two dipole arms, each one-quarter wave length long for the mean frequency in the lower television band. In each arm an ingenious patented device called a "dipole divider" is inserted to break up the electrical continuity of the dipole for certain frequency bands. These dividers are so designed that the dipole will function with its full arm length for the 44-88 mc. television band and the 88-108 mc. FM band, but will be restricted in length for the upper television band of 174-216 mc. due to the action of the dividers. Consequently, we have two dipoles combined in a single physical structure.

These "dividers" contain carefully designed electrical circuits (made under A.A.&K. patent No. 2282292) which are anti-resonant for 195 mc. and thus of "infinite" impedance at that frequency. In practice the impedance is well above 15,000 ohms at 195 mc. and several thousand ohms at any frequency within the 174-216 mc. band. The action of the dividers, therefore, is to effectively cut off for the 174-216 mc. band, all that portion of the dipole arm beyond the divider and hence there is no reduction in signal strength as compared with a simple dipole of about 14-inch arms designed solely for that band.

At the same time, for the lower television band of 44-88 mc., the reactance of the dividers is low compared with the impedance of the dipole and, therefore, they act as small inductances in series with the arms which makes it possible to use somewhat shorter arm lengths than would be calculated from theoretical considerations. For FM reception, the entire arm length is utilized. By this design, with the further advantage gained from the "V" arrangement of the elements (as explained in the description of Model FM-130), Model FMT-150 provides excellent response on both old and new FM bands. This feature will be recognized as an important consideration during the present transition period when both old and new FM frequencies will be utilized in many sections of the country and often provided for in the same receiver.

FEATURES

Dipole elements of seamless heat-treated aluminum tubing. Assembly fittings and connections are solid aluminum castings.

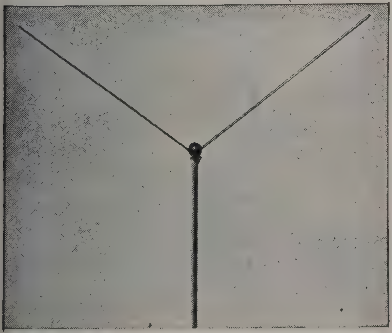
Support mast and cross arm, straight-grained, hardwood, varnished finish. Universal Mounting Bracket included. If installed on side wall or gable end without guying, two brackets are required. Packed partially assembled. Final assembly consists of a few simple operations in mounting elements and fittings to the support structure. Dipole Divider Coils furnished assembled in element arms as shown by diagram. These coils are electrically weatherproof and require no replacement. Entire assembly strongly constructed, well braced and compactly proportioned. Easy to install on any type of building and will adequately resist normal wind strains and other stresses. Should be guyed, unless mounted on side wall or chimney with double brackets or supports.

Shipped complete in single carton. Weight, each 4½ lbs.

ALSO ASK ABOUT MODEL No. FMT-254, WITHOUT DIVIDERS

Premax FM Universal Dipole Antenna Model No. FM-130

Adjustable "V" Type



Designed for maximum response for FM bands. Each dipole arm adjustable for any angle. Simple, lightweight design with pleasing appearance. Provides better FM reception than single dipole in congested city areas where signals are reflected from high buildings. Simple to erect and install. May be used with 100 to 300-ohm transmission line.

Where the FM reception band is the only object of the antenna design, a well-engineered simple dipole type may be found very effective. Premax Products has developed a novel dipole that can be very easily installed, and possesses the valuable feature that the two arms of the antenna can be set at any desired angle with respect to the horizontal, by means of a clamp nut, thereby affording an adjustment of the plane of polarization of the dipole for different angles of polarization of the electro-magnetic waves.

Television and FM transmitters emit horizontally polarized waves. However, near the receiving antenna, due to reflections from buildings and other structures, especially in large metropolitan areas, there is bound to be a vertical component in the incoming waves which, when combined with the horizontal component, will raise the angle of polarization somewhat above the horizontal plane. Therefore, the receiving dipole may have to be tilted at an angle for best reception. The simplicity of the Premax "V" dipole antenna, Model No. FM-130, its low cost and all-around efficiency will, therefore, be appreciated by every owner of an FM receiver.

FEATURES

30" dipole arms of heat-treated aluminum solidly mounted in black phenolic insulator discs. Wire terminals provided for lead-in connections. Supplied with 50-inch tubular steel support mast finished in baked aluminum enamel, and universal mounting bracket. Dipole arms pivoted on support mast, permitting any desired angular adjustment. Arms may be securely locked, in horizontal plane, or at any angle against accidental loosening due to vibration or wind strains. Adjustment to an angle from 35 to 45 degrees above horizontal plane will generally be found most responsive setting.

Packed complete in single cartons. Weight, each 3½ lbs.

PREMAX PRODUCTS, DIVISION CHISHOLM-RYDER CO., INC., NIAGARA FALLS, N. Y.

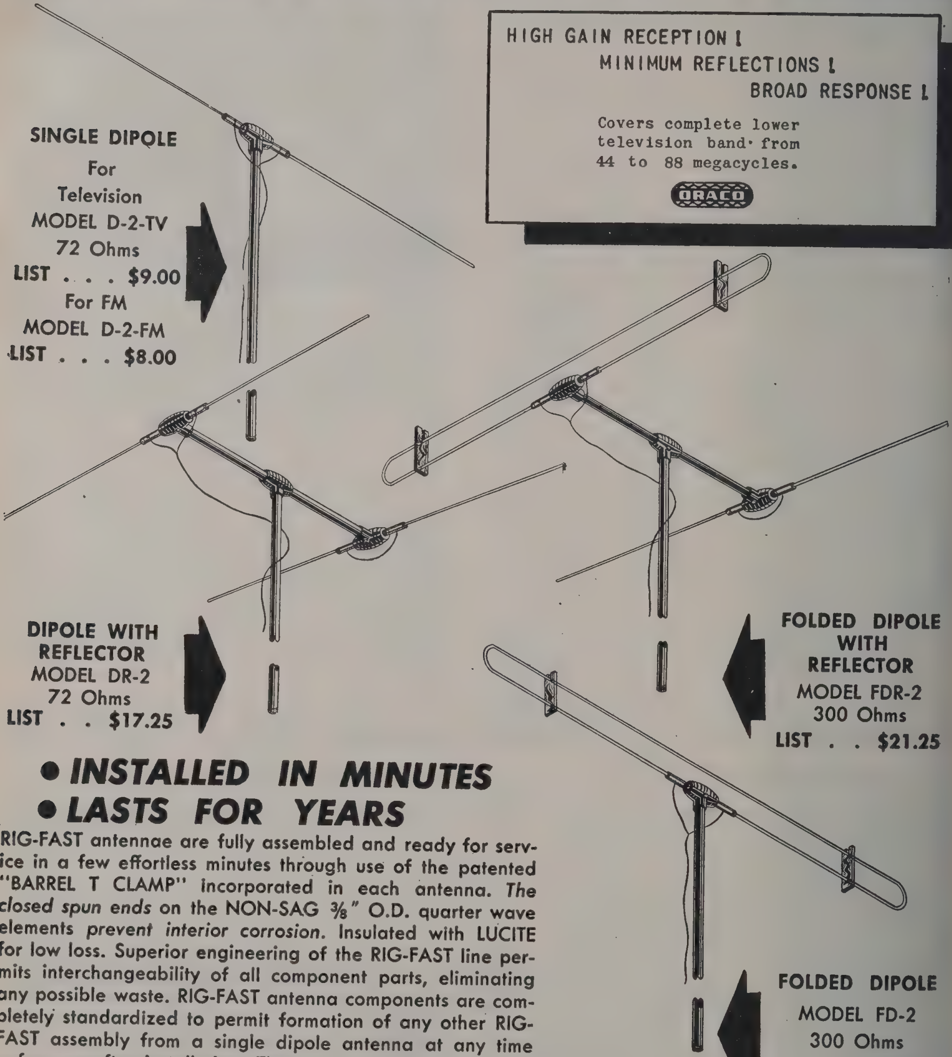
ORACO **'Rig-Fast'** ORACO

THE ALL ALUMINUM TELEVISION AND FM ANTENNAE

HIGH GAIN RECEPTION!
MINIMUM REFLECTIONS!
BROAD RESPONSE!

Covers complete lower television band from 44 to 88 megacycles.

ORACO



SINGLE DIPOLE
For
Television
MODEL D-2-TV
72 Ohms
LIST . . . $9.00
For FM
MODEL D-2-FM
LIST . . . $8.00

DIPOLE WITH REFLECTOR
MODEL DR-2
72 Ohms
LIST . . $17.25

FOLDED DIPOLE WITH REFLECTOR
MODEL FDR-2
300 Ohms
LIST . . $21.25

FOLDED DIPOLE
MODEL FD-2
300 Ohms
LIST . . $13.00

- ***INSTALLED IN MINUTES***
- ***LASTS FOR YEARS***

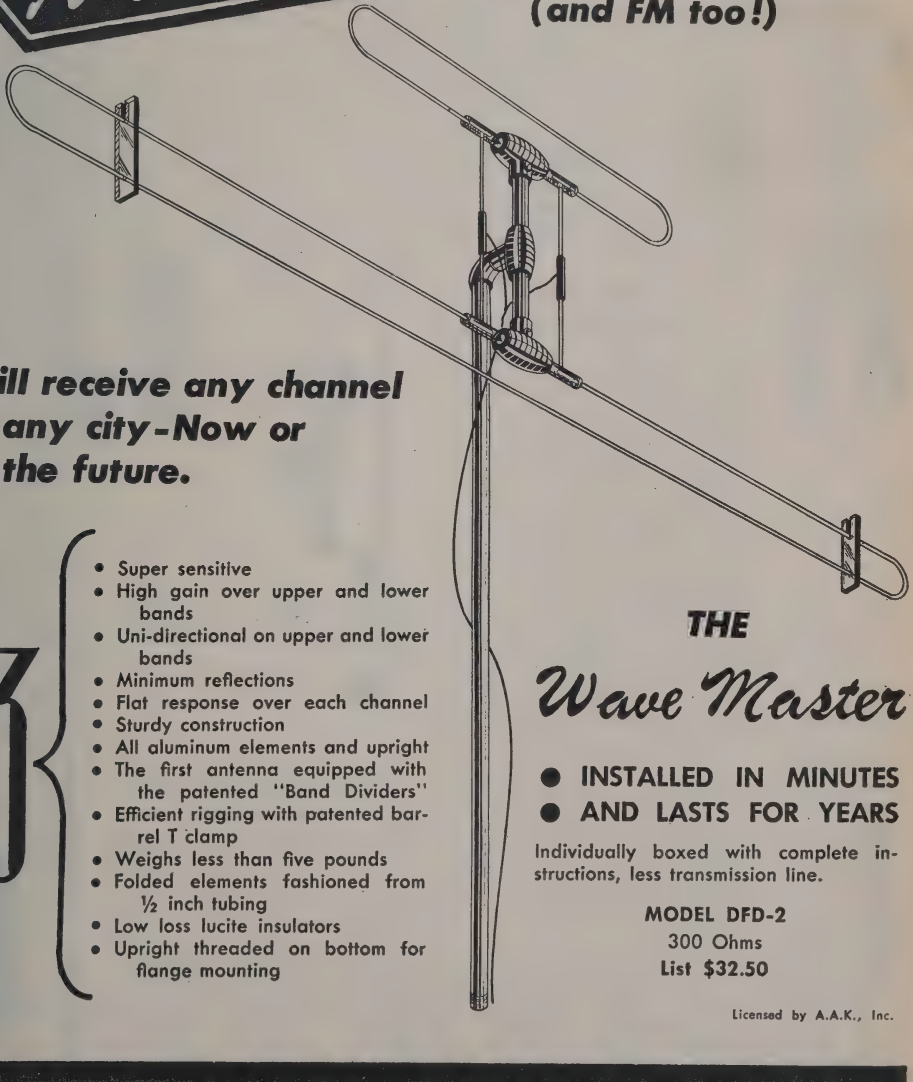
RIG-FAST antennae are fully assembled and ready for service in a few effortless minutes through use of the patented "BARREL T CLAMP" incorporated in each antenna. *The closed spun ends* on the NON-SAG ⅜" O.D. quarter wave elements *prevent interior corrosion.* Insulated with LUCITE for low loss. Superior engineering of the RIG-FAST line permits interchangeability of all component parts, eliminating any possible waste. RIG-FAST antenna components are completely standardized to permit formation of any other RIG-FAST assembly from a single dipole antenna at any time before or after installation. The 5 ft. upright is fashioned from durable ¾" O.D. aluminum and is threaded on the bottom to permit threading into a mounting flange or into an extension upright. Boxed singly with instr.—Less trans. line.

OAK RIDGE ANTENNA CO.,
717 Second Avenue, N. Y. C. 16,

ORACO 'Rig-Fast' ORACO

At Last!

ALL 13 CHANNELS ON ONE TELEVISION ANTENNA!
(and FM too!)



Will receive any channel in any city–Now or in the future.

13

- Super sensitive
- High gain over upper and lower bands
- Uni-directional on upper and lower bands
- Minimum reflections
- Flat response over each channel
- Sturdy construction
- All aluminum elements and upright
- The first antenna equipped with the patented "Band Dividers"
- Efficient rigging with patented barrel T clamp
- Weighs less than five pounds
- Folded elements fashioned from ½ inch tubing
- Low loss lucite insulators
- Upright threaded on bottom for flange mounting

THE

Wave Master

- **INSTALLED IN MINUTES**
- **AND LASTS FOR YEARS**

Individually boxed with complete instructions, less transmission line.

MODEL DFD-2
300 Ohms
List $32.50

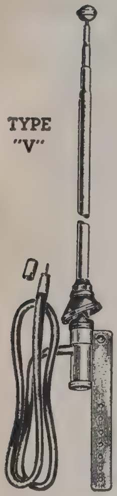
Licensed by A.A.K., Inc.

OAK RIDGE ANTENNA CO.,
717 Second Avenue, N. Y. C. 16.

RADIART AERIALS

"DELUXE V"
Vertical Mount

TYPE "V"



Vertical mount for top of cowl or fender.

Specially designed insulators permit easy fitting to body curvature. When collapsed extends 19" above mounting surface. Complete with 40" Radiart "Plasti-loom" waterproof lead, Radiart Deluxe Aerial Rod and "Static Muffler Ball." 10" extension lead LA-19 available as accessory for special installations requiring extra-long lead.

Special Model 358V2 (not illustrated) for Chevrolet and other small General Motors Bodies—a "natural" for replacement of automatic or manual original equipment aerials. Furnished with 36" Radiant "Plasti-loom" lead.

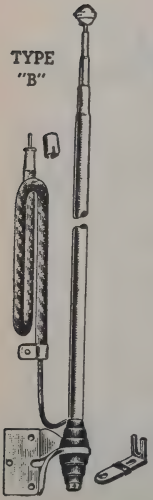
"DELUXE CF"
Two Insulator Mount

Popular two-stanchion model for cowl or fender mounting will fit most surfaces—curved or straight—with insulators and wedge adapter furnished. Available as accessory for special installations—long 5° insulator and eyebolt—SA-68 for 3-section and SA-72 for 4-section aerial.

Complete with 40" Radiart "Plasti-loom" lead, Radiart Deluxe Aerial Rod and "Static Muffler Ball." 10" extension lead LA-19 or 50" waterproof lead LA-21 available as accessories.

"B"
Underhood Bracket Mount

TYPE "B"



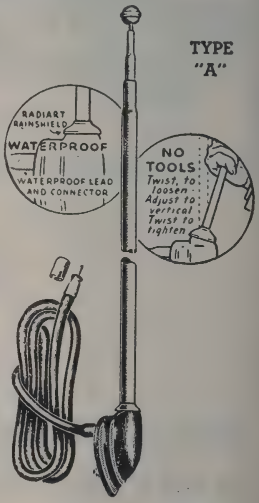
Popular underhood mounting aerial. Requires no holes in finished surface of the car body. Furnished with two brackets enabling mounting on most cars with either side or front opening hoods. Also available as accessories are AHP-35 bracket for Ford, Mercury and certain General Motors bodies, and AHP-36 for certain late-model cars requiring an off-set bracket. Complete with 36" Radiart "Plastic-loom" lead, Radiart DeLuxe Aerial Rod and "Static Muffler Ball."

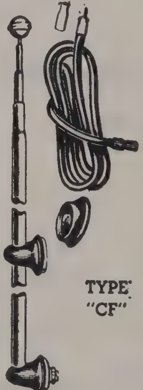
"DELUXE A"
Adjustable Angle Single Insulator Mount

Fits either cowl or side of fender. Simplified one-man installation. Easily adjusted to all angles without tools.

Complete with 40" Radiart "Plasti - loom" waterproof lead, Radiart Deluxe Aerial Rod and "Static Muffler Ball." Available as accessories for special installations requiring extra-long leads . . . 50" waterproof lead LA-21 or 10" extension lead LA-19.

TYPE "A"



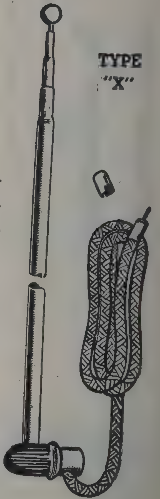


TYPE "CF"

"X"
Standard Cowl Mount

One-hole single insulator mounting for straight side cowls. Easy installation with only one mounting hole, yet will not twist out of position. Radiart "Deluxe" Aerial Rod with Plastic Ball and 30" shielded lead.

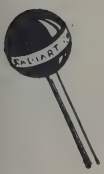
TYPE "X"



Type	Model Number	List Price	No. of Sections	Length inches	Ship. Wght. Each	Ship. Wght. 10 Aerials in Master Ctn.
"A"	363A1	$5.45	3	24 to 63	1 lb. 2 oz.	12 lbs. 10 oz.
"B"	363B1	4.45	3	24 to 63	1 lb. 3 oz.	13 lbs. 4 oz.
"CF"	363CF1	4.95	3	24 to 63	1 lb. 5 oz.	14 lbs. 8 oz.
	392CF1	5.95	3	37 to 92	1 lb. 7 oz.	15 lbs. 12 oz.
	4102CF1	6.95	4	29 to 102	1 lb. 11 oz.	18 lbs. 4 oz.
"V"	358V1	5.95	3	19 to 58	1 lb. 5 oz.	14 lbs. 8 oz.
(Special G. M.)	358V2	5.95	3	19 to 58	1 lb. 5 oz.	14 lbs. 8 oz.
"X"	360X1	3.95	3	22 to 60	1 lb. 2 oz.	12 lbs. 10 oz.

RADIART AERIALS

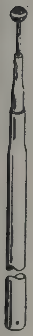
OUTSTANDING FEATURES OF
RADIART "Standard of Comparison" AERIALS



RADIART "STATIC MUFFLER BALL"

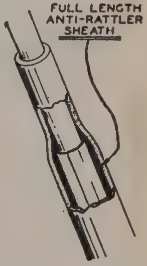
A pre-war advantage featured only by Radiart. Designed specifically to minimize disturbing static noises caused by corona discharge on the tip of the rod.

RADIART DELUXE AERIAL ROD



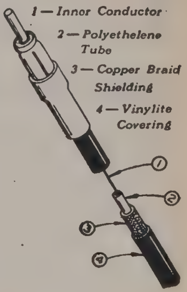
The finest auto aerial rod assembly ever offered by anyone. Top rod of stainless steel. Tubing of extra heavy wall thickness "ANTIMONIAL ADMIRALTY BRASS." Admiralty Brass, first introduced by Radiart, has maximum load limit consistent with extremes in flexibilty, BUT ONLY if heavy wall thickness is maintained. With ANTIMONY added, permanent nonpeeling plating is assured, and the inner tube surface is protected against corrosion by high humidity and salt air. All tubing sections are protected by the famous pre-war Radiart plating consisting of copper, then nickel and finally a heavy coating of chromium. Just another reason why Radiart Aerials are "The Standard of Comparison."

RADIART PERMANENT "ALL METAL ANTI-RATTLER"



Another famous Radiart patented feature. Carefully preformed phosphor bronze anti-rattler strips securely anchored by means of high-frequency welding reduces mechanical rattle to a minimum. It also contributes to high conductivity between sections and provides for smooth and quiet operation. This anti-rattler eliminates grease packing—insures operation during temperature extremes while maintaining lowest possible contact resistance—and prevents any danger of soiling hands or clothing.

RADIART "PLASTI-LOOM" LEAD

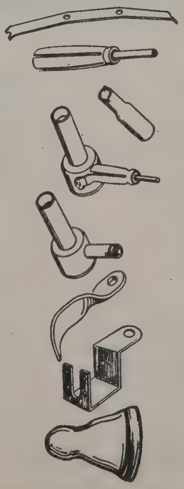


The Radiart "Plasti-Loom" lead represents the greatest scientific advance in lead construction—provides for the first time a lead which is impervious to moisture—so low in capacity and so high in "Q" that the maximum in signal transfer efficiency is accomplished. The conductor is suspended in a polythelene tube. This tubing is covered with a special tape wrap and then with a closely woven copper braid shield over which is applied an extruded coating of abrasion resistant vinylite. Each lead is fitted with a single-pin (Motorola style) connector and is furnished complete with a bayonet (Delco or Philco) style adaptor.

LEADS, FITTINGS, ADAPTORS

LEADS

Part No.	List Price	Description
LA-2	$1.50	Replacement lead for "B" type aerial.
LA-5	1.40	Replacement lead for "X" type aerial.
LA-7	1.35	20" Extension lead, male and female pin connectors.
LA-8	1.20	8" Extension lead, female pin to male bayonet connectors.
LA-9	1.35	20" Extension lead, female pin to male bayonet connectors.
LA-16	2.15	40" Radiart "Plasti-loom" replacement lead for "A" and "CF" types.
LA-19	1.25	10" Extension lead, male and female pin connectors.
LA-21	2.45	50" Radiart "Plasti-loom" waterproof lead for "A" and "CF" types for use where an extra-long one piece lead is required.

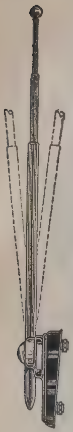


ADAPTORS and FITTINGS

Part No.	List Price	Description
AK-1	$0.12	Hood grounding clip complete with Parker-Kalon screws.
AK-2	.20	Single pin, solder on connector.
AK-3	.10	Adaptor, single pin to male bayonet.
AK-4	.65	Angle adaptor with built-in booster coil. Single pin socket to single pin male connector.
AK-5	.65	Same as AK-4 except male bayonet output connector.
AHP-35	.25	Bracket for adapting "B" aerials to Ford, Mercury, etc.
AHP-36	.25	Bracket for adapting "B" aerials to cars requiring off-set bracket.
SA-68	.45	Long 5° insulator and eyebolt for "CF" type 3-section aerial 363CF1 and 392CF1 for special installations on deeply curved surfaces.
SA-72	.50	Same as SA-68 for "CF" type 4-section aerial 4102CF1.

RAD-EL-CO AERIALS

ADJUSTABLE SIDE COWL *Do-All* AERIAL

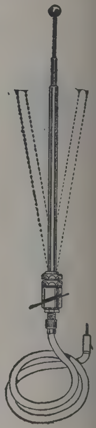


An improved aerial for side mounting on either sloping or vertical body surfaces of cowl or fender. Two hole mounting through ½″ holes. Mast swing of 35° to match body angle. Locks securely and simply with set screws. Complete with 36″ Radar type polyethylene coaxial lead cable and bayonet adapter.

THREE SECTION — 30″ to 72″

Model	List	Dealer Net	Ship. Wt.
DA-3	**$5.45**	**$3.27**	**1⅓ lbs.**

TOP COWL - TOP FENDER *Roto-Lok* AERIAL



A dual purpose model for mounting in either top cowl or top fender position. Featuring Roto-Lok design which permits mast adjustment of 25° in any direction. No brackets and braces necessary. Half inch mounting hole. For all new or replacement installations. With 48″ Radar coaxial screw on lead cable and bayonet adapter.

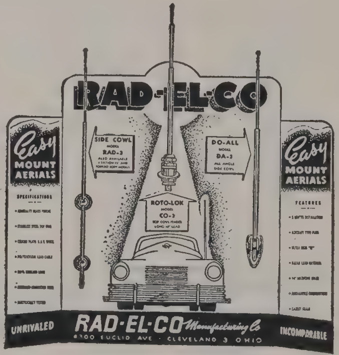
THREE SECTION — 23″ to 57″

Model	List	Dealer Net	Ship. Wt.
CO-3	**$5.95**	**$3.57**	**1¼ lbs.**

RADAR LEAD CABLES

Radar type ultra high "Q" coaxial cables with polyethylene insulation and 100% shielding. Type L has aircraft connector to aerial, pin plug and bayonet adapter. Extension type LE has male and female pin plug fittings.

Model	List	Dealer Net	Length	Ship. Wt.
LE-12	**$0.75**	**$0.45**	**12″**	**2 oz.**
LE-24	**1.10**	**.66**	**24″**	**3 oz.**
L-36	**1.50**	**.90**	**36″**	**4 oz.**
L-48	**1.75**	**1.05**	**48″**	**5 oz.**
L-60	**2.00**	**1.20**	**60″**	**6 oz.**

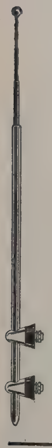


DISPLAY STAND

Stands are beautifully lithographed in four colors on heavy board. Aerials are factory mounted to best show graceful lines and gleaming chrome. Only cost is for aerials. Model DB-31 mounts RAD-3, CO-3, DA-3. Model DB-32 mounts RAD-4, CO-3, DA-3.

Model	List	Dealer Net	Wt.
DB-31	**$16.35**	**$ 9.81**	**5 lbs.**
DB-32	**17.35**	**10.41**	**5 lbs.**

STRAIGHT COWL AERIALS



For installation on vertical surfaces of cowl or fender. New design replaces shield cans with aircraft type connectors. One half inch mounting holes. Radar type 36″ coaxial lead cable and bayonet adapter.

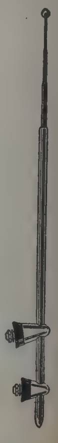
THREE SECTION — 27″ to 70″

Model	List	Dealer Net	Ship. Wt.
RAD-3	**$4.95**	**$2.97**	**1 lb.**

FOUR SECTION — 29″ to 92″

Model	List	Dealer Net	Ship. Wt.
RAD-4	**$5.95**	**$3.57**	**1⅓ lbs.**

TORPEDO COWL AERIALS



For installation on sloping surfaces of cowl or fender. Comes completely assembled. Eliminates time consuming conversions from straight cowl type. Radar type 36″ coaxial lead cable and bayonet adapter.

THREE SECTION — 27″ to 70″

Model	List	Dealer Net	Ship. Wt.
EL-3	**$4.95**	**$2.97**	**1 lb.**

FOUR SECTION — 29″ to 92″

Model	List	Dealer Net	Ship. Wt.
EL-4	**$5.95**	**$3.57**	**1⅓ lbs.**

Printed in U. S. A.

SHUR-ANTENNA-MOUNT, INC.

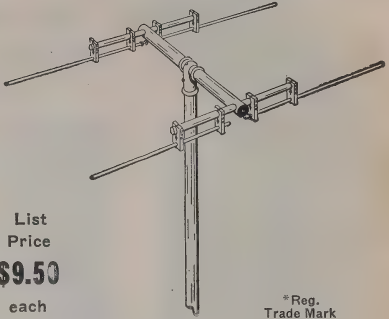
EASTERN DIVISION
SEA CLIFF, N. Y.

*INTERCEPTOR

FM—Television—Amateur

Here is the ideal FM, television, and high frequency amateur antenna, which makes possible good induced signal voltage under the most undesirable conditions. Shur engineers have developed the Interceptor with all tunable factors easily and simply adjustable. Each model is marked for the middle of its band and may be tuned with simple screw adjustments. Director, polarization, orientation, front-to-back ratio, reception pattern; in short all factors are adjustable. Shipped completely knocked down in compact container, with full instructions, complete with 6 ft. weather treated and wind tested wood mast. Wood will not affect line impedance. Can be used as a transmitting antenna. Easily mounted anywhere with the MC Mount shown below.

Model I-98—FM.
Model I-62—Television.
Model I-52—6-meter Amateur.
Model I-146—2-meter Amateur.

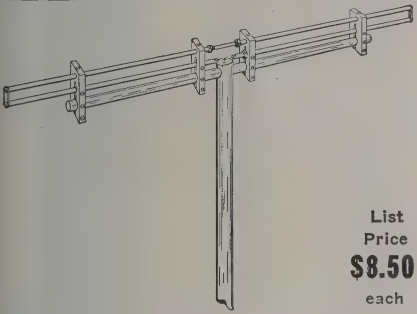


List Price **$9.50** each

*Reg. Trade Mark

FOLDED INTERCEPTOR

A Broad Response Antenna



List Price **$8.50** each

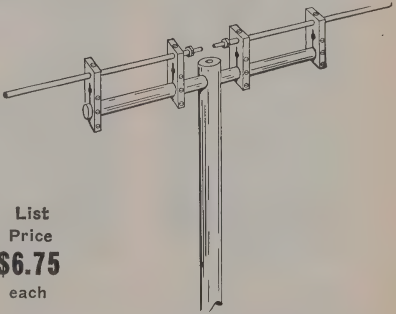
Gives good gain and essentially flat response over the entire band. This antenna is desirable when signals can be received from opposite directions as it is bi-directional. It is simple, light, and easy to install. Insulated with low loss Synthane. Has dural elements. Simple screw adjustments for tuning elements. Excellent match for 300 ohm line. Compactly packed with 6 ft. treated wood mast and full instructions. Use MC Mount for installing.

Model FI-98—FM.
Model FI-62—Television.
Model FI-52—6-meter Amateur.
Model FI-146—2-meter Amateur.

DIPOLE

This dipole antenna is easily tunable with its unique screw lead-in connectors and its low loss Synthane insulators. The light weight non-sagging elements are of dural. Lead-in connectors are marked so that they may readily be set to the middle of the band. Assembly and adjustments can be made before the dipole is taken to the roof. The whole assembly is light and easy to handle. The 6 ft. mast is hardwood, birch or maple, and will not affect line impedance. The mast is fully weather treated and wind tunnel tested. Compactly packed with complete instructions, less transmission line. Use the MC Mount for easy installation anywhere.

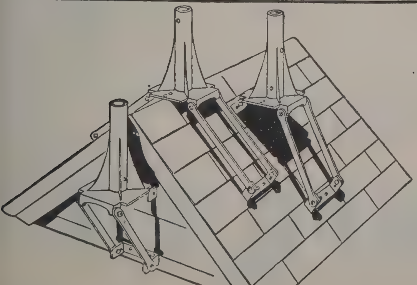
Model D-98—FM.
Model D-62—Television.
Model D-52—6-meter Amateur.
Model D-146—2-meter Amateur.



List Price **$6.75** each

ANTENNA MOUNT

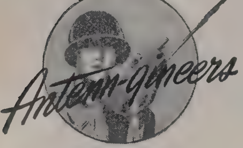
Universal—Cast Aluminum



The Shur-Antenna-Mount can be installed on any roof surface of any pitch, can straddle the peak of any roof, or can be mounted on any vertical or flat surface. Three typical installations are shown here. It weighs only 1¾ lbs., being cast aluminum, and will sustain the weight of any fixed standard FM or television antenna. Furnished with complete set of hardware to take care of any style of installation. Will accommodate 1¼ inch or 1⅛ inch mast. This is an exceptionally convenient and permanent mount. Packed with full instructions.

Model MC .... List Price **$8.75**

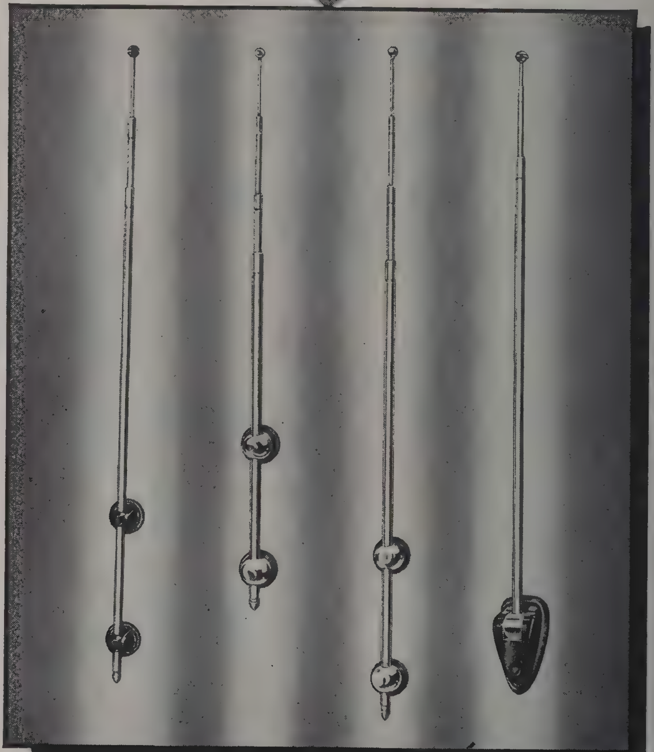
SNYDER AUTO RADIO *Antennas*



FEATURING . . .

Admiralty Brass! Triple Chrome Plate!
Rattleproof Construction! Easy Installation!
UHF Polyethylene Shielded Cable!

The Ad-traction—Side Cowl Type. Mirror finish aluminum. 3 sections extending to 66 ins. Plastic static ball. Tenite stand-off insulators. Includes plain insulated wire lead-in.
C-3A . . . $1.95



The Standard Cowl—Cowl Type. 3 sections extending to 66 ins. Tenite static ball and stand-off insulators.
C-3L . . . $3.25

The "Little Giant" Cowl—Cowl Type. 4 sections extending from 22 ins. (closed) to 66 ins. (extended). Chrome static ball—stainless steel capped Bakelite stand-off insulators.
C-43 . . . $3.95

The Big Boy—Heavy Duty Cowl Type. 4 sections extending to 96 ins. Chrome static ball. Stainless steel capped Bakelite stand-off insulators.
C-4 . . . . $4.95

The Swing Angle—Adjustable Cowl-Fender Type. Takes all body contours to a 20° angle. 3 sections extending to 66 ins. One-piece solid Bakelite base. Tenite static ball.
B-3 . . . . $3.75

High quality UHF Polyethylene shielded cable with universal adapter and shielding cup with cap for permanent installation, included on all models except C-3A.

ANTENN-GINEERED*

- All Antennas Individually Boxed
- 25 To Master Carton

*Copyright 1946

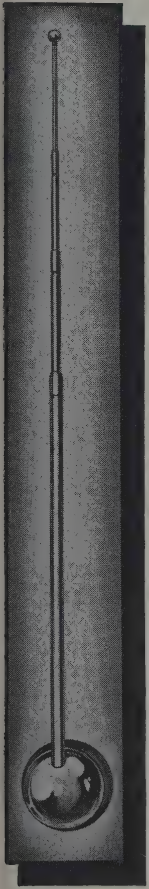
by SNYDER MFG. CO.

MANUFACTURERS . . . START TO FINISH

PHILADELPHIA 40, U. S. A.

SNYDER AUTO RADIO *Antennas*

OUTSTANDING PLUS FEATURES



√ *TOP-QUALITY MATERIALS*

Admiralty brass tubing for rigidity, with top section of 18-8 stainless steel.

√ *DURABLE FINISH*

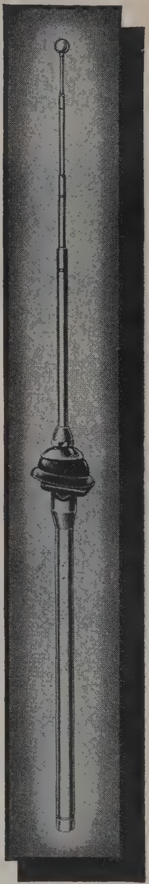
Triple chrome plated to manufacturer's specifications.

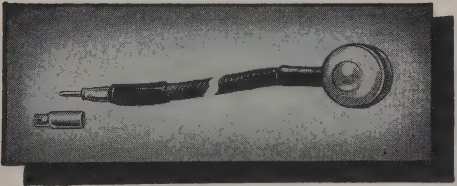
√ *RATTLE-PROOF CONSTRUCTION*

Covered by U. S. Patent No. 2217188 other Patents Pending.

√ *QUICK, EASY INSTALLATION*

A one man job.





The Hemisphere
New swing angle type. Adjustable to all cowl or fender contours. Four sections extending from 22 ins. (closed) to base. Chrome static ball.
S-43 . . . . $5.25

High quality UHF Polyethylene shielded cable with universal adapter and shielding cup with cap for permanent installation. Included on all models except C-3A.

LL—36 inches long . . . . List Price $1.10
LL-2—48 inches long . . . List Price $1.50
Packed 100 to a carton

The Cosmopolitan
New Fender-Topcowl Type for concealed installation. Self-aligning 30° adjustment for all body contours. Four sections extending from 8 inches (closed) to 55 inches (extended) above mounting point. Waterproof and permanently rigid (pat. pending) installation. Aircraft type lead-in coupling.
FC-4 . . . . $6.95

ANTENN-GINEERED*

- All Antennas Individually Boxed
- 25 To Master Carton

*Copyright.1946

by

SNYDER MFG. CO.

MANUFACTURERS . . . START TO FINISH

PHILADELPHIA 40, U. S. A.

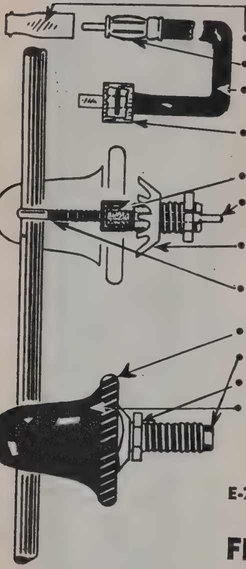
Spirling 1947 NEW... PERMA-TENSION

PAT. PENDING

TELESCOPING

AUTO RADIO ANTENNAE

In Antennae its "SPIRLING"— In Silver its "Sterling"

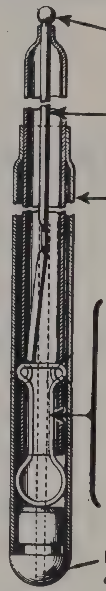


SIDE COWL MOUNTING

- Delco adapter supplied
- Motorola plug
- Low loss extra long Polyethylene coaxial Hi Q cable
- Plug-in cable fitting with lock washer—cannot loosen
- Pressed bakelite insulation
- Contact pin making perfect contact with cable
- Sharp toothed lock washer assures perfect grounding
- Straight eyebolt—direct positive contact from rod to cable
- Rubber form fitting cushions
- Shielding cup to eliminate noise
- Special fine thread hex nut
- Beautiful streamlined insulators

"PERMA-TENSION"
TELESCOPING ROD
E-Z ONE MAN INSTALLATION
Cable will fit all models.

FREE Three color 18" x 24" display card for mounting 4 antennae.



Colored static discharge ball—small and neat appearing

Stainless steel, precision ground top section—cannot rust

Durable Admiralty Brass—Copper—nickel and brite chrome finish; rust-proof

PATENTED "PERMA-TENSION" CONSTRUCTION.

A. Provides positive electrical contact

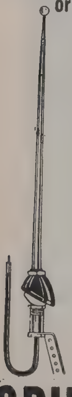
B. Smooth non-stick rods, guarantees perfect telescoping for life of car

C. Patented "Perma-Tension" guarantees against rattling

Hole in bottom of plug for perfect drainage

MODEL UMC 3

Streamlined Upper Mount Top Cowl or Fender Antennae



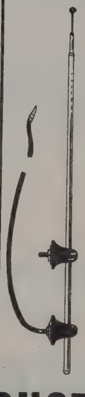
Perma-Tension Telescoping, self-aligning rocker which insures a snug fit with either flat or convex surface with a wide variation of angle. Easily installed, waterproof, Vinyl-Plasticized, Polyethylene, Lo-Loss shielded coaxial Cable. Individually packed in carton.

Three sections, extending 25" to 66".

List Price **$6.95**

SIDE COWL ANTENNAE

Perma-Tension Telescoping



Model SC-366
Extends from 25" to 66"
List Price **$4.95**

Model SC-396
Extends from 35" to 96"
List Price **$5.95**

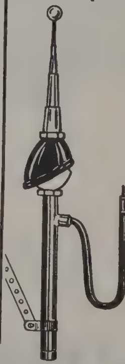
Model SC-460
Extends from 20" to 60"
List Price **$5.45**

Model SC-480
Extends from 25" to 80"
List Price **$6.45**

Model SC-4100
Extends from 30" to 100"
List Price **$7.45**

MODEL DFC 4

Streamlined Concealed Fender or Top Cowl Mount Antennae



Perma-Tension Telescoping, self-aligning rocker which insures a snug fit with either flat or convex surface. Easily installed, WATERPROOF, VINYL - PLASTICIZED, Polyethylene, Lo-Loss shielded Hi-Q coaxial cable. Individually packed in carton.

Four sections, showing only 3" when closed. Extending to 60".

List Price **$8.45**

SPIRLING PRODUCTS CO., INC. New York City

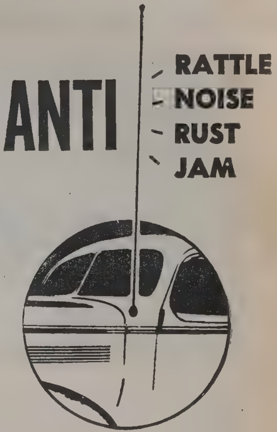
NOISELESS...RATTLE-PROOF...RUST-PROOF...DURABLE

SPECIAL PRODUCTS COMPANY
speco
SILVER SPRING, MARYLAND

We Are National Distributors for Nationally Known

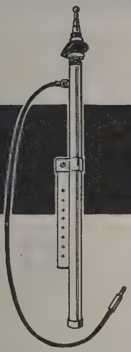
New Improved Pur-a-tone*

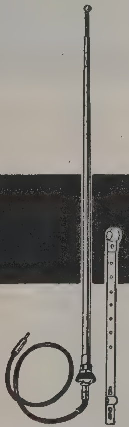
AUTO RADIO BRACH ANTENNAS

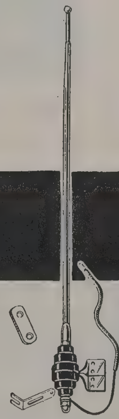


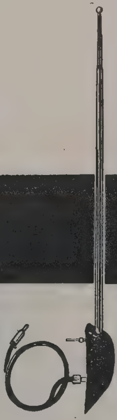
Brach Antennas, improved in design and streamlined for lustrous beauty, have smooth-sliding telescopic joints and patented contacts that prevent vibration. The scientifically tapered, heavily chrome plated, antimonial-admiralty brass tubing prevents moisture and dust from entering tubes. Special Brach features prevent jamming. All are equipped with stainless steel spring-type rods of high tensile, flexible strength . . . with unbreakable static discharge balls, and high Q-H.F. low loss poly ethylene air-gap type shielded cables to prevent noise pickup. Brach Antennas are noted for their easy and permanent installation.

**Reg. U. S. Pat. Off.*









FENDER WELL ANTENNA
MODEL FW-4801-5

Fully enclosed; protects against dust and dirt. Disappearing fender well antenna, 60″ length in four sections. Furnished with hex nut, pad, rocker, lockwasher and 48 $\frac{1}{16}$″ coaxial cable. Shipping weight, 16 lbs. per carton of 10 individually boxed antennas.

Model FW-4801-5
List Price $7.95

COWL WELL ANTENNA
MODEL CW-3602-4

Three sections, 60″ length with 43½″ of coaxial cable. Complete with necessary mounting accessories. Shipping wt., 12 lbs. per carton of 10 individually boxed antennas.

Model CW-3602-4
List Price $6.25

DE LUXE UNIVERSAL MOUNT ANTENNA

Designed for three different mountings: Alligator Hood, Side Cowl or Hinge Whip. Complete with 48 $\frac{1}{16}$″ coaxial cable and necessary mounting accessories.

Model CB-2521-2
Size 52″. Wgt. per carton of 10, 11 lbs.
List Price $4.75

Model CB-3601-2
Size 60″. Wgt. per carton of 10, 12 lbs.
List Price $4.95

ADJUSTABLE SIDE COWL

Adjustable to fit contour of car body. Complete with special mounting pad, 48 $\frac{1}{16}$″ coaxial cable and necessary mounting accessories.

Model SC-3622-3
Size 62″. Wgt. per carton of 10, 11 lbs.
List Price $5.45

Model SC-4802-3
Size 80″. Wgt. per carton of 10, 12 lbs.
List Price $6.25

Model SC-41102-3
Size 110″. Wgt. per carton of 10, 13 lbs.
List Price $6.95

SIDE COWL ANTENNAS

Two stanchion side cowl model with 38 $\frac{1}{16}$″ coaxial cable and necessary mounting accessories. Includes special pad for installation on bodies with large cowl contour.

Model SC-3621-1
Size 62″. Wgt. per carton of 10, 11 lbs.
List Price $4.95

Model SC-4801-1
Size 80″. Wgt. per carton of 10, 12 lbs.
List Price $6.25

Model SC-41101-1
Size 110″. Wgt. per carton of 10, 13 lbs.
List Price $6.95

EVERY BRACH ANTENNA Is Complete With Necessary Mounting Accessories and Installation Instructions.

SPECIAL PRODUCTS COMPANY

9115 BROOKVILLE ROAD, SILVER SPRING, MD., P. O. BOX 471

SPECIAL PRODUCTS COMPANY
speco
SILVER SPRING, MARYLAND

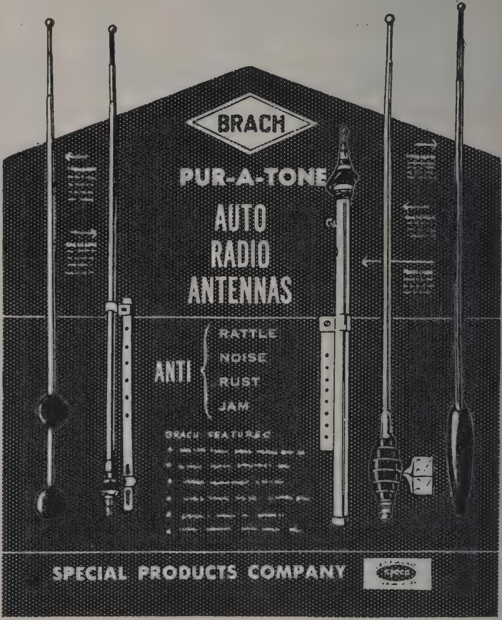
Let this "silent salesman" Antenna Display Card boost your sales and profits . . .

This attractive Brach "PUR-A-TONE" display is

FREE!

You pay only for these mounted Brach Antennas

	List Price
1. Side Cowl, 62-inches	$4.95
2. Adjustable Side Cowl, 110-inches	6.95
3. Universal Mount, 60-inches	4.95
4. Cowl-Well Antenna	6.25
5. Disappearing Fender Well	7.95
	$31.05


BRACH
PUR-A-TONE
AUTO
RADIO
ANTENNAS
ANTI
RATTLE
NOISE
RUST
JAM
BRACH FEATURES
SPECIAL PRODUCTS COMPANY
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IMPORTANT: See other side of this page for prices, sizes and models of these Brach "Pur-a-tone" antennas.

SPECIAL PRODUCTS COMPANY
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SILVER SPRING, MARYLAND
LIST PRICE $1.50
PLASTIC RADIO PLIERS
WEIGHS ONLY 1½ OUNCES
ABSOLUTELY SHOCK-PROOF
THEY'RE NON-MAGNETIC
6,000 VOLT BREAKDOWN
HEAT RESISTANCE 240° to 300°
HOLDS WIRES WHILE SOLDERING
DOES NOT SAG POCKETS
VERY COMFORTABLE GRIP
WILL NOT SHORT CIRCUIT
FOR RADIOS ELECTRICAL APPLIANCES
SPECIAL PRODUCTS COMPANY • SILVER SPRING, MARYLAND

PLASTIC RADIO PLIERS

Model PRP, List Price . . . $1.50 each

Not a substitute for metal pliers but a **necessity** for specialized jobs on radios, electrical appliances, etc. Unusually light in weight, does not sag pockets, comfortable grip. See features below.

- Weighs only 1½ ounces
- Absolutely shock-proof
- It's non-magnetic
- Heat resistance 240° to 300°
- Tensile strength of material is 5,000 lbs. per sq. inch
- 6,000 volt breakdown
- Picks up nuts, screws and washers without danger of shorting
- For relocation of wiring without introducing a magnetic field while equipment is in operation.

SPECIAL PRODUCTS COMPANY
9115 BROOKVILLE ROAD, SILVER SPRING, MD., P. O. BOX 471

TACO

NOISE-REDUCING ANTENNA SYSTEMS

BETTER ANTENNAE for BETTER RADIOS

TACO antenna systems provide the most favorable signal-to-noise ratios. The selection of any one of the several types depends on these considerations.

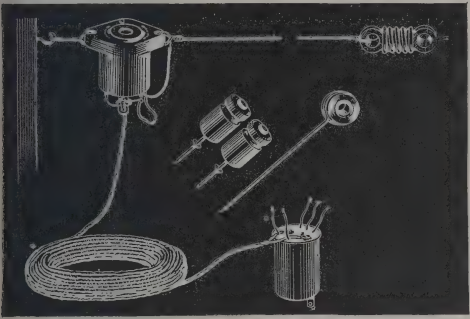
(1) If standard broadcast and shortwave are to be received; (2) If combination of standard broadcast AM and FM must be received; (3) If the location is quiet; and (4) If the location is noisy.

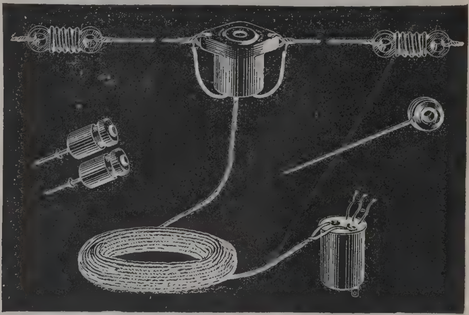
For condition (1), any one of the kits listed is recommended. For (2) or AM-FM reception, kits Nos. 220-V-FM, 220-FM or 228-FM.

In quiet locailities, any one of the kits is recommended. But regardless how quiet the location may be, the TACO noise-reducing antenna system, due to its impedance-matching transformers, will always improve signal-to-noise ratio.

TACO transformers match recommended standards for receiving set input circuits. Such standards are 2000-ohm impedance, with tap for 50 ohms, which is a common input where external antenna replaces or supplements the loop. For FM, the input impedance is 300 ohms.

All TACO kits are attractively packaged and include all components, insulators, antenna wire, downlead cable, and complete instructions.





NOISE-REDUCING ANTENNA SYSTEMS

***CAT. No. 228 FM.** L-type antenna system (above left). Recommended where inconspicuous installation is desired. Full noise reduction. Covers standard broadcast, shortwave and FM bands. Shpg. Wt. 4 lbs. **List Price $9.65.**

***CAT. No. 228.** Broadcast and shortwave only. Shpg. Wt. 4 lbs. **List Price $9.10.**

***CAT. No. 520.** Economy system (above right). Broadcast and shortwave only. Ideal for low-noise-level locations. Set transformer has leads for both high and low impedance input for standard broadcast band. Shpg. Wt. 4 lbs. **List Price $6.30.**

CAT. No. 520L. Same as foregoing but less set transformer. Shpg. Wt. 4 lbs. **List Price $5.35.**

***CAT. No. 220-V-FM.** Covers standard broadcast AM and FM bands, and shortwave. Noise-reducing in all bands. Automatic frequency selection. Doublet antenna rig, high-frequency transmission line, antenna and set transformers. Shpg. Wt. 5 lbs. **List Price $11.10.**

***CAT. No. 220-V-L.** Same as foregoing but less set transformer. Used with communication receivers having 100-200 ohm input. Shpg. Wt. 5 lbs. **List Price $9.20.**

***CAT. No. 220-FM.** Balanced doublet covering broadcast, shortwave and FM. Set transformer has FM terminals; also high and low impedance AM input. Fully noise-reducing in all bands. Shpg. Wt. 4 lbs. **List Price $11.30.**

***CAT. No. 220.** Doublet. Same as foregoing but for broadcast and shortwave only. Shpg. Wt. 4 lbs. **List Price $9.00.**

CAT. No. 85. Farm special. Built to a price. Recommended for rural installations where noise level is low. Antenna wire, lead-in wire, ground clamp, window strip, nail knobs, insulators, lightning arrester. **List Price**

CAT. No. 85-L. Same as foregoing but without lightning arrester. **List Price**

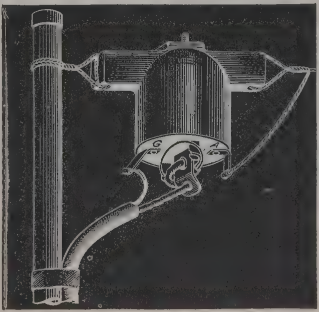
ANTENNA AND SET TRANSFORMERS. Unless system includes both antenna and set transformers, it cannot be true noise-reducing system. Therefore these components are made available separately for addition to any system. at **list prices ranging from $2.00 to $3.50.** Also for concentric cable lines.

TACO MASTER ANTENNA SYSTEM

For apartment houses, hotels, radio stores and other installations calling for simultaneous operation of several sets on single aerial. Because of wartime developments, the TACO postwar system now attains a high degree of noise reduction and covers a frequency range heretofore not believed possible in the standard broadcast, shortwave and FM bands.

System consists of roof kit, transmission line, and a coupler for each connected radio. Single antenna and transmissoion line can feed 15 to 20 radios, depending on height of antenna and reception conditions.

Installation guide furnished with each roof kit. TACO engineers are ready to provide engineering aid for any particular layout.



ROOF KIT

***CAT. No. 345.** Basic kit for Master Antenna System. Takes care of aerial or roof installation. To this antenna transformer (left) should be connected one or several transmission lines depending on layout of building to be wired. The Underwriters' Labs. approved lightning arrester built into transformer shell requires grounding of the ground wire connected to the transformer. Kit comprises 15 ft. transmission line, 25 ft. ground wire, 80 ft. aerial wire, 2 heavy-duty insulators. Shpg. Wt. 10 lbs. **List Price $9.10.**

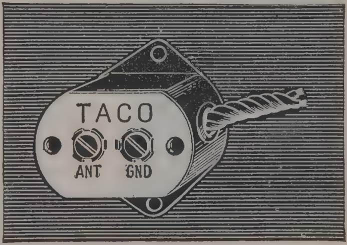
Other Components

***CAT. No. 346.** Master Antenna Transformer as used in roof kit. Shpg. Wt. 2 lbs. **List Price $4.20.**

***CAT. No. 347.** Master Coupler (left) covering standard broadcast, shortwave and FM bands **List Price $3.00.**

***CAT. No. 348.** Master Coupler (right) covering broadcast and shortwave only. **List Price $2.50.**

For other needs, see Accessories and Supplies.



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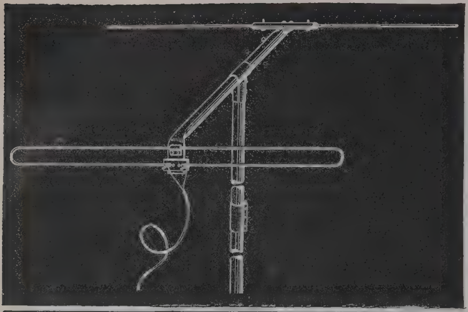
Price will be those in effect at date of shipment,

FM ANTENNA

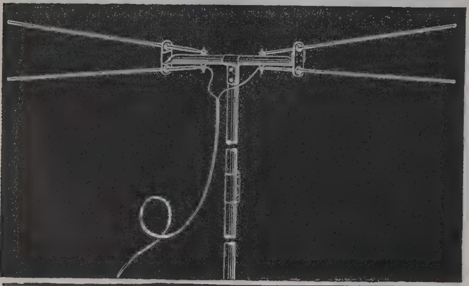


FOLDED DIPOLE ANTENNA

Single unit is directional both front and rear—broadside to transmitter. Ideal for areas of low signal strength. Extremely rugged. Easy to face in desired direction. May also be used for AM reception with Type 625 transformer (see Accessories). For use in low-signal-strength areas, the antenna-reflector combination (shown at left) is recommended. Its flat characteristics—standing wave ratio less than 3 over entire FM band—make it ideal where uni-directional reception is desired, since the reflector eliminates both interference noises and signals from the reflector direction.

CAT. No. 621. FOLDED-DIPOLE ANTENNA. Consists of 1 folded dipole with terminal block; 1 60-ft. coil of TACO high-frequency 300-ohm transmission line; 1 5-ft. wood mast; 2 mounting straps and screws for mast; 3 special screweyes for high-frequency transmission line; complete instructions. Shpg. Wt. 6½ lbs. **List Price $9.00.**

CAT. No. 622. REFLECTOR. Consists of 2 aluminum reflector rods (one with mounting coupling attached); 1 cross-arm with mast clamp attached (heavily enameled steel); miscellaneous hardware. Shpg. Wt. 3 bs. **List Price $4.00.**

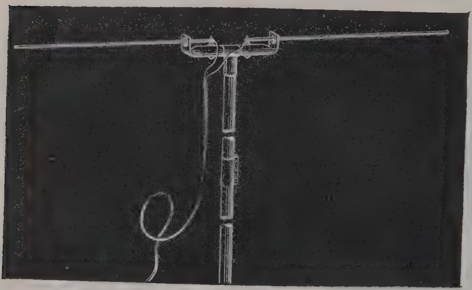


FM DOUBLE-V ANTENNA

An extremely broad band receptor. Nearly flat frequency response from 40 to 110 MC. For this reason it is especially recommneded for localities where it is desirable to receive both the old and the new FM bands. In the 88-108 MC band the frequency response is well below a standing wave ratio of 2, which is equivalent to a variation of approximately ½ DB. Durable construction of heavily-enameled steel. Rod support has a permanently attached mast clamp. Polystyrene insulation for terminals to insure low-loss performance.

CAT. No. 655. DOUBLE-V ANTENNA. Consisting of 4 aluminum dipole rods; 1 rod mounting assembly; 60 ft. of TACO high-frequency transmission line; 5-ft. wood mast; mounting and assembly hardware; 3 special screweyes; complete instructions. Shpg. Wt. 8½ lbs. **List Price $11.50.**

CAT. No. 656. REFLECTOR.............................**List Price $4.75**



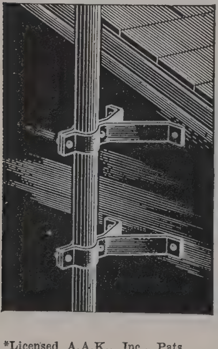
DOUBLET ANTENNA

CAT. No. 651. DOUBLET ANTENNA (left). 2 dipole rods; 1 rod support; 60 ft. transmission line; 2 strain insulators; 5-ft. wood mast; 2 mounting straps with hardware; 3 special screweyes; instructions. Shpg. Wt. 8½ lbs. **List Price $9.50.**

CAT. No. 652. REFLECTOR. 2 aluminum reflector rods (one with mounting coupling attached); 1 crossarm with mast-mounting clamp attached. Heavily enameled steel assembly. Shpg. Wt. 4 lbs. **List Price $4.00.**

FM ANTENNA SELECTION

Due to wide range of frequencies—88 to 108 MC—in which channels FM stations now operate, it is essential that the antenna be of the broad-band type with signal response reasonably flat over entire band. This can be achieved with several designs depending upon flatness required, price range, and preference for one type or another. In general, for low-signal-strength areas, the Folded Dipole (Type 621) or the Double-V (Type 655) is preferable. For local reception or in high-signal-strength areas, the Single Dipole (Type 51) is satisfactory. All TACO FM antennae come complete with 5-ft. mast, low-loss transmission line, standoff insulators, mounting hardware, and instalation instructions.



ACCESSORIES and SUPPLIES

***CAT. No. 625. FM-AM SET TRANSFORMER.** Provides both FM and AM reception with usual FM antenna. Normally, this is impractical since most FM-AM receivers have separate terminals for both bands. With this transformer both bands are automatically available to the receiver. Shpg. Wt. 1½ lbs. **List Price $3.25.**

CAT. No. 627. AM EXTENDER. Used with FM antenna when same is also used for AM, in areas with low AM signal strength. Simply a 30-ft. length of antenna wire terminated in a choke coil. Increases AM signal pickup about five times, but does not upset the delicate balance of FM dipoles. Shpg. Wt. ¾ lb. **List Price $2.25.**

CAT. No. 100. LINE FILTER. Thoroughly engineered unit comprising r. f. choke coil with by-passing capacitors to ground. Most effective between set and outlet. Also used between noise-producing equipment and line. Shpg. Wt. 4 lbs. **List Price $9.00.**

CAT. No. 185. TWO-SECTION MAST. 10 ft. high. Sections held tgoether by mast coupler. Upper section can be rotated. **List Price $3.50.**

CAT. No. 189. MAST COUPLING. Joins together two sections of 1-5/16″ dia. **List Price $1.00.**

CAT. No. 190. MAST BRACKETS (shown at left). For mounting 1-5/16″ dia. mast on side of house or parapet, where clearance is not over 7″. Heavy steel, enameled. Pair. **List Price $2.50.**

CAT. No. 309. LIGHTNING ARRESTER. Carbon-pile type Double-pole, Underwriters' Labs. approved. **List Price $0.75.**

CAT. No. 383. C-TYPE GROUND CLAMP. For pipes from ¾″ to 1½″ dia. Hard screw point makes positive contact. Cadmium-plated to resist corrosion. **List Price $14.50 per C.**

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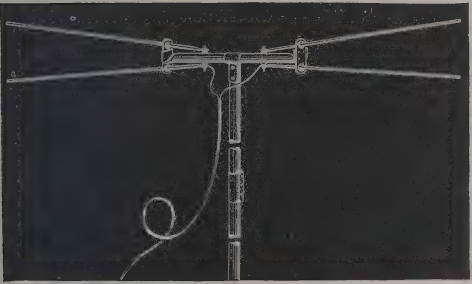
Price will be those in effect at date of shipment,

TELEVISION ANTENNA

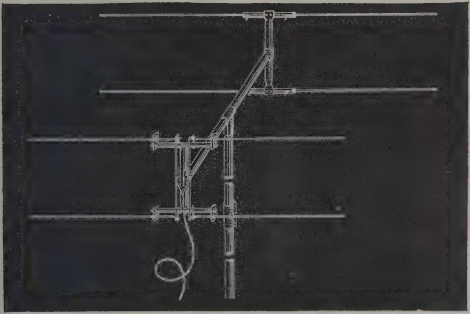


DOUBLE-V ANTENNA

Same construction as No. 655 listed in FM Antenna section except that dipole rods are of a different length to favor the television bands. Nearly flat response from 40 to 110 MC. In the 50-88 MC bands, the frequency response is well below a standing wave ratio of 2, or equivalent to a variation of approximately ½ DB. Durable steel construction, heavily enameled. Rod support has a permanently-attached mast clamp. Polystyrene insulation for terminals, insuring low-loss performance.

CAT. No. 457. DOUBLE-V TELEVISION ANTENNA. Consisting of 4 aluminum dipole rods; 1 rod mounting assembly; 60 ft. of TACO high-frequency transmission line; 5-ft. sectional mast; mounting and assembly hardware; 3 special screweyes for transmission line. Complete instructions. Shpg. Wt. 8 lbs. **List Price $12.00.**

CAT. No. 458. REFLECTOR. Consisting of 4 dipoles with connectors; 1 cross-arm; 1 spacer post; mounting hardware. Shpg. Wt. 5 lbs. **List Price $4.75.**

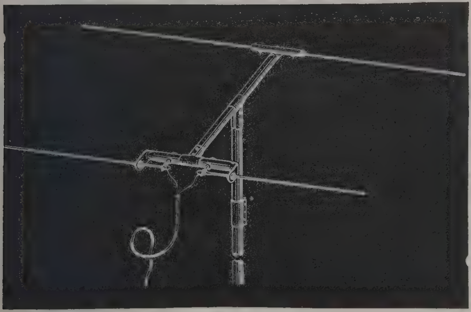


H-TYPE ANTENNA

Single H-type (not shown) receives in both directions, broadside. Due to double-decked design, this type provides additional gain in the horizontal plane and greatly diminishes reflections from ground. This discrimination gives a cleaner picture than is possible with a single dipole antenna. To provide rigidity, the antenna support is built of steel. Covers the two television bands in addition, both old and new FM bands, with a frequency response that is flat within less than 3 DB. Single H-type recommended for areas of average signal strength (say within 15-20 miles of typical television transmitter). Beyond, the antenna-reflector combination (illustrated) should be used.

CAT. No. 436. H-TYPE ANTENNA. Consists of 4 aluminum dipole rods; 2 rod supports with terminals and neoprene grommets; a spacer post with mounting clamps for mast; 60 ft. of 300-ohm high-frequency transmission line; 2 jumpers with terminal screws; 5-ft. sectional wood mast; 3 special standoffs; mounting hardware; complete instructions. Shpg. Wt. 10 lbs. **List Price $14.00.**

CAT. No. 437. H-TYPE REFLECTOR. Consists of 4 dipole rods with connectors; 1 crossarm (heavily enameled steel); 1 spacer post; mounting hardware. Shpg. Wt. 5 lbs. **List Price $7.50.**



DIPOLE ANTENNA

Matched to 300-ohm transmission line by special matching device. Single dipole type (not illustrated) is recommended in areas of high signal strength or when only one or two stations are desired on adjacent frequency bands. This type antenna is not as broad as the V and H types. Rugged streamlined construction makes it a favorite among television set owners. Not recommended, however, in areas with low signal strength.

CAT. No. 453. SINGLE DIPOLE ANTENNA. Consists of 2 aluminum dipole rods; 1 dipole support assembly with mast clamp; 60 ft. of TACO high-frequency transmission line; 1 5-ft. wood mast with mounting hardware; 3 special standoff insulators; complete instructions. Shpg. Wt. 8½ lbs. **List Price $9.50.**

CAT. No. 454. DIPOLE REFLECTOR. Consists of 1 steel crossarm; 2 dipole rods (one with coupling attached); assembly hardware; complete instructions. Shpg. Wt. 5 lbs. **List Price $4.75.**

CAT. No. 851. RIBBON TRANSMISSION LINE. Especially for FM and television use. 300-ohm surge impedance. Two stranded conductors insulated with polyethylene ribbon between. 500 ft. coil. **List Price $48.50.**

CAT. No. 853. HIGH-FREQUENCY SPLICING TAPE. Indispensable for splicing high-frequency transmission lines. Ordinary tape may actually short-circuit such conductors. 12″ length in envelope. **List Price $0.35.**

CAT. No. 850. TWISTED-PAIR TRANSMISSION LINE. Two No. 22 stranded twisted-pair conductors. Surge impedance 100 ohms. **List Price $35.00/m f.t**

CAT. No. 305. BUFF TRANSMISSION LINE. Two No. 18 stranded conductors, twisted. Surge impedance 100 ohms. **List Price $47.50/m ft.**

CAT. No. 306. BLACK TRANSMISSION LINE. Same as No. 305 but with black braid for use against dark walls. **List Price $47.50/m ft.**

CAT. No. 392. STANDOFF FOR RIBBON TYPE LINES. (Illustrated). Slotted low-loss rubber insulator with metal screweye. **List Price $16.00/c.**

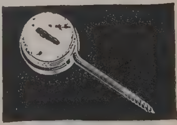
CAT. No. 393. BASEBOARD STANDOFF. (Illustrated). Fibre. Nailed to support. Ribbon snaps in place. Minimized leakage. **List Price**

CAT. No. 389. FEED-THROUGH INSULATOR. For passing antenna downlead through panel or well. Low-loss bakelite. 1¼″ dia. x ¾″ h. **List Price $0.90.**

CAT. No. 384. SINGLE WINDOW-STRIP LEAD-IN. Readily bends to accommodate closed window. Fully insulated. **List Price $0.10.**

CAT. No. 377. SCREW-EYE 3″. List Price $0.12.

CAT. No. 394. DIPOLE RODS. For replacement use. Supplied in pairs for any antenna replacement. Specify antenna type. **List Price $1.50.**



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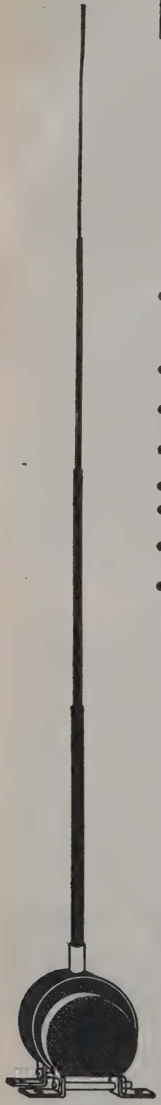
Vertrod

NOISE REDUCING ANTENNAE



BUILDERS of NOISE REDUCING RECEIVING ANTENNA for the HOME

The **VERTROD** Antenna is the most perfect scientific development approaching complete freedom from man-made static yet evolved — at the same time providing greatest efficiency on all frequencies. No single Antenna Kit is packed before it has been laboratory tested for perfection.

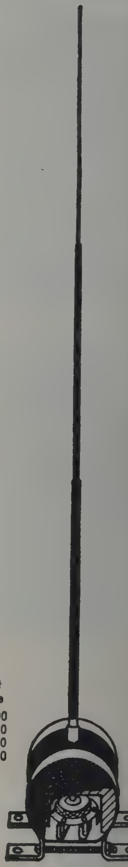
- For Communications, Broadcast and Short Wave Receivers — Broadcast and Long Distance Foreign Reception — WITHOUT NOISE!
- Can be used on AC or AC-DC Receivers.
- Frequency Range 500 KC to 30 MC (600 to 10 Meters).
- No Line Filters necessary — so perfectly Balanced.
- No Lightning Arrestor required.
- Can be mounted on Wall, Window or Roof.
- Only 4 inches of space needed to mount **VERTROD.**
- Only a screwdriver neccessary to mount **VERTROD.**
- Matched Transformers and Transmission System balanced against NOISE at all frequencies.
- Greatest Noise-Excluding Antenna yet developed in a Laboratory.
- Transmission Cable length may be increased without upsetting the Transformer Balance.
- Patented **VERTROD** Base which smoothly rotates in an arc of 180° to mount on any surface.
- **VERTRODS** are built 9, 12, 15 and 18 feet tall.
- Special Heavy Duty Rotary Base used for the tall models.
- Hard Aluminum Alloy Rod Elements.
- No Poles—No Insulators—No Climbing —No Hanging Aerial Wires.

This **VERTROD** consists of a Hard Aluminum Alloy mast mounted on a sturdy patented Rotary Base. The Base rotates smoothly in 2 mounting brackets to decribe an arc of 180°, permitting **VERTROD** to be mounted erect on any surface having 4 inches of space. Inside the Base of the Matched Transformer group is hermetically sealed an Antenna Transformer to match the impedance of the rod to the Transmission Cable. The Radio Set Coupler, another transformer sealed in a plastic shell, matches the impedance of the Transmission Cable to that of the Radio Set in-put. This electrical combination forms a completely balanced Transmission System capable of piping Noise-Free Radio Frequency signals of frequencies 500 KC to 30 MC (600 to 10 meters) from Rod to the Radio Set in-put. Each **VERTROD** is laboratory tested for perfection.

STANDARD ROD MODELS			MODELS WITH MATCHED TRANSFORMERS* ONLY			MODELS WITH MATCHED TRANSFORMERS* AND TRANSMISSION LINE		
Model	Rod Length	List Price	Model	Rod Length	List Price	Model	Rod Length	List Price
10	9'	$ 5.50	102	9'	$15.00	103	9'	$18.00
210	12'	7.00	122	12'	16.50	123	12'	19.50
510	15'	15.50	152	15'	25.00	153	15'	28.00
810	18'	17.50	182	18'	27.00	183	18'	30.00

[Note to Hams: Models 102 & 103 are the finest NOISE-FREE receiving aerials on 10 and 11 meters]

HEAVY DUTY ROTARY BASE



STANDARD ROTARY BASE

All Models are completely packed in individual Kit form, and contain all the necessary Hardware and Instructions.

U.S. Patent No. 2215810
*Lic. A.A.K. Inc. Pats. Re 19854; 1938092; 2002844—others pending.

VERTROD
CORPORATION

FM and TELEVISION *Antennae*

Continental Adjustable Dipole and Dipole-Reflector Types

For use everywhere on western continent

FM and TELEVISION COMBINATION MODELS

Frequency Range 44-106 MC

Model 332—Continental Single Dipole	$12.00
Model 333—Continental Single Dipole with 75' of **VERTROD** DUMB-BELL 300-D Lead-in Wire	$16.50

FM and TELEVISION COMBINATION REFLECTOR MODELS

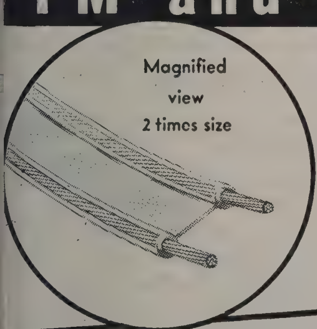
Frequency Range 44-106 MC

Model 444—Continental Dipole and Reflector	$23.00
Model 445—Continental Dipole and Reflector with 75' of **VERTROD** DUMB-BELL 300-D Lead-in Wire	$27.50

VERTROD dipole aerials are noted for their fine electrical and mechanical design and beauty. They consist of hard aluminum alloy dipole elements, each of which is clearly marked and calibrated in megacycles, adjustable with a set screw, so that no matter where you are, you get any frequency you want in the FM and TV bands by just the twist of the screw. Just by the twist of the screw, this precision scientifically built combination FM Television aerial becomes a custom built job to suit your own individual taste. The adjustable dipole elements are supported by a patented water-repellant porcelain insulater. It is properly fitted and held snugly on a five foot steel mast. The steel mast is heavily enameled as a weatherproofing precaution and provided with plated steel guy wire brackets and universal base mounting brackets permitting flat, angular or vertical mounting. These new **VERTROD** Continental models come with or without **VERTROD'S** 300-D polyethylene covered lead-in wire and with or without reflector assembly, depending upon your needs. All models completely packed in individual kit form containing all necessary hardware and instructions. *They are adjustable for use anywhere on the western continent.*

U. S. Patent 2259628

FM and TELEVISION *Wire*

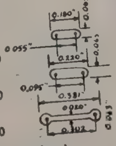


Both F-M and television require components of the highest quality if the ultimate possibilities of each system are to be realized. This is particularly true in television where a band width of 6 megacycles should be transmitted with equal amplitude and with as little as possible phase distortion, delay and reflections. For a given receiver in a given area, the sensitivity developed by the receiver is a function of the antenna transmission line taken as a unit. A well-designed antenna with the proper transmission line should supply adequate signal strength at the receiver over the frequency bands acceptable by the receiver. But even more than this is required. Reflections at impedance discontinuities all along the system must be minimized, since the picture quality will suffer if such reflections attain even minute proportions.

R.M.A. has standardized on 300-ohm transmission lines. A 300-ohm line using high grade dielectric generally provides signal passage with very low attenuation. In addition, the use of polyethylene insulation and relatively large conductors has made the **VERTROD** 300-ohm line outstanding in performance. A copper area of 1118.6 circular mils is provided for each conductor and together with the low loss insulation (having a power factor of less than .03% at 100 megacycles) the attenuations of our 300-ohm lines are well below the 1 db per 100 feet at 100 megacycles.

VERTROD 300-D, a dumb-bell shaped line, comes closest to the theoretically perfect line consisting of two bare conductors spaced a correct amount and having only air as support. Such a perfect line would have a theoretical velocity of propagation of almost 100%. The **VERTROD** 300-D has a velocity of 79% to 83%.

VERTROD LEAD-IN WIRE

Ohm Type	Conductors	Weight Lbs. Per 1000 Ft.	Mutual Capacitance Micro-micro-Farads Per Foot	Characteristics Impedance In Ohms	Attenuation in Decibels Per 100 Ft. 50 MC	100 MC	List Price Per 1000 Ft.	Cross-Section
75-U	2/C 7/#28 Awg.	13	24.7	76.8	2.7	3.9	$32.00	
150-U	2/C 7/#28 Awg.	15	12.7	155	1.2	1.7	34.00	
300-D	2/C 7/#28 Awg.	17	4.8	310	0.68	0.85	40.00	

(Prices subject to change according to copper market.)

Vertrod Corp.
NOISE REDUCING ANTENNAE

WARD AERIALS

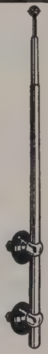
WORLD'S FINEST FOR CAR AND HOME

Feature

- √ SIMPLIFIED ONE MAN INSTALLATION
- √ UNIVERSAL DESIGNS TO FIT EVERY CAR
- √ RUGGED, LASTING CONSTRUCTION with —
  - Heavy wall brass tubing
  - Weather resistant triple chrome
- √ GREATEST SIGNAL PICKUP with —
  - High "Q" low loss lead cables
  - Positive coaxial connections
  - 100% shielding
- √ PATENTED FLUID TYPE ANTI-RATTLE
- √ HEAVY CARTONS READY FOR RESHIPMENT

SIDE COWL MOUNTS

Two stanchions for sturdy installation. Smartly designed insulators with chrome caps. Conversion kit for torpedo bodies included.



LONG RANGER

4 section, 100 inch, EZ-on installation. A favorite in low signal areas where its extra length provides fine reception.

Model SC-8..........List Price $6.95
Ind. boxed 1 lb. 10 oz.—12 to a master carton 22 lbs.

AIR KING

3 section, 66 inch, EZ-on installation.

Model SC-6..........List Price $4.95
Ind. boxed 1 lb. 5 oz.—12 to a master carton 17 lbs.

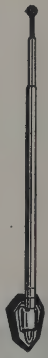
CHALLENGER

3 section, 66 inch, shield can type installation. Two smart, bakelite stanchions, coaxial lead without vinylite jacket.

Model SB-3..........List Price $2.95
Ind. boxed 1 lb. 4 oz.—12 to a master carton 15 lbs.

SIDE COWL OR FENDER

FLEX-ANGLE



3 section, 68 inch, EZ-on installation.

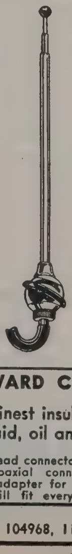
Model CF-6..........List Price $5.45

Ind. boxed 1 lb. 8 oz.—12 to a master carton 18½ lbs.

Tops in popularity because of trim styling and a flexible adjustment so rod can be locked in a vertical position, regardless of body contour. Ideal design for new revolutionary body styles.

TOP COWL OR FENDER

8 BALL



3 section, 56 inch, collapses to 22 inches.

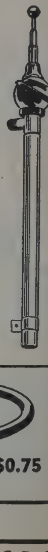
Model TCF-3..........List Price $5.35

Ind. boxed 1 lb.—12 to a master carton 14 lbs.

Smart looking "8 Ball" design developed and engineered by WARD in answer to every installer's dream. Secure installation! Easy to mount! Perfect fit on every car!

DISAPPEARING, Cowl or Fender

PHANTOM



3 section, 56 inch, 3½" exposed when collapsed.

Model DCF-3..........List Price $6.25
Ind. boxed 1 lb. 4 oz.—12 to a master carton 17 lbs.

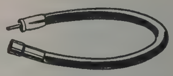
At last—a disappearing antenna that is 100% shielded from engine noises and completely water sealed. Unique universal split ball design plus popular disappearing feature gives that smart built-in appearance.

EACH MODEL COMPLETE WITH A WARD COAXIAL LEAD CABLE

Made of the finest insulating materials—Polyethylene, wire shield braid, oil and abrasion proof Vinylite.

WARD'S exclusive lead connector fitting provides an easy coaxial connection 100% shielded. Bayonet adapter for pin plug included so lead will fit every car radio.

For models mounted on fender a 12 inch lead extension is required.



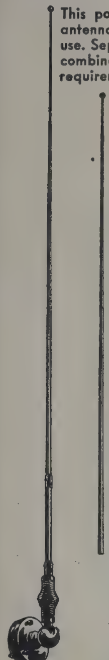
Model C-8 List $0.75

54-18 10-46
Covered by one or more of the following Patent Numbers: 104968, 118160, 2152316, 2251889, 2252671, 2269947, 2366634.

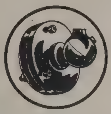
A WARD *Development to fit every antenna need!*

WARD ANTENNAS FOR SPECIAL COMMUNICATION

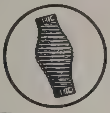
UNIVERSAL SWIVEL MOUNT



This popular short wave and FM antenna withstands hardest mobile use. Separate components may be combined to meet all operating requirements.



SPP-3
Cast iron SWIVEL BASE may be mounted on any car at point desired and rod locked permanently in a vertical position.
Ind. packed 3 lb. 4 oz.
List Price $13.25



SPP-3A
SHOCK MOUNTING SPRING provides rod with fullest protection against impact damage at high speeds.
Ind. packed 2 lb. 12 oz.
List Price $7.90

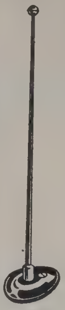
WHIP ROD is made of special alloys developed by WARD engineers for maximum resilience, greatest durability and finest weather proofing. There are two types:

SPP-3B SINGLE ROD List $14.75
Length 84". Ind. packed 2 lbs.
SPP-12 ADJUSTABLE 2 SECTION ROD List $22.50
Length 85 to 103"
Ind. packed 2 lbs. 10 oz.

ROOF TOP MOUNT

Revolutionary design for intercommunication on 140-165 Mc band. Only one hole to drill and one screw to tighten. No cutting of car upholstery. Smartly streamlined base with attached 12' coaxial 50 chm. cable and positive ground connection removable 21" whip rod.

Model SPP-18 ..List $11.95
Ind. packed 1 lb.



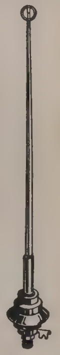
Pat. Applied For

MOTORCYCLE MOUNT

This flexible and durable antenna gives outstanding performance, 42" whip rod is made of special alloys and mounted in a heavy rubber shock mounting base.

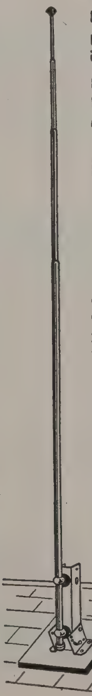
Model SPP-6
Ring Tip (Illustrated)
List $9.25
Ind. packed 1 lb.

Model SPP-6A
Ball Tip (Not Shown)
List $9.25
Ind. packed 1 lb.



WARD ANTENNAS FOR THE HOME

Are vertical, the same as broadcasting antennas, for greatest signal pick-up, finest reception.

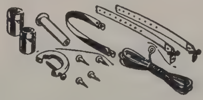


HOUSE MAST

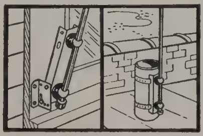
4 SECTION, 12 FOOT, COLLAPSIBLE TO 47 INCHES.

FEATURES . . . Easy installation, Universal mounting brackets, Heavy weatherproof cadmium plating, Built-in lightning arrestor.

Model HM-4 List $7.45
Ind. boxed 4 lbs.—12 to a master carton 51 lbs.



Complete Installation Fittings Included
60' Lead Wire — Ground Clamp — 4 Wood Screws — 2 Nail-it-Knobs—1 Porcelain Tube — 1 Lead-in Strap — 2 Soil Pipe Straps.

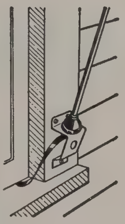


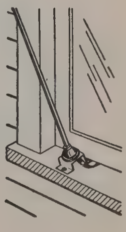
WINDOW MAST

3 SECTION, 8 FOOT, COLLAPSIBLE TO 42 INCHES.

FEATURES . . . Simple 3 point, 3 minute installation for apartments, homes, office buildings. Two way mounting bracket, 12 inch lead-in strap, and heavy weather proof cadmium plating.

Model WM-3.............List $3.25
Ind. boxed lbs.—12 to a master carton 14 lbs.



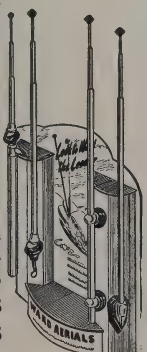


WARD SILENT SALESMAN

Striking, colorful display board comes completely assembled, ready to go to work bringing in easy, extra sales.

Model CD-4

Packed one to a carton 11 lbs.



DISPLAY FREE!

You pay only for the four fast moving models mounted on the board.

- **1 SC-6...$4.95**
- **1 CF-6...$5.45**
- **1 TCF-3..$5.35**
- **1 DCF-3..$6.25**

Total Price.$22.00

BOOST YOUR PROFITS! . . .

THE WARD PRODUCTS CORPORATION
1523 EAST 45th STREET CLEVELAND 3, OHIO

EXPORT DEPT.: C. O. Brandes, Mgr.
4900 Euclid Ave., Cleveland 3, Ohio.
IN CANADA: Atlas Radio Corp.
560 King St.W., Toronto 1, Ont., Can.
MADE IN U.S.A.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

AMPHENOL

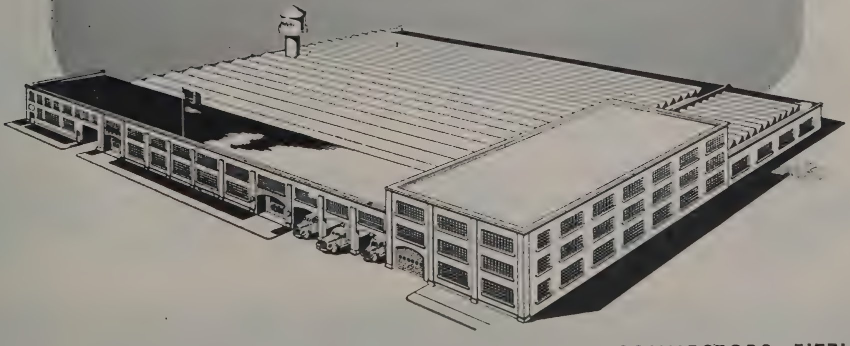
Mechanically Perfect . . . Electrically Correct

COMPONENTS for RADIO AND ELECTRONICS EQUIPMENT

With the return of peace, Amphenol is devoting its full facilities to making products to meet the growing needs and rapid development of electronics for the myriad of new peacetime applications. Amphenol's technical knowledge, acquired through many years of experience and research in the development of radio-electronic components, strengthened by extraordinary wartime production, is reflected in new and improved products with heightened standards of quality and performance. The enviable reputation earned by Amphenol's devotion to high standards of engineering together with the integrity that is built into every Amphenol product is evidenced in the wide recognition and acceptance accorded Amphenol products.

The Amphenol products presented on the following pages are only a few out of the complete line of products and services available for Radio and Electronic needs. For electronic applications requiring unusual or special designs, Amphenol engineers are ready and equipped to develop components which meet the exacting requirements. Inquiries regarding design and production will receive prompt and confidential consideration.

AMERICAN PHENOLIC CORPORATION
CHICAGO 50, ILLINOIS
In Canada • Amphenol Limited • Toronto

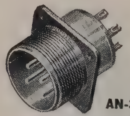


COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

AMPHENOL

AMERICAN PHENOLIC CORPORATION
CHICAGO 50, ILLINOIS
In Canada • Amphenol Limited • Toronto

RECEPTACLES with external threads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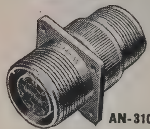
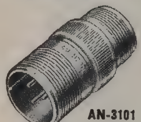

AN-3100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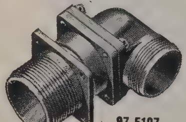
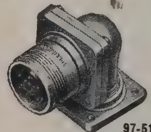
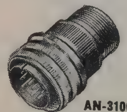

97-5107


97-5109

PLUGS with coupling ring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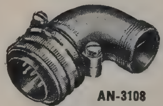
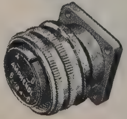

AN-3108


97-5105

"AN" and "97" CONNECTORS

Amphenol electrical connectors provide a means of quickly connecting an disconnecting one or many electrical circuits. Such provisions were a "must in war time equipment used in the air, sea and land. The far-reaching application of these electrical connectors represents a great stride in the advancemen of electrical equipment design.

To win the war, development work advanced along all lines and production ha to go on at top speed. The war equipment had to be made of precision bui interchangeable components for many sub-assembly operations. The wa machines had to lend themselves to rapid plant and field inspection and testing. They had to lend themselves to quick servicing, maintenance, and installation of replacement units. The war equipment also had to be dependable unde the most adverse conditions.

Amphenol "AN" and "97" Connectors and Fittings played their part in makin the above features possible. The "AN" types of connectors have been and ar now being built to Army-Navy specifications. The Amphenol "97" Series connectors are built under the same general specifications designed primarily t supplement the "AN" connectors.

The features required in war equipment are highly desirable in many electrica and electrically controlled equipments designed not for survival of man bu the comforts of man. "AN" and "97" Connectors are NOW AVAILABLE fo all applications, offering the advantages of more economical production an testing; and by employing the use of electrical connectors in an electrical devic a selling point is added. The device will lend itself to rapid economical servicing When replacements are needed, replacement units can be supplied and easil installed.

The eight shell types illustrated are representative of the most popular types although Amphenol builds these same connectors and others to special requirements such as explosion-proof, light-proof, pressure-proof, weather-proof an tropicalized—all in accordance with the high quality specifications of the Arm and Navy.

For the benefit of the many who are acquainting themselves with the possibility of using Amphenol connectors on the electrical equipment they manufacture, the plugs are supplied with either male or female contacts. The same is true of receptacles. Receptacles are usually mounted rigidly. Because of this they are designed with a solid base for mounting on a panel, bulkhead, wall and the like. The plugs are usually used on the end of a flexible conduit or cable. Receptacles have external threads and plugs have coupling rings with internal threads. A complete electrical connection requires a receptacle and plug. In completing the circuits, on an average, three fittings are needed—see following page.

Amphenol connectors are produced in a great variety of combinations of shells and inserts, dielectric materials and finishes. The contacts range in size from No. 20 to No. 0 and in number, from 1 to 47 contacts. A catalog of the entire line will be sent to you upon request.

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS **AMPHENOL**

LOW-LOSS 83 SERIES CONNECTORS — U.H.F.

This complete line of low-loss connectors and adapters for use with RG type cables serves all practical applications and they are made in both small and large sizes for coax and twinax cables. They are a very rugged construction, die cast zinc and machined brass shells, heavily silver plated. Low-loss inserts are of mica filled bakelite and polystyrene, and their construction provides for easy assembly and positive connection. Fully Army-Navy approved for use with U.H.F. cables.

SMALL SINGLE CONTACT CONNECTORS

Number		List
83-1SP	**2-PIECE STRAIGHT PLUG**—With molded low-loss mica filled insert	$1.63
83-1SPN	**3-PIECE PLUG**—Tapered back shell for .405″ O.D. cables	2.00
83-776	**3-PIECE PLUG**—Like 83-1SPN for RG-58/U and 59/U cables	2.07
83-1R	**RECEPTACLE CHASSIS OR BOX TYPE**—Low-loss mica filled insert	1.78
83-IRTY	**RECEPTACLE CHASSIS OR BOX TYPE**—Polystyrene with mica wafer on solder end	1.78
83-1AP	**ANGLE PLUG ADAPTER**—Polystyrene insert — pin and socket	2.44
83-1T	**"T" CONNECTOR**—For 83-1R — factory wired polystyrene insert	2.44
83-1J	**JUNCTION**—For use with 83-1SP or 83-1SPN — double contact	1.33
83-1F	**FEED THRU CONNECTOR**—Polystyrene insert — pressure tight	2.67

SMALL TWIN CONTACT CONNECTORS

Number		List
83-22SP	**TWIN PLUG**—With low-loss mica filled dielectric insert	$1.74
83-22R	**TWIN RECEPTACLE CHASSIS OR BOX TYPE**—For 83-22SP connector	1.37
83-22AP	**TWIN ANGLE PLUG ADAPTER**—For straight 83-22SP plug	2.74
83-22J	**TWIN JUNCTION**—Double end contact — for use with 83-22SP	1.96
83-22F	**TWIN FEED THRU ADAPTER**—Pressure tight to 20 lbs. per sq. inch	2.63

HOODS FOR SMALL CONNECTORS

Number		List
83-1H	**HOOD**—For RG cables 8/U, 10/U, 11/U, 12/U, 22/U, 63/U, 65/U	$ .44
83-1HP	**HOOD**—For use with double shield braid wire — RG-9/U, 13/U	.56
83-765	**HOOD**—For effective shielding of smaller diameter cables	.70

CAPS and CHAINS and ADAPTERS

Number		List
83-1AC	**CAP**—For 83-1R, 83-1RY, 83-1RTY and 83-22R connectors	$ .85
83-1BC	**CAP**—For 83-1SP, 83-1SPN and 2 pole plug — 83-22SP connectors	1.00
83-168	**ADAPTER**—For small cable — RG-59/U, use with 83-1SP connector	.67
83-185	**ADAPTER**—For small cable — RG-58/U, use with 83-1SP connector	.67

LARGE SINGLE CONTACT CONNECTORS

Number		List
83-21SP	**PLUG**—With low-loss mica filled insert and rubber gasket	$3.78
83-21R	**RECEPTACLE**—With two piece low-loss mica filled insert	1.56
83-21AP	**ANGLE PLUG ADAPTER**—With waterproofing rubber gasket	2.89
83-21J	**JUNCTION**—Polystyrene insert — waterproof — dust tight	**On Request**

LARGE TWIN CONTACT CONNECTORS

Number		List
83-2SP	**TWIN PLUG**—Low-loss mica filled insert — waterproofing gasket	$3.82
83-2R	**TWIN RECEPTACLE**—One piece flange — low-loss mica filled insert	2.63
83-2AP	**TWIN ANGLE PLUG ADAPTER**—Polystyrene insert —used with 83-2SP	3.44
83-2J	**TWIN JUNCTION**—For water and dirt tight connection to 83-2SP	2.67

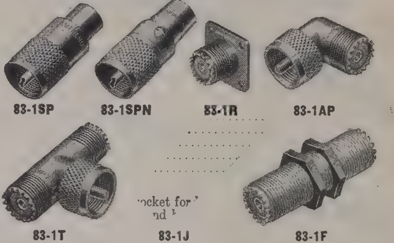
LARGE HOOD and LARGE CAP

Number		List
83-2H	**HOOD**—For effective shielding, used with 83-2R and 83-21R receptacles	$ .48
83-2AC	**CAP**—For sealing large 83-2R and 83-21R	1.11

BRITISH TYPE CONNECTORS

Number		List
83-1M	**ADAPTER**—83-1SP — SO-153 (110H 585) to 83-1R — PL-P173 (110H 584)	$3.63
83-764	**ADAPTER**—83-1SP — 10H 528 to 83-1R — 10H 529, 10H 701, 10H 702	3.52
83-1D	**ADAPTER**—PL-P173 (110H 584) — 83-1R to SO-153 (110H 585) — 83-1SP	4.44

SMALL SINGLE CONTACT CONNECTORS

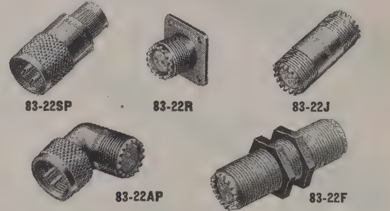

83-1SP 83-1SPN 83-1R 83-1AP

ocket for
nd

83-1T 83-1J 83-1F

Units above for RG cables — 8/U, 10/U, 11/U, 12/U, 63/U, 65/U — and 58/U, 59/U using 83-168 and 83-185 with 83-1SP.

SMALL TWIN CONTACT CONNECTORS


83-22SP 83-22R 83-22J

83-22AP 83-22F

Units above for twinax cable — RG-22/U or any twin conductor cable of approximate .405″ O.D.

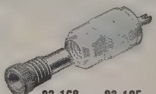
HOOD for SMALL CONNECTORS

83-1H 83-1HP 83-765

CAPS and CHAINS

83-1AC 83-1BC

ADAPTER


83-168 83-185
See Description

LARGE SINGLE CONTACT CONNECTORS

83-21SP 83-21R

ıgs on 3/4″ centers. E
m area on chassis or
phasing in receivers, cr
t equipment. May b
ıels. Cadmium plated

ıgs (Black Bakelite)...
ıgs (Black Bakelite)...
ıgs (Mic

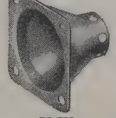
83-21AP 83-21J

LARGE TWIN CONTACT CONNECTORS

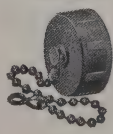
83-2SP 83-2R

83-2AP 83-2J

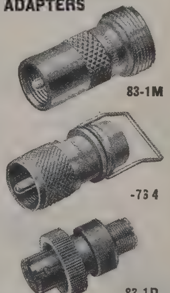
LARGE HOOD


83-2H

LARGE CAP


83-2AC

BRITISH TYPE ADAPTERS


83-1M

-76 4

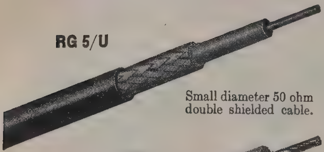
83-1D

AMPHENOL

AMERICAN PHENOLIC CORPORATION

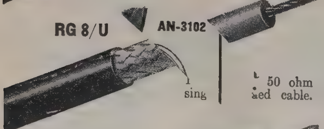
CHICAGO 50, ILLINOIS
In Canada • Amphenol Limited • Toronto

RG 5/U



Small diameter 50 ohm double shielded cable.

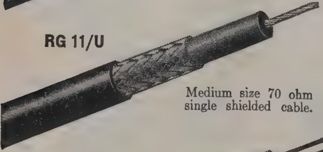
RG 8/U



sing

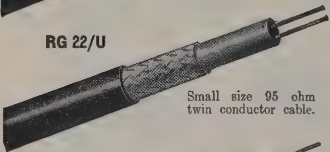
50 ohm
ɛed cable.

RG 11/U



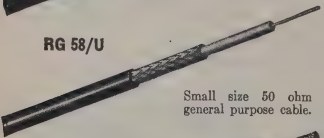
Medium size 70 ohm single shielded cable.

RG 22/U



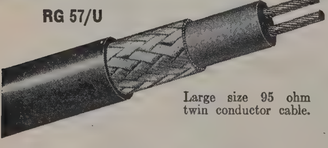
Small size 95 ohm twin conductor cable.

RG 58/U



Small size 50 ohm general purpose cable.

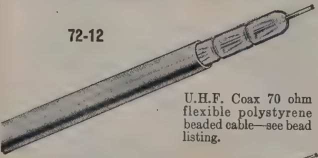
RG 57/U



Large size 95 ohm twin conductor cable.

Amphenol also builds U.H.F. cables with polystyrene beads. These types are for non-military use or upon special authorized contracts.

72-12



U.H.F. Coax 70 ohm flexible polystyrene beaded cable—see bead listing.

81-18

U.H.F. Twinax 150 ohm flexible polystyrene beaded cable—see bead listing.

HIGH FREQUENCY CABLES

AMPHENOL COAX AND TWINAX RG CABLES are fully approved and produced in accordance with Army-Navy specifications (JAN-C-17). These specifications utilize the very fine dielectric properties of polyethylene, proven most efficient as a low-loss flexible mechanically stable dielectric. The outer jacket in most of Amphenol' approved types is a tough resistant vinyl protective, nonhygroscopic, and imperviou to exposure of acids, alkalis, oils and gasoline. Polyethylene is also used as oute jacket for some of the types listed.

Polyethylene is processed in strict accordance with Bureau of Ships Specification RE-9172. It should be emphasized that unusually strict standards are applied t every processing operation of Amphenol's RG cable types. They are produced fo "quality plus." Rigid laboratory tests and other process checking, plus Amphenol' "O.K." certification and notarized affidavit on every unit shipment, is final assurance o extra quality and dependability.

Also illustrated, but not approved for military use without specific authorization, are two of Amphenol's beaded type cables. This polystyrene and mica filled bakelite type of beaded cable is one of Amphenol's early developments in U.H.F. cables and for specific uses, is still in popular demand. The beads, too, may be ordered in bulk and are illustrated and priced on the Synthetics page.

Chart below represents the characteristics of all types of RG cable approved for manufacture by Amphenol. Further specifications and prices upon request.

Approved RG CABLES *with Characteristics and Dimensions*

A-N No.	Nominal Impedance	Nominal Mmfd. Ft.	Conductor Wire Size	O.D. of Dielectric	Inner Shield	Outer Shield	Jacket Material	Jacket O.D.	Armor Max. O.D.	List Price Per Foo
RG-5/U	53.5	28	16	.185	Copper	Copper	Black Vinyl	.332		$ .33
RG-6/U	76.	20	21CW	.185	Silver*	Copper	Grey Vinyl†	.332		.419
RG-7/U	97.5	12.5	19	.250*	Copper		Black Vinyl	.370		.37
RG-8/U	52.	29	7-21	.285	Copper		Black Vinyl	.405		.32
RG-9/U	51.	29	7-21 Silver*	.280	Silver*	Copper	Grey Vinyl†	.420		.61
RG-10/U	52.	29	7-21	.285	Copper		Grey Vinyl†	.405	Armor .475	.52
RG-11/U	75.	20	7-26 Tinned	.285	Copper		Black Vinyl	.405		.34
RG-12/U	75.	20	7-26 Tinned	.285	Copper		Grey Vinyl†	.405	Armor .475	.52
RG-13/U	74.	20	7-26 Tinned	.280	Copper	Copper	Black Vinyl	.420		.52
RG-14/U	52.	29	10	.370	Copper	Copper	Grey Vinyl†	.545		.607
RG-15/U	76.	19	15CW	.370	Copper	Copper	Black Vinyl	.545		.64
RG-17/U	52.	29	188	.680	Copper		Grey Vinyl†	.870		1.48
RG-18/U	52.	29	188	.680	Copper		Grey Vinyl†	.870	Armor .945	1.80
RG-19/U	52.	29	.250	.910	Copper		Grey Vinyl	1.120		2.78
RG-20/U	52.	29	.250	.910	Copper		Grey Vinyl	1.120	Armor 1.195	3.15
RG-21/U	53.	29	16 Nichrome	.185	Silver*	Copper	Grey Vinyl†	.332		.47
RG-22/U	95.	16	Two 7-.0152	.285	Tinned		Black Vinyl	.405		.41
RG-29/U	53.5	28	20	.116	Tinned		Polyethylene‡	.184 Max.		.17
RG-34/U	71.	21	7-21	.455	Copper		Black Vinyl	.625		.644
RG-42/U	76.	20	21 Nichrome	.196	Silver*	Copper	Grey Vinyl†	.342		.463
RG-54A/U	58.	27	7-.0152	.178	Tinned		Polyethylene‡]	.250 Max.		.21
RG-55/U	53.5	28	20	.116	Tinned	Tinned	Polyethylene‡	.206 Max.		.33
RG-57/U	95.	17	Two 7-21	.472	Tinned		Black Vinyl	.625		.726
RG-58/U	53.5	28	20	.116	Tinned		Black Vinyl	.195		.185
RG-59/U	73.	22	22CW	.146	Copper		Black Vinyl	.242		.185
RG-62/U	93.	14	22CW	.146*	Copper		Black Vinyl	.242		.26
RG-71/U	93.	14	22CW	.146*	[illegible]	Tinned	Polyethylene‡	.250 Max.		.37
RG-74/U	52.	29	10	.370	[illegible]	[illegible]	y Vinyl†	.545	Armor .615	.85
21-125	7	21	9	.680	[illegible]	[illegible]	y Vinyl	.870		1.33

*Semi . Dielectric †Non-Contaminating Vinyl Ja et *Silver Coated Copper Wire

VELOCITY PROPAGATION OF TRIC CABLES 66%;
SEMI-SOL ...

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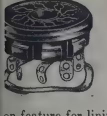
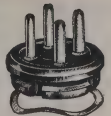
This chart dated April 1, 1946 — Subject to changes and additions.



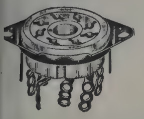
RETAINER RING "S" TYPE SOCKETS and "CP" TYPE PLUGS



— For quick easy assembly to chassis or panel from 19 gauge (.044″) to 16 gauge (.062″) using No. 4 Amphenol patented tempered steel retainer ring. High dielectric molded bakelite and cadmium plated contacts for easy soldering. Rota-
on feature for lining up contacts — wiring for short leads reduces chassis area
quired. Complete with retainer ring.

S" Sockets		List
-S4	— 4-Contact	12c
-S5	— 5-Contact	12c
-S6	— 6-Contact	12c
-S7S	— 7-Small	12c
-7SL	— 7-Large	12c
-S7C	— 7-Comb. for 7L and 7S	15c
-S8	— 8-Octal	15c
-S9	— 9-Contact	19c
-S11	— 11-Contact	26c
-8L	— Loktal	19c

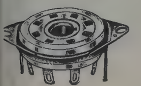
"CP" Plugs		List
86-CP4	— 4-Prong	12c
86-CP5	— 5-Prong	12c
86-CP6	— 6-Prong	12c
86-CP7S	— 7-Prong Small	12c
86-CP7L	— 7-Prong Large	12c
86-CP8	— 8-Prong (Octal)	15c
86-CP9	— 9-Prong (Octal style)	19c
86-CP11	— 11-Prong (Octal style)	26c



U.H.F. LOW-LOSS POLYSTYRENE SOCKETS

— Extremely low losses even at the highest frequencies. Transparent body molded from "912-A" polystyrene with extra long contact soldering lugs to prevent possible soldering heat damage. High efficiency in operation for temperature ranges not exceeding 200° F. Mounts in 1$\frac{5}{32}$″ hole with 1½″ mounting centers.

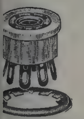
54-8 — Octal Socket..........................**44c list**



LOKTAL SOCKET

— Made of Amphenol "912-A" pure polystyrene like the octal but with floating contacts for small loktal tube prongs. Takes full advantage of the high efficiency of the loktal tubes which do not have a loss-inducing insulating material base. Mounts in 1$\frac{5}{32}$″ hole.

54-8L — Loktal Socket......................**49c list**



U.H.F. MINIATURE LOW-LOSS SOCKETS

— Amphenol "912-A" polystyrene 5 and 6 contact sockets for use with Miniature Amphenol polystyrene plug-in coil forms also listed. Greatly reduces U.H.F. circuit losses. Fits Hytron Bantam Jr. tubes. Mounting hole diameter ⅝″.

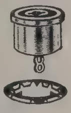
		List
54-5H	— 5-Contact Miniature Socket	38c
54-6H	— 6-Contact Miniature Socket	38c

No. 54-7P—MINIATURE POLYSTYRENE SOCKET

- An ultra low-loss socket to take full advantage of the newly developed seven rong miniature tubes. Molded from Amphenol 912-A polystyrene.

-7P — 7-Contact Miniature Socket..................................**38c list**

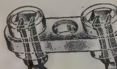
.H.F. TIP JACK OR BUSHING



— Contact accommodates 80″ phone tip but contact may be removed and the transparent mphenol "912-A" body used as a high frequency thru-panel bushing s well. Mounts in a plain round ⅝″ hole, and is held in place with o. 2-9 retainer ring included.

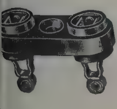
-1H — U.H.F. Tip Jack...............................**27c list**

RYSTAL HOLDER SOCKET



— Same as 33-2 be-
w except molded of ultra low-loss Amphenol "912-A" olystyrene. Contacts are of phosphor bronze, silver lated to keep resistance at a minimum. Contacts may be emoved and the polystyrene body used as a two hole ed thru bushing. Center to center contact ¾″.

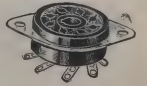
-2 Crystal Holder Socket..**33c list**



STANDARD CRYSTAL HOLDER SOCKET

— Of black or mica filled bakelite for crystal holders having two prongs on ¾″ centers. Easily mounted and requires minimum area on chassis or panel. Used extensively for crystal phasing in receivers, crystal control of transmitters and test equipment. May be used as dual tip jack on test panels. Cadmium plated contacts.

		List
3-2	— For ⅛″ Diameter Prongs (Black Bakelite)	9c
3-3	— For $\frac{5}{32}$″ Diameter Prongs (Black Bakelite)	9c
3-2T	— For ⅛″ Diameter Prongs (Mica Filled Bakelite)	15c
3-3T	— For $\frac{5}{32}$″ Diameter Prongs (Mica Filled Bakelite)	15c



MIP MOLDED-IN-PLATE SOCKETS

—World's strongest socket. Sturdy steel mounting plate moulded directly into bakelite body, cannot come loose or vibrate. 1½″ Mounting centers. Mounts in 1$\frac{5}{32}$″ hole (MIP7L and MIP20 in 1$\frac{9}{32}$″ hole). Molded from high dielectric black bakelite.

		List
77-MIP4	— 4-Contact MIP Socket	11c
77-MIP5	— 5-Contact MIP Socket	11c
77-MIP6	— 6-Contact MIP Socket	11c
77-MIP7L	— 7-Large MIP Socket	13c
77-MIP7S	— 7-Small MIP Socket	11c
77-MIP8	— 8-Octal MIP Socket	13c
77-MIP9	— 9-Octal Style MIP Socket	16c
77-MIP11	— 11-Octal Style MIP Socket	22c
77-MIP12	— 12-Octal Style MIP Socket	27c
77-MIP20	— 20-Octal Style MIP Socket	55c

MIP LOKTAL

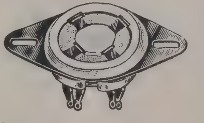
— Molded-in-plate socket for loktal tubes. Identical to standard MIP sockets but is smaller in size and has 1$\frac{5}{16}$″ mounting centers. Mounts in 1$\frac{1}{16}$″ hole.

88-8X — Loktal Socket...**19c list**

MIDGET OCTAL

— Has all the features of the standard MIP sockets, but is smaller in size. For building compact radios and as the companion socket for the above loktal. Mounting centers, 1$\frac{5}{16}$″. Mounts in 1$\frac{1}{16}$″ hole.

88-8 — Midget Octal...**13c lis**

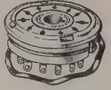


STEATITE SOCKETS

—Recommended for high frequency work where high temperatures are encountered such as in transmitters, amplifiers having high output and for extensive replacement service use. Plates have slotted mounting holes to fit riveting centers from 1½″ to 1⅞″.

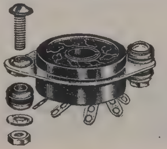
Less Plate	List		With Plate	List
49-SS4	43c	4-Contact Steatite Socket	49-RSS4	44c
49-SS5	43c	5-Contact Steatite Socket	49-RSS5	44c
49-SS6	43c	6-Contact Steatite Socket	49-RSS6	44c
49-SS7S	43c	7-Small Steatite Socket	49-RSS7S	44c
49-SS7L	54c	7-Large Steatite Socket	49-RSS7L	55c
49-SS8	43c	8-Octal Steatite Socket	49-RSS8	44c

MAGNAL STEATITE SOCKET



— Eleven contact socket of steatite as above. Has 1$\frac{1}{16}$″ pin circle to accept magnal 11-prong bases as found on many popular cathode ray and television tubes. Has octal style locating keyway. Complete with No. 2-14 ring. Mounts on 1⅝″ hole.

49-SS11L — Magnal Steatite Socket............**$1.10 list**

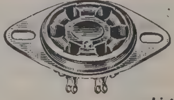


FLOATING OCTAL SOCKETS

— Completely cushioned. Has enlarged mounting holes in the plate into which live rubber grommets are placed for cushioning the socket to obtain vibration free operation. Eliminates most tube microphonics. Mounts in a 1$\frac{5}{32}$″ hole with two ¼″ screw holes on 1½″ centers. Complete with socket, four rubber grommets, two mounting screws, nuts and washers.

MIP8-FK — Socket With Kit..............**35c list**

REPLACEMENT SOCKETS



— Regular "S" sockets and "CP" plugs (listed to the left, above) assembled with No. 4 retainer ring to nickel-plated steel mounting plate with slotted mounting holes to fit riveting centers from 1½″ to 1⅞″. Extensively used by servicemen as replacements.

Sock t	— Plug		List
78-RS-4	— 86-RCP-4	— 4-Contact	13c
78-RS-5	— 86-RCP-5	— 5-Contact	13c
78-RS-6	— 86-RCP-6	— 6-Contact	13c
78-RS-7S	— 86-RCP-7S	— 7-Small	13c
78-RS-7L	— 86-RCP-7L	— 7-Large	13c
78-RS-7C	—	7-L & S — Comb.	16c
78-RS-8	— 86-RCP-8	— 8-Octal	16c
78-RS-9	— 86-RCP-9	— 9-Contact	20c
78-RS-11	— 86-RCP-11	— 11-Contact	27c
78-RS-8L	—	Loktal	20c

MICA FILLED BAKELITE SOCKETS

All bakelite sockets and plugs on this page are also available molded from low-loss mica filled bakelite. To order, add letter "T" to catalog number and 7c to list price. Especially desirable for high frequency applications as mica filled bakelite has lower power factor and better dielectric constant.

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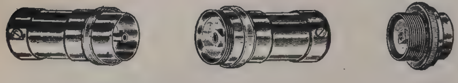
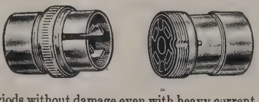


LOW-LOSS COAXIAL CABLE CONNECTORS

LOW-LOSS COAXIAL CABLE CONNECTORS — for cables up to $^{13}/_{32}$″ O.D. May be reamed out for cable up to $^{7}/_{16}$″ O.D. Shell machined from solid brass, plated in heavy polished chrome. Connector elements made of "912-A" Amphenol low-loss polystyrene. Male shells have threaded locking rings for tight connections. Cable units have metal clamp for tight cable grip and safe ground connection. CHASSIS UNIT mounts in $^{13}/_{16}$″ hole and has soldering lug, lock washer and nut.

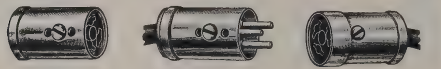
		List
93-M	— **Male Cable Connector**	$1.64
93-F1	— **Female Cable Connector**	1.64
93-F	— **Female Cable Connector**	1.64
93-M1	— **Male Cable Connector**	1.64
93-C	— **Female Chassis Connector**	1.37
93-C1	— **Male Chassis Connector**	1.37

HEAVY DUTY POWER CONNECTORS



HEAVY DUTY POWER CONNECTORS — Has four, flat, heavy brass blades in the male molded bakelite unit for connection with set-back contacts of phosphor bronze in the molded bakelite female unit. Frequent use is possible over long periods without damage even with heavy current loads of 15 amperes at 125 volts or 10 amperes at 250 volts. Full, body-tight heavy brass shell — bright cadmium plate. Polarized with shell keys and keyways. Terminals of bakelite units are numbered for quick wiring. Strain is taken up by a strong cable clamp grip. Grounding screw in body for safe wiring. Threaded locking ring keeps connections tight.

				List
92-M — **Male**	$2.74 list		**92-F** — **Female**	$2.74
92-F1 — **Female**	2.74 list		**92-M1** — **Male**	2.74



MINIATURE CABLE CONNECTORS

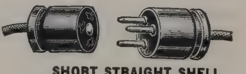
MINIATURE CABLE CONNECTORS —For snielded or unshielded cables having up to six conductors. Molded bakelite elements are housed in cadmium plated brass shells only $1^{3}/_{16}$″ long and $^{11}/_{16}$″ O.D. Bakelite element held in place by side set screw. Staggered contact spacing polarizes elements so that incorrect insertions are impossible.

LONG STRAIGHT SHELL

FEMALE	MALE		List
91-MPF3L	**91-MPM3L**	**3-Contact Plug**	.33c
91-MPF4L	**91-MPM4L**	**4-Contact Plug**	.36c
91-MPF5L	**91-MPM5L**	**5-Contact Plug**	.41c
91-MPF6L	**91-MPM6L**	**6-Contact Plug**	.41c

FLANGED SHELL FEMALE	STRAIGHT SHELL MALE		List
91-MPF3	**91-MPM3**	**3-Contact Miniature Cable Connector**	.33c
91-MPF4	**91-MPM4**	**4-Contact Miniature Cable Connector**	.36c
91-MPF5	**91-MPM5**	**5-Contact Miniature Cable Connector**	.41c
91-MPF6	**91-MPM6**	**6-Contact Miniature Cable Connector**	.41c

SHIELDED PLUGS



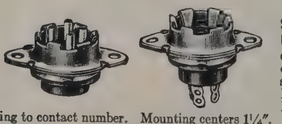
SHIELDED PLUGS — Short shell is $^{13}/_{16}$″ long same as above but for locations where small plug is desired.

SHORT STRAIGHT SHELL

FEMALE	MALE	List
91-MPF3S	**91-MPM3S**	33c
91-MPF4S	**91-MPM4S**	36c

SHORT STRAIGHT SHELL

FEMALE	MALE	List
91-MPF5S	**91-MPM5S**	41c
91-MPF6S	**91-MPM6S**	41c

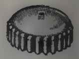


SHIELDED CHASSIS UNITS

SHIELDED CHASSIS UNITS — For up to six conductor shielded or unshielded cables. Use where a compact shielded connector is desired. For cable connection with 91-MPM-L and 91-MPF-L according to contact number. Mounting centers $1^{1}/_{4}$″.

MALE	FEMALE		List
86-PCG3M	**78-PCG3F**	**3-Contact**	.33c
86-PCG4M	**78-PCG4F**	**4-Contact**	.33c
86-PCG5M	**78-PCG5F**	**5-Contact**	.37c
86-PCG6M	**78-PCG6F**	**6-Contact**	.37c

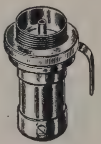
LOW-LOSS "912-A" COAXIAL CABLE END TERMINAL CAP



LOW-LOSS "912-A" COAXIAL CABLE END TERMINAL CAP — For connection to Antenna Cable End Terminal as listed below. Molded in an umbrella like design, of pure polystyrene, Amphenol high dielectric, low-loss material. A coat of Amphenol "912-A" liquid polystyrene on the cap threads and wire opening will make the terminal connection weather-tight. Size — $^{1}/_{2}$″ high and $1^{7}/_{32}$″ across.

90-15 End Terminal Cap as above .... 25c lis

For Liquid "912-A" See Synthetics Page.

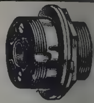


LOW-LOSS COAXIAL CABLE END TERMINAL

LOW-LOSS COAXIAL CABLE END TERMINAL— For connection of coaxial cable to antennas, open wires and matching stubs. For a suspended connection or for connection to bracket or insulator in $^{25}/_{32}$″ hole without strain on the aerial. May be sweated on copper tube cable and body solder lug may be used for connection to dipole and doublet aerials. When used with terminal cap listed above, connection is weather-tight.

93-M5 Antenna Cable End Terminal .... $1.64 lis

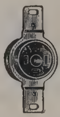
HEAVY DUTY CHASSIS OR PANEL RECEPTACLE



HEAVY DUTY CHASSIS OR PANEL RECEPTACLE — With male or female molded bakelite unit for use with Heavy Duty Power Connectors — Use 92-M with 92-C and 92-F1 with 92-C1. Mount in $1^{1}/_{4}$″ hole in any material thickness up to $^{1}/_{2}$″. Complete with lock washer, spacer washer and hex nut. Can be covered with CCC8 cap and chain described below, when not in use.

		List
92-C	— **Female**	$2.74
92-C1	— **Male**	2.74

HEAVY DUTY FLUSH RECEPTACLES



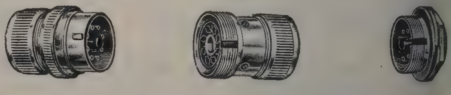
HEAVY DUTY FLUSH RECEPTACLES — With male or female bakelite unit in strong, steel body-frame. Used with Heavy Duty Power Connectors — 92-F1 with 92-M2 and 92-M with 92-F2 — in regular wall switch boxes. Full, open connection end will come thru wall plate $^{1}/_{8}$″ for good connection to grip locking ring or for cap and chain described below for a closed outlet when not in use.

		List
92-M2	— **Male**	$2.85
92-F2	— **Female**	2.85
84-2CH	— **Wall Plate for use with above**	.82

CAP AND CHAIN

CAP AND CHAIN — Heavy Duty Chrome Plated Brass Cap with bead chain similar to CCC1 and CCC3 but larger in size, to be used with chassis and flush receptacles above and chassis units of heavy duty radio connectors below.

79-CCC8 Cap and Chain .... 55c list



HEAVY DUTY RADIO CONNECTORS

No. of Contacts	Cable Connector With Coupling Ring Male	Cable Connector With Coupling Ring Female	Cable Connector With Coupling Thread Male	Cable Connector With Coupling Thread Female	Chassis Unit With Coupling Thread Male	Chassis Unit With Coupling Thread Female	List Price
4	79-04M	79-04F1	79-04M1	79-04F	79-P04M	79-P04F	$1.37
5	79-05M	79-05F1	79-05M1	79-05F	79-P05M	79-P05F	1.37
6	79-06M	79-06F1	79-06M1	79-06F	79-P06M	79-P06F	1.37
8	79-08M	79-08F1	79-08M1	79-08F	79-P08M	79-P08F	1.37
12	79-012M	79-012F1	79-012M1	79-012F	79-P012M	79-P012F	2.19

RUBBER CUSHIONS

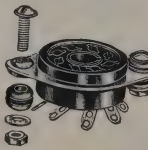
RUBBER CUSHIONS —Live rubber cushions for inserting in chassis or panel riveting holes to lessen vibration of an assembled part such as a tube socket.

		List
22-6	—**Rubber Cushion for $^{3}/_{8}$″ Hole**	**100 for $3.00**
22-10	—**Rubber Cushion for $^{1}/_{4}$″ Hole**	**100 for 1.50**

BLACK RUBBER GROMMETS

BLACK RUBBER GROMMETS — For protecting cables from abrasions when passing thru a chassis or panel hole.

		List
22-1	— **For $^{9}/_{16}$″ hole $^{7}/_{16}$″ I.D. Grommet**	**100 for $1.25**
22-2	— **For $^{7}/_{16}$″ hole $^{5}/_{16}$″ I.D. Grommet**	**100 for 1.05**
22-3	— **For $^{5}/_{16}$″ hole $^{3}/_{16}$″ I.D. Grommet**	**100 for .90**



ANTI-MICROPHONIC KIT

ANTI-MICROPHONIC KIT — Socket cushions and all the necessary parts for making floating connections using Amphenol MIP sockets. Contents in an envelope with complete instructions consist of four live rubber cushions, metal washers, mounting screws and nuts. Used to overcome tube microphonics wherever cushioned sockets are necessary, especially in photo-cell work, ultra-sensitive circuits, and for some battery tubes.

11-3K Kit Less Socket .... 22c list

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS AMPHENOL

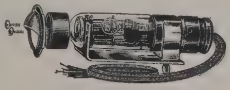
COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

AMPHENOL

PREFOCUSED LAMP RECEPTACLE — For medium-base prefocused lamps as used in movie projectors. Also adaptable for using prefocused lamps in floodlights, beacons, searchlights, etc. and for experimental work. Molded from special high heat resisting bakelite to withstand temperatures to 450° F. Special air cooled design. Conservatively rated at 1000 watts, 110-250 volts. Listed by Underwriters Laboratories. Heavy brass contacts assure minimum resistance for maximum light intensity. Can be installed in most movie projectors without drilling new holes. Heavy fiber insulator to cover terminals after wiring included with receptacle alone, not needed with cap.

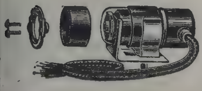
Insulating cap for receptacle available for use when socket is suspended or to add $\frac{1}{2}$″ to height of socket or to insulate wire terminals from panel.

	List
98-8 —Receptacle Only	**$1.75**
98-8A —Receptacle and Cap	**2.25**



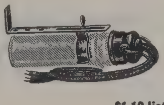
MAGIC EYE ASSEMBLY— For the easy adapting or replacing of a six-prong magic eye tube in any radio having automatic volume control. Also for FM receivers, test instruments, signal tracers and as volume level and modulation indicators. Includes one-megohm target-plate resistor wired into socket and five wire color coded cable 22″ long. Mounting bracket is slotted for tube adjustment. Complete as above with antique bronze escutcheon and necessary hardware for assembly. Tube not included.

58-MEA6 Complete Magic Eye Assembly........$1.37 list



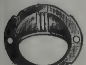
OCTAL MAGIC EYE ASSEMBLY— Similar to the above, but for octal type magic eye tubes. Has a shorter bracket for the smaller tube size. Complete with 6 wire 22″ long color coded cable and full vision type antique bronze escutcheon and necessary hardware for assembly. Tube not included.

58-MEA8 Complete Octal Magic Eye Assembly........$1.37 list

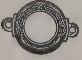


CATHODE RAY ASSEMBLY — Widely used for mounting 902, 913 and similar cathode ray tubes. Bakelite socket mounted in a protective metal shell, completely wired with eight wire 22″ long color coded cable. Adjustable "L" bracket for mounting on panel front or base. Tube not included.

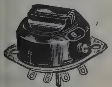
58-913 Complete Cathode Ray Assembly........$1.10 list



MAGIC EYE ESCUTCHEONS — No. 10-1 hood type, large size for mounting over panel or cabinet hole. No. 10-2 Octal base full vision type. Brass with antique bronze finish.



	List
10-1 — For 6-Prong Single Eye Tube	**27c**
10-2 — For 8-Prong Double Eye Tube	**33c**

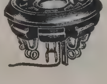


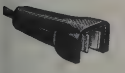
TAP CHANGE SWITCH — An 8-position single pole continuous switch with white numerals clearly visible in window cap. Supplied with markings 1-2-3-4-5-6-7-8 or impedance markings 0-2-4-8-16-250-500. Side set screw locks switch-arm in position, preventing accidental tap changes.

	List
36-1 — With Numerals 1 to 8	**82c**
36-2 — With Impedance Markings	**82c**

BULB TESTER SOCKET — A standard 7-contact combination socket for large and small 7-prong tubes and has a large center contact for testing miniature bulbs, either screw or bayonet base types.

	List
78-7CD — With Retainer Ring	**48c**
78-RS7-CD — With Mounting Plate	**49c**

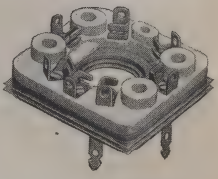




UNIVERSAL GRID CAP — A grid cap of improved design, wired or unwired, for universal use with tube grid caps from $\frac{1}{4}$″ to $\frac{3}{8}$″ diameter including standard glass and metal tubes. Spring brass contacts in bakelite body.

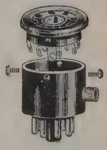
	List
63-1 — Unwired	**16c**
63-1W — Wired	**22c**

ACORN SOCKETS



5-Contact Acorn Socket complete with cathode and bypass assembly, for mounting directly on chassis. Grounding plate cannot be used. Bronze contacts.

151-001........$2.00 list



UNWIRED ADAPTERS — A simple way to make adapter units which may be used for modernizing tube checkers and analyzers, adapting new tubes to old circuits — for connections to output meter, phonograph pick-up, headphones, extra speakers, recorders and other adapter uses.

ADAPTER SOCKET TOPS ONLY—22c list

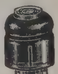
44-4 — 4-Contact — For Small Bases — 44-7S......7 Small
44-5 — 5-Contact — For Small Bases — 44-8.......8-Octal
44-6 — 6-Contact — For Small Bases — 44-L........Loktal
44-7L — 7-Large — Fit Large Bases Only — 44-7C . 7 Comb.

ADAPTER BASES ONLY in TWO STYLES — With $\frac{5}{32}$″ side hole for lead out wiring or with a side stud accommodating a metal tube grid cap clip. Both tops (above) and bases are drilled for self tapping screws which are supplied with bases.

Number of Prongs	SMALL BASES	Side Hole List 22c	Side Stud List 33c
4-Prong		**50-4D**	**50-4G**
5-Prong		**50-5D**	**50-5G**
6-Prong		**60-6D**	**50-6G**
7-Small		**50-7SD**	**50-7SG**
8-Octal		**50-8SD**	**50-8SG**
	LARGE BASES		
7-Large for 44-7L and 44-7C Sockets Only		**50-7LD**	**50-7LG**
8-Octal for 44-7L and 44-7C Sockets Only		**50-8LD**	**50-8LG**

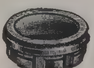
LOKTAL ADAPTER BASES — Similar to small bases above but have metal band and lock-in stud like loktal tubes.

44-13 Loktal Base (No side hole or side stud)........60c list



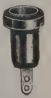
MINIATURE TUBE ADAPTERS — Unwired for testing miniature tubes. 44-17-8 socket top for 7-prong miniature tubes, 44-12-8 socket top for Hytron Bantam Jr. 5-contact tubes, and 44-26-8 socket top for Raytheon 5-prong miniature tubes. All have octal bases.

44-17-8 for 7-Prong Miniature Tube	**55c list**
44-12-8 for 5-Contact Hytron Bantam Jr. Tube	**55c list**
44-26-8 for 5-Prong Raytheon Miniature Tube	**55c list**



BLANK SOCKET — "S" type socket as listed on another page for mounting in the standard $1\frac{11}{64}$″ "S" type socket hole. Used primarily as a dummy or spare socket on tube checkers and analyzers so a new "S" type socket can easily be added when a socket for new type tubes is required. May be used as a bakelite bushing by drilling a hole in the center.

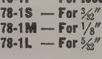
78B Blank Socket........065c list



SINGLE CONTACT SOCKETS— Of molded bakelite for mounting in $\frac{3}{8}$″ hole — held firmly in place by Amphenol Retainer Ring No. 2-11. Contacts recessed approximately $\frac{1}{8}$″ below the top of the tip jacks prevent accidental shorts from contact to chassis. The bakelite body may be used as a feed thru bushing by removing the contact. Seven colors and 4-prong diameters for quick wiring identification.

Red, green, blue, yellow, gray, walnut or black. If no color is specified, black will be furnished.

	List
78-1P — For .080″ Phone Tip	**8c**
78-1S — For $\frac{3}{32}$″ Plug	**8c**
78-1M — For $\frac{1}{8}$″ Plug	**8c**
78-1L — For $\frac{5}{32}$″ Plug	**8c**



SINGLE PRONG PLUGS — A small but extremely useful plug in colors, for connection with sockets listed above.

Red, green, blue, yellow, gray, walnut or black. If no color is specified, black will be furnished.

	List
71-1S — For $\frac{3}{32}$″ Socket	**.055c**
71-1M — For $\frac{1}{8}$″ Socket	**.055c**
71-1L — For $\frac{5}{32}$″ Socket	**.055c**

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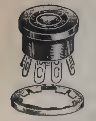
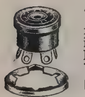
MINIATURE SOCKETS



78-7P RCA— For 7-prong miniature tube series. Metal shell in socket center for grounding to chassis. Mounts firmly in place in ⅝″ hole with No. 2-9 retainer ring.

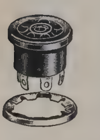
78-7P — 7-Contact Miniature Socket............19c list

For socket as above but molded in U.H.F. polystyrene see listing on another page.



78-5P RAYTHEON — For 5-prong miniature tubes of the Raytheon hearing aid tube types. Mounts firmly in ½″ hole with No. 2-10 retainer ring.

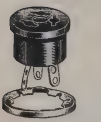
78-5P — 5-Contact Miniature Socket..............19c list



78-5H BANTAM JR. — For 5-prong Hytron Bantam Jr. miniature tube types with ³⁄₃₂″ diameter prongs. Also in 6-prong types for coil forms and plug connections.

	List
78-5H — 5-Contact	19c
78-6H — 6-Contact	19c

For socket as above but molded in U. H. F. polystyrene see listing on another page.



78-S3S PHOTOCELL — With contact spacing for practically all three prong miniature photocells — RCA Pee-Wee, Cetron, etc. Mounts firmly in ⅝″ hole with No. 2-9 retainer ring.

78-S3S — 3-Contact.......15c list

MINIATURE PLUGS

Cable Plug

Chassis Plug and Ring

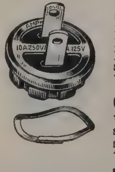
CABLE TYPE — Extremely compact plugs, used extensively for speaker connections in compact midgets. Also ideal for all plug-in connections where space is limited. Plated brass prongs are deeply recessed in individually molded pockets, preventing shorts due to insulation pulling back. With molded finger grip. Fit miniature sockets above.

CHASSIS TYPE— Mounts in a plain round hole ⅝″ in diameter. No screws or rivets required. Held firmly in place by the No. 2-9 tempered steel retainer ring. Use with female miniature connectors (MPF types) on preceding page.

Chassis	Cable	Prongs	List
86-CP-3S	**71-3S**	3	14c
86-CP-4S	**71-4S**	4	14c
86-CP-5S	**71-5S**	5	19c
86-CP-6S	**71-6S**	6	19c

RECEPTACLES AND PLUGS 110-250 VOLT

AMPHENOL
10A-250V
UL
15A-125V
CAT-No.61F



Compact receptacles. Molded from high dielectric black bakelite. Rated at 15 amperes, 110 volts, or 10 amperes, 250 volts. Female type has both soldering lugs and binding screws; male has binding screws. 2-Pole type accepts any standard electric plug. Mounts in 1⁹⁄₃₂″ hole.

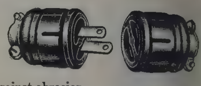
RETAINER RING TYPE (Receptacles)	List
61-F — 2-Pole Universal	27c
60-F — 3-Pole Polarized	38c
WITH MOUNTING PLATE (Receptacles)	
61-F1 — 2-Pole Universal	31c
60-F1 — 3-Pole Polarized	42c

Retainer Ring Type (Plugs)	List
61-M — 2-Pole Standard	27c
61-MP — 2-Pole Polarized	27c
60-M — 3-Pole Polarized	38c

With Mounting Plate (Plugs)	List
61-M1 — 2-Pole Standard	31c
61-MP1 — 2-Pole Polarized	31c
60-M1 — 3-Pole Polarized	42c

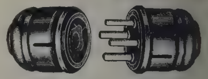
Style similar to 61F above except has molded in plate like MIP sockets. 1½″ mounting centers.
MIP-61F Receptacle..............27c

SHIELDED CABLE CONNECTORS



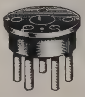
110-250 VOLT CONNECTORS — With 79-CC-4 cable clamps for cables up to ½″ in diameter. Clamp take up cable pull and relieves soldered connections of strain. Extremely practical for plug and cable connections of power lines. Fully shielded cable terminals in molded bakelite connection units encased in a tightly covered drawn steel cap — snaps on and fits securely — easily removed. Available without clamp also but with rubber grommets for protection against abrasion.

With Clamp	List Price		With Grommet	List Price
61-F11	44c	**2-Pole Universal Receptacle**	**61-F4**	38c
61-M11	44c	**2-Pole Standard Plug**	**61-M4**	38c
61-MP11	44c	**2-Pole Polarized Plug**	**61-MP4**	38c
60-F11	55c	**3-Pole Receptacle**	**60-F4**	49c
60-M11	55c	**3-Pole Polarized Plug**	**60-M4**	49c



MULTI-WIRE CABLE CONNECTORS — Made of regular Amphenol "S" type tube sockets and "CP" plugs, snugly covered by a steel cap that fits tightly but may be removed with an ordinary screwdriver. Cover is 1″ in height, black japanned. A rubber grommet protects cable from abrasions. Metal cover shields connections and provides an unbreakable cable terminal. Small and sturdy. Accommodates cables to ⁷⁄₁₆″.

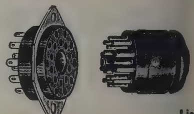
With Grommet				With Clamp		
Female	Male	List		Female	Male	List
78-PF4	**86-PM4**	27c	**4-contact**	**PF4-11**	**PM4-11**	33c
78-PF5	**86-PM5**	27c	**5-contact**	**PF5-11**	**PM5-11**	33c
78-PF6	**86-PM6**	27c	**6-contact**	**PF6-11**	**PM6-11**	33c
78-PF7S	**86-PM7S**	27c	**7-small**	**PF7S-11**	**PM7S-11**	33c
78-PF7L	**86-PM7L**	27c	**7-large**	**PF7L-11**	**PM7L-11**	33c
78-PF8	**86-PM8**	27c	**8-contact**	**PF8-11**	**PM8-11**	33c
78-PF9	**86-PM9**	31c	**9-contact**	**PF9-11**	**PM9-11**	36c
78-PF11	**86-PM11**	38c	**11-contact**	**PF11-11**	**PM11-11**	44c



ONE PIECE MOLDED SPEAKER PLUGS — Have prongs securely molded into one piece body. Each prong is deeply set into individually molded pockets eliminating the possibility of shorts in case of wire insulation pull-back. Extensively used as speaker plugs, for intercommunication systems public address, remote control etc. Fit standard tube sockets.

WITH FINGER GRIP	
71-4 — 4-Prong	12c list
71-5 — 5-Prong	12c list
71-6 — 6-Prong	12c list
71-7 — 7-Prong	12c list

WITH STRAIGHT SIDE	List
70-8 — 8-Prong	15c
70-9 — 9-Prong	19c
70-12 — 12-Prong	27c
70-20 — 20-Prong	55c



20-CONTACT SOCKET AND SHIELDED PLUG—Molded bakelite plug encased in black japanned steel shells for cables with up to twenty No. 18 conductors. Rubber grommet accepts cables to ⁷⁄₁₆″ in diameter. Prongs molded directly into bakelite body, eliminating possibility of working loose or getting out of alignment. Molded octal type polarizing stud prevents incorrect insertions. Socket has molded-in steel mounting plate. Mounts in a 1⁹⁄₃₂″ hole, with riveting centers of 1½″.

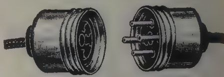
	List
86-PM-20 — 20-Prong Plug	82c
77-MIP-20 — 20-Contact Socket	55c

ACCESSORIES FOR CABLE CONNECTORS

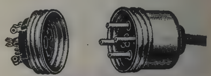
CABLE CLAMP— Designed primarily for cable strain relief. Used with 78-PF and 86-PM connectors and 60 and 61 series. Simply remove rubber grommet for connector and slip this grip into place. Relieves soldered connections of strain. Also used on panels and chassis, to anchor cables firmly in place. Slips easily into any shape hole from ³⁄₁₆″ to ⅝″. No screws or rivets required.

79-CC-4 Cable Clamp..............11c list

PULL-PROOF LOCKING SHELLS



CABLE SET 15-C-CHA



CHASSIS SET 15-C-CHA

CABLE TYPE— Cadmium-plated steel covers which can be slipped over "PF" and "PM" Connectors and 60 and 61 series 110-250 volt Connectors. Locks connectors firmly together, preventing accidental pull-aparts. Especially suited for public address work. Also used extensively in shops, etc., to pull proof connections in power cords. Set consists of one male and one female threaded shell.

15-C-CAB — Per Set..............27c list

CHASSIS TYPE — Similar to the cable type in design except that one section is a threaded shell which fits under "S" type socket or retainer ring type 60 and 61 series. The other shell slips over the cable connector.

15-C-CHA — Per Set..............27c list

MICA FILLED BAKELITE SOCKETS

All bakelite sockets and plugs on this page are also available molded from low-loss mica filled bakelite. To order, add letter "T" to catalog number and 7c to list price. Especially desirable for high frequency applications as mica filled bakelite has lower power factor and better dielectric constant.

COAXIAL CABLES AND CONNECTORS · INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT · ANTENNAS · RADIO COMPONENTS · PLASTICS FOR ELECTRONICS

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AMPHENOL

MC1F

MC1M

SINGLE CONTACT MICROPHONE CONNECTORS — SHIELDED CABLE TYPE

— Unbreakable machined brass shell chrome-plated: with coupling ring for tight connections. Spring cord protectors accommodate cables to 1/4" diameter.

	List
75-MC1F — Female	**55c**
75-MC1M — Male	**44c**

SIDE CABLE OUTLET —Designed to be placed between a microphone and stand having 5/8" 27 standard threads. Its purpose is to provide an outlet for the microphone cable where it is not desired to run it through the stand tubing. Efficient cable grip relieves strain. Heavy metal castings, finished in polished chrome.

57-SCO3	**82c list**

CHASSIS UNIT — Use in holes — .385" to ground to chassis or 1/2" for 2 independent circuits. Has extruded fibre washer, flat fibre washer, flat solder lug washer and locking nut. Use MC1F or MC1F-A cable connector.

75-PCIM — 1-Contact	**33c list**

PRESSURE CABLE CONNECTOR—Like MC1M listed above but center insulated contact is enforced by a heavy coil spring at the back for positive connection. Used for any unit fitting MC1M. Supplied with spring cord protector for cables to 1/4".

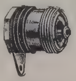
75-SP-MC1M — Pressure Connector	**55c list**

ANGLE CONNECTOR UNIT — For cable connection at right angles to chassis. Used on amplifiers, transmitters, and other apparatus with PC1M, SP-PC1M or CL-PC1M. No need for long bends in cable with this unit which prevents breakage of cable shields and center conductors. Shell portion, polished chrome. With spring cord protector for cables to 1/4".

75-MC1F-A — Female Angle Connector	**66c list**

PHONE PLUG ADAPTER For MC1F and MC1F-A connectors and any standard phone jack — no soldering or wiring.

75-MC1P — Phone Plug	**49c list**



CLOSED CIRCUIT CONNECTOR Same as PC1M but circuit closes when cable connector is removed, eliminating open circuit grid howls. Same thread and hardware supplied as on PC1M. Contact is spring-actuated. Use MC1F or MC1F-A as the cable connector.

75-CL-PC1M — Closed Circuit	**44c list**

PRESSURE CHASSIS UNIT —Like PC1M Chassis Unit, but heavy coil spring enforces center contact. Fits same connectors as PC1M.

75-SP-PC1M	**44c**

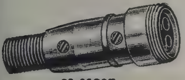
MICROPHONE SWITCH — Compact, unbreakable microphone switch. Male threads fit the MC1F and MC1FA. Coupling ring fits any other 75 Series connector having coupling threads. No tools or wiring required. May be connected directly to any mike which has the PC1M installed, also between amplifier and mike cable, or between two cables connected with MC1M and MC1F. PUSH-TO-TALK, and release the button for stand-by; or SLIDE SWITCH forward for permanent connection. Switch short-circuits mike. Shell machined from solid brass, chrome plated.

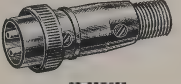
75-MC1S — Switch	**$1.10 list**

STAND CONNECTOR— Screws in to top of any standard microphone stand. Female thread is 5/8"-27. Finished in polished chrome brass. Permits easy removal of mike.

91-SC3F — 3-Contact Female	**$1.10 list**
91-SC4F — 4-Contact Female	**$1.20 list**

LOW-LOSS MICA FILLED INSERTS— Add "T" to catalog numbers and 7c to list for higher dielectric with improved power factor of low-loss **mica filled bakelite** inserts for connectors. NOTE: Not available in 75 Series.


80-MC2F


80-MC2M

1 AND 2 CONTACT CONNECTORS — CABLE TYPE

— For small coaxial cables, microphone cables, speakers and other connections. Standard sleeve type contacts and male prongs for positive contact. Unbreakable brass shell, polished chrome finish. Molded element of high dielectric black bakelite. Screw type coupling ring for tight connections and spring cord protector for cables up to 5/16".

		List
80-F	**— 1-Contact Female**	**.71c**
80-M	**— 1-Prong Male**	**.71c**
80-MC2F	**— 2-Contact Female**	**88c**
80-MC2M	**— 2-Prong Male**	**88c**

FOR LARGER CABLES — Male connectors like 80-M and 80-MC2M above except has larger back shell for use of a larger spring cord protector which accommodates cables to .410" diameter.

80-81 — 1-Prong Male	**.71c**
80-85 — 2-Prong Male	**88c**

CHASSIS UNIT WITH COUPLING RING — For connection on chassis, panel or threading into microphone body with standard 5/8"-27 thread. Coupling ring engages 80-F or MC2F Cable Connector. Brass shell, chrome plated. With hex nut, lock washer, and flat washer. Mounts in 5/8" hole.

		List
80-MSP	**— 1-Pole Male**	**88c**
80-SP-MC2M	**— 2-Pole Male**	**99c**

CAP AND CHAIN— —Chrome plated cap seals open chassis units against dust, eliminating noisy connections. Used with any threaded 1 or 2-conductor chassis unit — PC1M, CL-PC1M, 80-C, 80-CR, PC2F, etc.

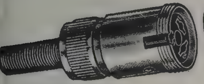
75-CCC-1 — Cap and Chain	**55c list**

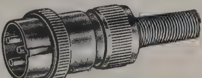
CHASSIS UNITS—LOCK NUT MOUNTING—Shielded chassis connectors. Complete with lock washer and hexagon locking nut. Mounts in 21/32" hole.

		List
80-C	**— 1-Contact Female**	**44c**
80-C1	**— 1-Prong Male**	**44c**
80-PC2F	**— 2-Contact Female**	**49c**
80-PC2M	**— 2-Prong Male**	**49c**

RIVETING PLATE CHASSIS UNIT — For fast mounting with rivets or replacement where units listed above are too small. 1 1/16" dia. plate part of entire unit, machined from solid brass, chrome plated. 27/32" mounting centers.

		List
80-CR	**— 1-Pole Female**	**55c**
80-PC2-CR	**— 2-Pole Female**	**60c**


91-MC3F


91-MC3M

3 AND 4 CONTACT MICROPHONE CONNECTORS

— Molded bakelite elements encased in unbreakable chrome-plated polarized brass shells. By removing cap and spring cord protector, connector can be screwed into microphone having 5/8"–27 thread, standard for this industry. Screw type coupling ring prevents accidental disconnections. 3-Contact connectors take cables up to 1/4" diameter, 4-contact to 3/8" diameter.

Male	Female		List
91-MC3M	**91-MC3F**	**3-Contact**	**$1.10**
91-MC3M1	**91-MC3F1**	**3-Contact**	**1.10**
91-MC4M	**91-MC4F**	**4-Contact**	**1.20**
91-MC4M1	**91-MC4F1**	**4-Contact**	**1.20**

CHASSIS CONNECTORS For 13/16" hole in any panel or chassis up to 1/2" thick. Permanently fixed element in plated-brass shell. Complete with mounting ring, lock washer, and hex lock nut.

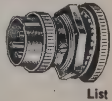
		List
91-PC3F	**— 3-Contact Female**	**55c**
91-PC3M	**— 3-Prong Male**	**55c**
91-PC4F	**— 4-Contact Female**	**60c**
91-PC4M	**— 4-Prong Male**	**60c**

CAP AND CHAIN— Chrome-plated cap seals open chassis units against dust, eliminating noisy connections. Use with any 3 or 4 contact chassis unit with threads.

91-CCC-3—For PC3F, PC4F, etc.	**55c list**

SPECIAL CHASSIS UNIT —Similar to regular chassis connector but for use on thick panels. Female units fit panels to 3/4" thick. Recessed solder lugs prevents physical damage and danger of shock. Use MC3M or MC4M as cable connector.

	List
91-SP-PC3F — 3-Contact Female	**$1.10**
91-SP-PC4F — 4-Contact Female	**1.20**



Special male units fit panels up to 3/8". Front extends 1/2". Chrome plated shell with coupling ring. Use with MC3F or MC4F cable connector.

	List
91-SP-PC3M — 3-Prong Male	**$1.10**
91-SP-PC4M — 4-Prong Male	**1 20**

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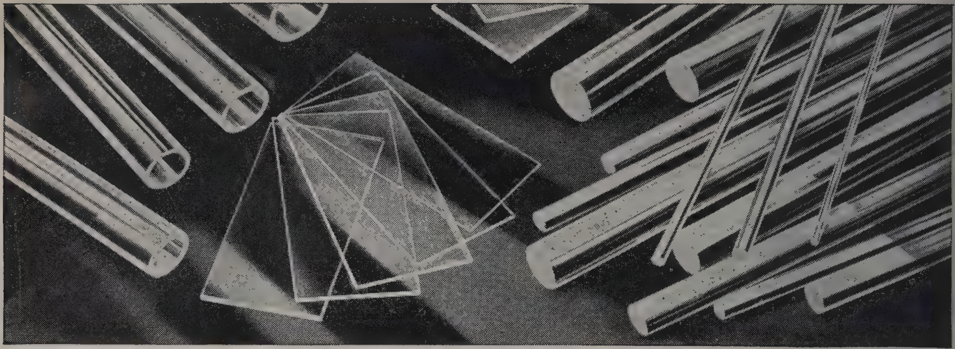

AMPHENOL "912-A" SHEET STOCK supplied in sizes per number listing below. 4" x 8" sizes have optical clarity suitable for dial window and gage glass applications.

Number	Diameter	List
19-0624	4" x 4" x 1/16"	$ .20
19-0934	4" x 4" x 3/32"	.23
19-1254	4" x 4" x 1/8"	.28
19-1874	4" x 4" x 3/16"	.33
19-2504	4" x 4" x 1/4"	.43
19-0628	4" x 8" x 1/16"	.28
19-0938	4" x 8" x 3/32"	.34
19-1258	4" x 8" x 1/8"	.40
19-1878	4" x 8" x 3/16"	.50
19-2508	4" x 8" x 1/4"	.67

AMPHENOL "912-A" RODS — Supplied in lengths up to 48" but if definite length is not specified, 12" lengths will be supplied per number listing below. For lengths shorter than 12" there is a small cutting charge. Also available in diameters — 1 1/8" to 4 1/2" — 12" lengths or in lengths up to 48". Prices on request.

Number	Diameter	List
19R125	1/8"	$ .04
19R187	3/16"	.08
19R250	1/4"	.13
19R312	5/16"	.20
19R375	3/8"	.29
19R500	1/2"	.52
19R625	5/8"	.81
19R750	3/4"	1.15
19R875	7/8"	1.59
19R1000	1"	2.15

AMPHENOL "912-A" TUBES — Tolerances maintained suitable for radio coil form and electronic applications — supplied in 12" lengths in various diameters and per number listing below and also available in lengths up to 48".

Number	Overall Diameter	Wall Thickness	List
19T1-062	3/16"	1/16"	$ .08
19T2-062	1/4"	1/16"	.12
19T3-062	5/16"	1/16"	.16
19T4-062	3/8"	1/16"	.18
19T5-062	1/2"	1/16"	.23
19T6-062	5/8"	1/16"	.32
19T7-062	3/4"	1/16"	.38
19T8-062	1"	1/16"	.52

AMPHENOL "912-B" ACRYLIC SHEET STOCK — Supplied in standard sheets, 12" x 16" per number listing below 1/16" to 1/2" thickness. No additional charge is made for quarter or half sheets. Also available in sheets as large as 20" x 25".

Number	Size	List
65-062	1/16"	$ 4.00
65-125	1/8"	8.00
65-187	3/16"	11.70
65-250	1/4"	13.70
65-375	3/8"	20.15
65-500	1/2"	26.74

AMPHENOL "912-B" ACRYLIC RODS — Supplied in 12" lengths — 1/4" to 1" diameter per number listing below, unless a definite length is specified. Can be supplied in lengths up to 48". Also available in diameters — 1 1/8" to 2" in 12" lengths and up to 48" length if specified. Price on request.

Number	Diameter	List
65R250	1/4"	$ .27
65R375	3/8"	.45
65R500	1/2"	.75
65R625	5/8"	1.16
65R750	3/4"	1.60
65R812	13/16"	1.95
65R875	7/8"	2.15
65R1000	1"	2.85

AMPHENOL "912-B" ACRYLIC TUBING — Supplied in 12" lengths diameters 1 1/2" to 3" per number listing below or in continuous lengths up to 48" if specified. Also available in 12" lengths and in continuous lengths up to 48" if specified in diameters from 2 1/4" to 3". Prices on request. No cutting charge for lengths exceeding 12".

Number	Overall Diameter	Wall Thickness	List
65T1-125	1 1/2"	1/8"	$2.40
65T1-187	1 1/2"	3/16"	3.55
65T2-125	1 3/4"	1/8"	2.85
65T2-187	1 3/4"	3/16"	4.10
65T2-250	1 3/4"	1/4"	5.20
65T3-125	2"	1/8"	3.20
65T3-187	2"	3/16"	4.75
65T3-250	2"	1/4"	6.00

Characteristic Reference

AMPHENOL 912-A is POLYSTYRENE

AMPHENOL 912-B is ACRYLIC

AMPHENOL 90 is TRANSPARENT VINYL

AMPHENOL "912-B" ACRYLIC CUT STRIPS — Recommended for making most types of low-loss insulator — trimmer bases, terminal strips, bushings, open wire transmission line spreaders, mountings for binding posts and pin jacks, coil supports, etc. Supplied in 12" lengths per number listing below and also available in lengths up to 24".

Number	Width	Thickness	List
65TS1-250	1/4"	1/16"	$ .21
65TS1-500	1/2"	1/16"	.31
65TS1-750	3/4"	1/16"	.42
65TS1-1000	1"	1/16"	.52
65TS2-250	1/4"	1/8"	.24
65TS2-500	1/2"	1/8"	.37
65TS2-750	3/4"	1/8"	.50
65TS2-1000	1"	1/8"	.64
65TS3-250	1/4"	3/16"	.29
65TS3-500	1/2"	3/16"	.44
65TS3-750	3/4"	3/16"	63
65TS3-1000	1"	3/16"	.78
65TS4-250	1/4"	1/4"	.34
65TS4-500	1/2"	1/4"	.52
65TS4-750	3/4"	1/4"	.74
65TS4-1000	1"	1/4"	.91
65TS6-250	1/4"	3/8"	.47
65TS6-500	1/2"	3/8"	.73
65TS6-750	3/4"	3/8"	.88
65TS6-1000	1"	3/8"	1.28
65TS8-250	1/4"	1/2"	.64
65TS8-500	1/2"	1/2"	.98
65TS8-750	3/4"	1/2"	1.38
65TS8-1000	1"	1/2"	1.76

AMPHENOL "90" FLEXIBLE SYNTHETIC TUBING — Of clear vinyl, small sizes may be used as "spaghetti" and the larger sizes provide the newest type all-purpose conduit. Resists tearing and abrasion, but may be cut. Very flexible and when stretched or flexed, readily returns to original form.

Number	A.S.T.M. Size	Nominal I.D.	Wall Thickness	List
90-034	20	.034"	.016"	$10.19 M ft.
90-038	19	.038"	.016"	10.56
90-042	18	.042"	.016"	10.74
90-047	17	.047"	.016"	11.11
90-053	16	.053"	.016"	11.67
90-059	15	.059"	.016"	11.85
90-066	14	.066"	.016"	12.22
90-076	13	.076"	.016"	12.78
90-085	12	.085"	.016"	13.70
90-095	11	.095"	.016"	14.81
90-106	10	.106"	.016"	16.30
90-118	9	.118"	.016"	17.96
90-133	8	.133"	.016"	21.30
90-148	7	.148"	.016"	25.93
90-166	6	.166"	.016"	34.44
90-2	1/8	1/8"	.030"	40.93
90-3	*3/16	3/16"	.040"	64.80
90-4	*1/4	1/4"	.040"	83.30
90-6	*3/8	3/8"	.060"	.193 ea. ft.
90-8	*1/2	1/2"	.083"	.344
90-10	*5/8	5/8"	.083"	.422
90-12	*3/4	3/4"	.083"	.50
90-14	7/8	7/8"	.083"	.57
90-16	*1	1"	.083"	.644

* Ferrules available for these sizes.

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

AMPHENOL

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

AMPHENOL

AMPHENOL POLYWELD "912" (Coil Dope) FOR R.F., U.H.F & V.H.F. APPLICATIONS

Amphenol POLYWELD "912" is pure Polystyrene in solution with "916" thinner. It is designed for "doping," coating, impregnating and sealing in most Radio Frequency applications in the *Ultra-High* and *Very-High* frequency ranges.

POLYWELD is moisture-repellent because it is nonhygroscopic and will not normally support fungus growth. It may therefore be used where these conditions are encountered with a resultant improvement in the performance of radio equipment.

FAST-DRYING • STRONG-ADHERING • LOW-LOSS • UNIFORM IN APPLICATION •

Wherever critical components (coils, coil forms, capacitors, ceramics, bakelite, connectors, etc.) must be coated or sealed, Amphenol POLYWELD "912" can be accepted as the standard to obtain high dielectric functioning together with moisture-repellent qualities which will give excellent service within the temperature range of –70° F. to 160° F. In addition, the low power factor of POLYWELD "912" is a distinct asset wherever it is used in radio frequency circuits.

AMPHENOL
Liquid
"912"
COIL DOPE
American Phenolic Corporation

AMPHENOL CEMENTS

The following were developed especially for use with Amphenol polystyrene and other Amphenol transparent materials. The cements contain solvents of the material with which they are to be used, so that the joint is actually welded instead of merely glued.

FOR AMPHENOL "912-B"

For cementing the sheet stock, rods and tubing.

		List
No. 53-901-2	**—2-oz. bottle "901" cement**	**$ .50**
No. 53-901-4	**—4-oz. bottle "901" cement**	**.65**
No. 53-901-G	**—In bulk, price per gal.**	**13.35**
No. 53-901-2T	**—2-oz. bottle "901" thinner**	**.25**
No. 53-901-GT	**—Bulk thinner, price per gal.**	**2.00**

FOR AMPHENOL THIN SHEETS

For cementing the thin sheet stock (from .015" to .050")

		List
No. 53-904-2	**—2-oz. bottle "904" cement**	**$ .50**
No. 53-904-4	**—4-oz. bottle "904" cement**	**.65**
No. 53-904-G	**—In bulk, price per gal.**	**13.35**
No. 53-904-2T	**—2-oz. bottle "904" thinner**	**.25**
No. 53-904-GT	**—Bulk thinner, price per gal.**	**2.00**

FOR AMPHENOL RIBBON

For cementing Amphenol Ribbons (from .001" to .010") together or to wood, paper, glass, etc., use the following:

		List
No. 53-207-2	**—2-oz. bottle "207" cement**	**$ .50**
No. 53-207-4	**—4-oz. bottle "207" cement**	**.65**
No. 53-207-G	**—In bulk, price per gal.**	**13.35**
No. 53-207-2T	**—2-oz. bottle "207" thinner**	**.25**
No. 53-207-GT	**—Bulk thinner, price per gal.**	**2.00**

POLYWELD "912" as a cement is for use with "912-A" Polystyrene products, and ACRYWELD "901" (cement only) is for use with "912-B" Acrylic products (each being specially designed for use with these materials), will actually "weld" the parts together so as to create a homogeneous unit.

Will Not Harm Silk, Celanese, Enamel or Cotton Coverings

POLYWELD "912" has high density and a relatively heavy body with low viscosity which creates a substance easy to apply in both thin and thick coatings. Usually only a thin coating is required. It is heavily bodied and may be diluted 25 to 30% with No. 916 Thinner, thus making the use of POLYWELD extremely economical. It has high resistance and minimum surface leakage at *Ultra-High* and *Very-High* frequencies and can be used for almost all radio frequency applications. Its high potential breakdown makes it substantially puncture-proof while its unusual flexibility develops an ideal material for use in high-voltage R.F. circuits.

The use of POLYWELD "912" will not affect the electrical characteristics of coils within most frequency ranges.

AMPHENOL POLYWELD "912" (Liquid Coil Dope) and AMPHENOL ACRYWELD "901" CEMENTS & THINNERS

Non-Returnable Containers—Net Wt. per Gal. 7.85 Lbs.—Gross Wt. 1-Gal. Can: 8.75 Lbs.—5-Gal. Can: 41.75 Lbs.—30-Gal. Drum: 265 Lbs.

Number		List Price
53-912-2	2-oz. Bottle Polyweld	$ .50
53-912-4	4-oz. Bottle Polyweld	.65
53-912-P	Pint Container Polyweld	2.25
53-912-Q	Quart Container Polyweld	4.00
53-912-G	1-Gallon Can Polyweld	13.35
53-912-5G	5-Gallon Drum Polyweld.....per gal.	12.26
53-912-30G	30-Gallon Drum Polyweld*...per gal.	11.31
53-916-2T	2-oz. Bottle Thinner	.25
53-916-GT	1-Gallon Can Thinner	2.00

* For spigot use.

Add "901" in place of "912" and "916" in the above numbers for ACRYWELD "901" Cement and ACRYWELD Cement Thinner for quantities indicated at same list prices.

AMERICAN PHENOLIC CORPORATION CHICAGO 50, ILLINOIS
In Canada • Amphenol Limited • Toronto

AMPHENOL AMERICAN PHENOLIC CORPORATION

CHICAGO 50, ILLINOIS
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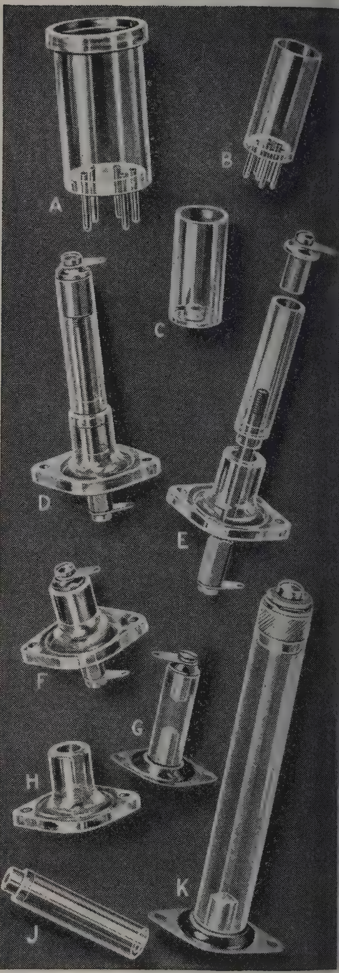


A — PLUG-IN COIL FORMS — Amphenol "912-A" polystyrene superior coil forms with prongs molded in. Prong spacing fits standard tube sockets. Diameter of coil 1¼"; length of body 2¼". Impregnate wound coils with Liquid "912".

	List
24-4P — 4-Prong	55c
24-5P — 5-Prong	60c
24-6P — 6-Prong	66c

B — MINIATURE PLUG-IN TYPES (Prongs Molded In) — Small plug-in coil forms of Amphenol "912-A" polystyrene. Only ¾" in diameter. For transceivers, low-power transmitters and receivers for U.H.F. For use with 54-5H and 54-6H miniature sockets listed on socket page.

	List
24-5H — 5-Prong	44c
24-6H — 6-Prong	44c

C — MINIATURE COIL FORM — Of Amphenol "912-A" polystyrene. Raised hole in center of base for self-tapping screw. ¾" O.D., 1$^9/_{16}$" long.

24 — Coil Form .... 16c list

D — COMPLETE UNIVERSAL INSULATOR — Of Amphenol "912-A" polystyrene with fittings, binding screws and soldering lugs. Overall height of insulator is 3⅛". With assembled hardware, 4". Mounting holes on 1½" centers.

66-60 .... $1.10 list

E — UNIVERSAL INSULATOR "D" AS STAND-OFF — FEED-THRU — LEAD-IN — Section construction for assembling insulators below or above surface. With additional insulating tubes, used as aerial lead-in thru walls for antenna feeders.

UNIVERSAL INSULATOR HARDWARE AND PARTS

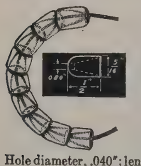
		List
66-167	Center Rod ⅝" long, for stub insulator	16c
66-168	Center Rod 2⅝" long, for standard insulator with 1 tube	20c
66-169	Center Rod 4⅝" long, for insulator with 2 tubes	22c
66-170	Center Rod 6⅝" long, for insulator with 3 tubes	27c
66-165	Top Brass Bushing with screw and solder-lug	22c
66-166	Bottom Hex. Fitting with screw and solder-lug	16c
66-60T	**J** — Insulator Tube as described above can be fitted together and cemented with Liquid "912-A" as feed-thru for H.F. and high voltage lines and as forms for R.F., Ant., and I.F. coils. Overall length 2¼", diameter is ½" for 2" of the length and ⅜" for the remaining ¼". Has ¼" hole thru center	27c
66-60B	**H** — Insulator Base (Bushing) — Versatile type of feed-thru bushing for H.F. or high voltages. Used with tubes "J" and hardware above for assembling many types of insulators. Overall length 1"	27c

F — STUB INSULATOR — Similar to "D" No. 66-60 but length of insulator is only 1". For mounting coils, condensers, and other parts carrying H.F. or high voltage currents. Overall length, 1⅞".

66-61 .... 88c

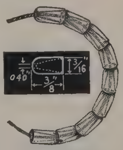
G—K — LARGE AND SMALL STAND-OFF U.H.F. INSULATORS — Of Amphenol "912-A" polystyrene. For indoor or outdoor use. Nonhygroscopic. Large type ¾" in diameter. Small type ½" in diameter. Wire held in place by screw or solder-lug. Hex screw for binding wire in place.

Number	Length	Diameter	List
66-1 — Small	1⅜"	½"	55c
66-2 — Small	2⅞"	½"	66c
66-3 — Large	2⅞"	¼"	1.20
66-4 — Large	4⅞"	¾"	1.48
66-5 — Large	6"	¾"	1.64



5/16" POLYSTYRENE BEADS — Widely used Amphenol insulating beads can be strung on wires up to No. 12 solid or No. 14 stranded. Hole diameter is .080"; length ½"; overall diameter is 5/16". When stringing cables figure 28 beads to the foot.

73 — Box of 250 Beads .... $2.50 per box list



3/16" POLYSTYRENE INSULATING BEADS — A small bead for use in small transmission lines on wires up to No. 22 stranded or No. 20 solid wires. Hole diameter, .040"; length ⅜"; overall diameter 3/16". When stringing cables figure 35 beads to the foot.

73-1 — Box of 500 Beads .... $4.50 per box list

TWO-WIRE POLYSTYRENE BEADS — A two hole bead for making balanced lines strung on wires up to No. 18 solid. Hole diameters, .050"; length, ½"; overall diameter is 11/32". When stringing cables figure 27 beads to the foot.

73-2 — Box of 250 Beads .... $3.25 per box list

5/16" HIGH TEMPERATURE BEADS — Like No. 73 listed above but of mica-filled bakelite for use up to temperatures of 285° F.

73-T — Box of 250 Beads .... $5.00 per box list

3/16" HIGH TEMPERATURE BEADS — Like No. 73-1 beads above but of mica-filled bakelite for use up to temperatures of 285° F.

73-1T — Box of 500 Beads .... $8.50 per box list

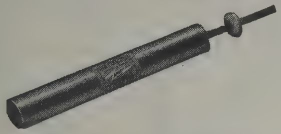
Amphenol "POLYWELD" is the proven efficient coil dope and plastic cement and sealer—completely listed on page 29.

U.H.F. ALIGNMENT TOOL —

Made of pure polystyrene Amphenol "912-A". Has no capacity effect when aligning critical circuits. A necessary tool for servicemen, laboratory technicians, amateurs and anyone who must make adjustments on high and ultra-high frequency and critical circuits.

55 — U.H.F. Alignment Tool .... 25c list

ANDREW • COAXIAL CABLE



COAXIAL CABLE

Coaxial cable is used wherever high frequency current must be conducted from one point to another as in transmitting and receiving installations, police and amateur communications, phase sampling lines, induction heating, and testing circuits.

Gas-filled coax offers extremely high efficiency, low loss, and complete shielding, together with durability, weatherproof operation, and trouble-free service.

MECHANICAL AND ELECTRICAL DATA

Outside Diameter (in.)	⅜″	⅞″	⅞″	1⅝″	1⅝″	3⅛″
Type No.	**83**	**737**	**33**	**87**	**451**	**452**
Price/ft.	**$0.35**	**$0.80**	**$0.70**	**$1.10**	**$1.90**	**$3.85**
Temper	Soft	Soft	Hard	Hard	Hard	Hard
Bending radius (in.)	6	12	240	—	—	—
Weight, lbs./ft.	0.16	0.50	0.53	1.1	1.3	2.7
Diameter inner conductor (in.)	0.081	0.25	0.25	0.5	0.625	1.20
Bead spacing (in.)	1.75	4	12	24	12	12
Surge impedance	70	64	66	66	51.5	51.5
db loss/100 ft. at 1 mc.	0.100	0.037	0.035	0.020	0.02	0.010
db loss/100 ft. at 100 mc.	1.09	0.414	0.039	0.219	0.234	0.145
Capacity, Mmfd/ft.	17.0	17.3	15.7	15.9	21.3	20.5
Velocity*	86.0	92.0	97.0	97.8	95.3	92.8
Maximum power, watts†	250	2000	2000	5000	5000	25,000

* Velocity of propagation, per cent of free space velocity.

† Recommended maximum RMS power, including factor of safety for amplitude modulation, static discharge, etc.

ACCESSORIES FOR ABOVE CABLE

(follow columns for proper size)

End Terminal	1601 **$7.00**	1603 **$11.00**	1603 **$11.00**	1605 **$22.00**	2051 **$24.00**	2052 **$32.00**
Terminal with pressure gauge and inlet valve	1601GV **$14.00**	1603GV **$15.00**	1603GV **$15.00**	—	—	—
Terminal with gas release valve	1601R **$12.50**	1603R **$13.50**	1603R **$13.50**	—	—	—
Solder Connectors	8319 **$0.60**	8328B **$1.00**	8328B **$1.00**	8331A **$2.25**	—	—
Right Angle Junction Box	853 **$2.00**	61 **$4.00**	61 **$4.00**	327 **$12.00**	1051 **$28.00**	1052 **$35.00**
Expansion Joint	—	—	—	693 **$120.00**	1451 **$100.00**	1452 **$150.00**
Solderless Connector	—	—	270 **$3.00**	271 **$6.00**	1551 **$10.00**	1552 **$22.00**

WE CAN SUPPLY ALL OTHER ACCESSORIES NEEDED

ALSO: Tower lighting equipment, Antenna coupling, phasing equipment and monitors, Communications Antennas, Consulting Engineering Service. Information on request.

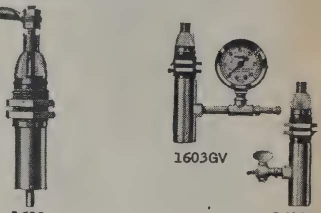
ANDREW soft-temper cable is easy to install, eliminating junction boxes and expansion worries. Available in 100-foot coils or factory-spliced lengths to order.

Larger **ANDREW** hard-temper cable, for high-power transmission, has exceptionally low loss and is supplied in 20-foot lengths.

WRITE FOR INFORMATION ON SPECIAL LINES FOR FM-TV.

ANDREW TERMINALS

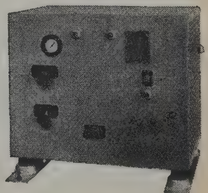
GLASS-TO-METAL SEAL



Absolutely gas-tight, less bulky than ceramic assemblies, with very low shunt capacity, these terminals are available for all sizes of cable. See table at left.

DRY AIR PUMPS

878



H-1800-A

For supplying dehydrated air under pressure to coaxial cable or to any other apparatus requiring the exclusion of moisture. The air is forced through moisture-absorbing silica gel, which when saturated may be replaced or reactivated by heating. Gel changes color to indicate saturation.

TYPE 878 Manually operated dry air pump, with lucite window for observing color changes in gel..................**Price, $35.00**

TYPE H-1800-A Automatic dehydrator, with motor driven compressor. Fully automatic, maintains constant pressure, self reactivating ....**Price, $275.00**

ANDREW CO.

363 EAST 75th STREET • CHICAGO 19

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TURBO ELECTRICAL INSULATING MATERIALS

No electronic installation, eqiupment, instrument, control or operational adjunct can be better than its insulating material. For this reason, the TURBO line is built around the quality factor from raw material through fabrication to final inspection. This condensed description of TURBO products will help you specify the proper material for your job.

TUBING — SLEEVING
TAPES—PAPERS—MICA
CLOTHS—SPECIALTIES

Product	Construction	Characteristics	Sizes
TURBOTUF VARNISHED TUBING	Braided from selected Cotton Yarns impregnated with flexible insulating varnish.	Thoroughly impregnated. Flexible, high tensile strength. Non-peeling, non-cracking, moisture, oil, and acid resistant, slow burning.	ID range from No. 24 (.020 inch) to 1 inch. Standard strand length 42".
TURBOTUF SATURATED SLEEVING	Braided in the round from Selected Cotton Yarns . . . impregnated with varnish.	All purpose insulation for lower dielectric ranges. Other properties as above.	ID range from No. 20 (.034) to 1½ inch.
TURBO EXTRUDED SLEEVING	Extruded from three grades of standard Vinylite resin plastics.	Desirable electrical characteristics . . . low moisture, high dielectric, good oil and acid resistant factor. 5 colors and transparent.	ID range from No. 20 (.034 inch) to 1½ inch.
TURBO GLASS FIBER TUBING	Closely woven from fibrous glass yarn.	Outstanding dielectric and high heat risistance features.	ID range from No. 20 (.034 inch) to ⅜ inch.
TURBOTHERM EXTRUDED INSULATED WIRE	Plastic insulation over solid or stranded conductor.	Desirable electrical characteristics. Resists soldering heats up to 550° F.	Fine gauges — Nos. 18 to 30.
TURBO VARNISHED CAMBRIC	Designed and processed to provide maximum tensile strength coupled with fundamental dielectric values.		
VARNISHED AND MICA TAPES	Highly resistant to heat-oil-water. Mica tape, fabricated from mica splittings faced with insulating paper. Provides superior dielectric properties.		
MICA—PLATE, BLOCK, FILM	India, Madras and Brazilian Mica selected exclusively for electrical purposes—graded, fabricated and inspected for particular requirements.		
TURBO WIRE MARKERS	Identifying markers, snug fitting—non-projecting—permanently legible—hazard proof.		

Write for TURBO Sample Board
Showing Types and Sizes
of Insulating Materials.

IF ITS TURBO IT SAFE-GUARDS

Catalog, Technical Information and Prices
Sent on Request
Include Application Details.

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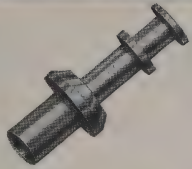
WILLIAM BRAND & COMPANY

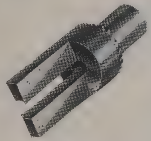
DISTRICT OFFICES: HARTFORD, CONN. • ROCHESTER, N. Y. • CLEVELAND, OHIO • DETROIT, MICH.

CTC STANDARDIZED DESIGNS
SPEED DEVELOPMENT and PRODUCTION

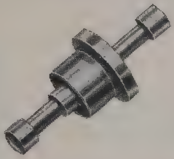
1. CTC Turret Terminal Lugs for speedy assembly by swaging. Quick soldering and firm holding. Of heavily-silvered brass, these lugs heat quickly, assuring neat, positive wiring. Stocked to fit 1/32", 1/16", 3/32", ⅛", 3/16" and ¼" boards. Available with single or double soldering spaces. Also in midget sizes for extremely compact units.



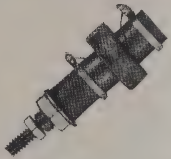
2. CTC Split Terminal Lugs. A .050" hole through the lugs permits wiring from top or bottom without drilling. Ideal for transformers and other potted units requiring soldering after potting. Knurled base prevents twisting. Brass, heavily silver plated, stocked to fit 3/32" and 5/32" terminal boards.



3. CTC Double-End Terminal Lugs. Two terminal posts in one swaging operation. Neat, positive wiring from top or bottom of board. Brass, heavily silver plated. Stocked to fit 3/32" and 5/32" boards. Also in midget sizes for extremely compact units.



4. CTC Slug Tuned Inductors. Easy-to-mount LS3 slug tuned coils are available in five windings, covering from ½ mc to 184 mc. The unit is extremely small and compact — only 1⅛" high when mounted. Coils of practically any shape and size are also available to your specifications.



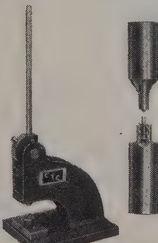
5. Mathematically Dimensioned Crystals. This new CTC development assures consistent performance, guarantees high activity and long life in every CTC Crystal. But one of 21 steps and checks that protect quality of CTC Crystals.

CTC
CRYSTAL UNIT
Cambridge Thermionic Corp.
Freq. KC.
Serial
Model
HPR

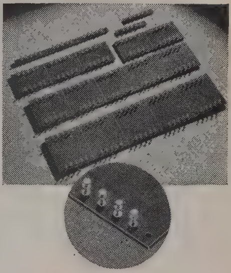
6. CTC Pressure and Hand Swagers. Quickly and surely swage all CTC standard lugs to terminal boards.

Pressure Swager fits all board thicknesses and swages lugs up to 1⅞" from edge of board. Additional anvils and punches to fit all Standard Lugs supplied on request.

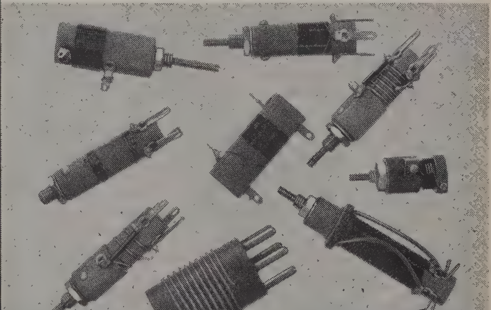
Hand Swager base is gripped in a vise and the rolling tool struck with a hammer.



7. CTC Terminal Boards. All-Set Terminal Boards stocked in 4 widths: ½", with single row of lugs; 2", with double row of lugs 1½" apart; 2½", with double row of lugs 2" apart, and 3", with double row of lugs 2½" apart. Three board thicknesses available, 3/32", ⅛" and 3/16". Designed to properly mount, standard types of resistors and capacitors. Special boards can also be made to your specifications using any type of CTC lug.



8. Special Coils. Units pictured are but a few of the special Coils designed and manufactured to customer's specifications. CTC can design and manufacture coils of practically any size with any style winding, and varnished or impregnated to meet the most rigid requirements.



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CAMBRIDGE THERMIONIC
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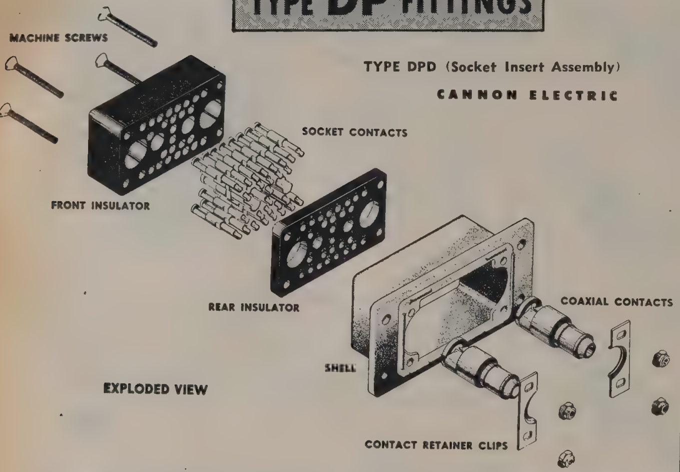
CUSTOM ENGINEERING — CTC Engineers will design Boards, Coils and Terminal Lugs for production in quantity to fulfill whatever need may arise.

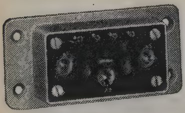
WRITE FOR CATALOG NO. 200 — for complete information on these and other CTC Electrical and Electronic Components and Hardware. No obligation, of course.

TYPE DP FITTINGS



In design, this series of connectors differs from the majority of Cannon Connectors. Type DP Fittings are rectangular in shape, and polarization is affected by the arrangement of the contacts within the connectors. A wide variety of contact arrangements is available with contacts ranging from 10-amp. to 40-amp. capacity and with low impedence Coaxial contacts of 10-amp. capacity providing for continuous shielding available in some types. Standard shells are aluminum finished in sand blast and clear lacquer; some types are available in zinc, sand blast and clear lacquer finished. Contacts are brass, silver-plated. Insulation is phenolic, with low loss wax impregnated ceramic insulation used in coaxial contacts. Leading uses of the Type DP Connectors are in rack and panel instrument and radio equipment where weight and space saving are important factors. A complete bulletin on DP Connectors is available on request.

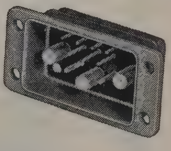
TYPE "DPD" RECEPTACLES
(With Socket Insert)



Mounting flange is $3\frac{3}{8}''$ x $1\frac{11}{16}''$ and shell extends $\frac{29}{32}''$ from the mounting surface forward Coaxial contacts extend $\frac{43}{64}''$ to the rear from the mounting surface. Shells provide for mounting with four No. 6 oval head machine screws. Material is aluminum, may be furnished in zinc if specified. Weights in aluminum and zinc.

Contacts	Capacity	Cat. No.	Wt. Lbs. Zinc	Wt. Lbs. Alum.
12	10-15-amp.	4500-31	.376	.273
14	10-amp.	4500-61	.312	.208
16	10-40-amp.	4500-13	.371	.267
18	10-40-amp.	4500-63	.325	.226
19	10-amp.	4500-59	.321	.218
19	10-40-amp.	4500-55	.321	.225
20	10-15-amp.	4500-29	.381	.278
21	10-amp.	4500-57	.325	.222
28	10-amp.	4500-34	.338	.235
30	10-40-amp.	4500-1	.383	.279
31	10-40-amp.	4500-3	.349	.246
31	10-40-amp.	4500-7	.379	.276
32	10-40-amp.	4500-5	.390	.288
32	10-40-amp.	4500-9	.390	.289
32	10-40-amp.	4500-11	.400	.289
32	10-40-amp.	4500-32	.361	.258

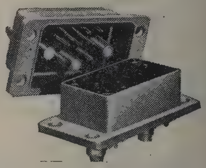
TYPE "DPD" PLUGS
(With Pin Insert)



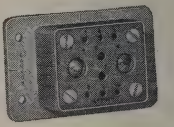
Mounting flange is $3\frac{3}{8}''$ x $1\frac{11}{16}''$ and shell extends $\frac{1}{16}''$ from the mounting surface forward and $1\frac{3}{64}''$ from the mounting surface to the rear. The Coaxial contacts extend $\frac{37}{64}''$ from the rear of the shell. Shells provide for mounting four No. 6 oval head machine screws. Material is aluminum, but may be furnished in zinc if specified. Weights in aluminum and zinc.

Contacts	Capacity	Cat. No.	Wt. Lbs. Zinc	Wt. Lbs. Alum.
12	10-40-amp.	4500-36	.263	.162
12	10-15-amp.	4500-30	.329	.227
14	10-amp.	4500-60	.247	.146
16	10-40-amp.	4500-14	.311	.209
18	10-40-amp.	4500-62	.263	.163
19	10-amp.	4500-58	.254	.152
19	10-40-amp.	4500-54	.263	.162
20	10-15-amp.	4500-28	.316	.215
21	10-amp.	4500-56	.256	.155
28	10-amp.	4500-35	.265	.164
30	10-40-amp.	4500-2	.281	.179
31	10-40-amp.	4500-4	.290	.189
31	10-40-amp.	4500-8	.306	.204
32	10-40-amp.	4500-6	.279	.178
32	10-40-amp.	4500-10	.301	.199
32	10-40-amp.	4500-12	.332	.222
32	10-40-amp.	4500-33	.284	.182

Write Factory or Representatives for Prices for DPD Types



TYPE "DPB" RECEPTACLES
(With Socket Insert)



The DPB Receptacles are similar to the Type DP D differing only in the mounting flange which is reduced to $2\frac{11}{16}''$ x $1\frac{11}{16}''$ shell material, zinc or aluminum. Standard coaxials with low loss wax impregnated ceramic insulation.

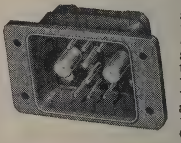
Type DPB-10C2-33S

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	2-30-amp. 6-15-amp. 12-10-amp.	.268	1570	5.46

Type DPB-8-33S

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
8	15-amp.	.224	11662	3.65

TYPE "DPB" PLUGS
(With Pin Insert)



The DPB Plugs are similar to the Type DPD, differing in the same respect as the DPB Receptacle differs from the DPD. They are mounted with four No. 6 Oval Head Machine Screws.

Type DPB-10C2-34P

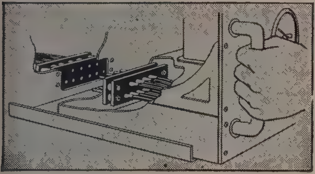
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	2-30-amp. 6-15-amp. 12-10-amp.	1.176	11579	3.45

Type DPB-8-34P

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
8	15-amp.	1.176	11663	3.45

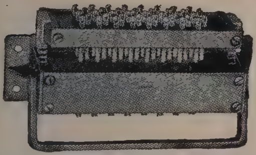
CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET LOS ANGELES 31, CALIFORNIA



The cutaway view of Type DP plug and receptacle, both mounted, illustrates the method of application in rack equipment for radios and general instrument equipment. The use of this type of connector makes it possible to easily and quickly remove the rack portion without losing time in disconnecting all the wires. Although coaxials are not available in panel-type connectors now tooled, the design is adaptable to their use.

"DPR" Rack Type—Complete Unit



Rack type fittings are used where large numbers of contacts must be repeatedly coupled and uncoupled, the coupling and uncoupling being performed by means of a geared movement operated by a bail type handle. The dimensions over all measure $5\frac{25}{32}$" x 3" x $2\frac{21}{32}$" (including swing of bail). Has four holes for No. 8 Mounting Screws.

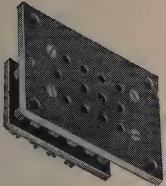
TYPE DPR-40-33 and -34 Assembly

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
40	40-15-amp.	.531	1412-1	$14.17
40	40-15-amp.	.187	1412-2	5.02

TYPE DPR-62-33 and -34 Assembly

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
62	50-10-amp. 12-30-amp.	.514	4191-1	$18.77
62	50-10-amp. 12-30-amp.	.266	4191-2	8.52

TYPE "DP-12-33" RECEPTACLE

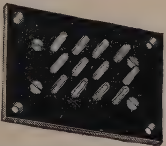


Socket Panel Assembly

Socket Panel Assembly is 2⅞" x 2" x ⅞" with a solder pot extension of $\frac{21}{64}$" from rear insulator mounted with 4 No. 4 Flat Head screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
12	30-amp.	.135	387-1	$2.68

TYPE "DP-12-34" PLUG



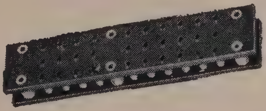
Pin Panel Assembly

2⅞" x 2" x $1\frac{5}{16}$" overall, contacts extend $\frac{9}{16}$" from insulation on engaging end and ⅜" on solder pot end. Has four mounting holes for No. 4 Flat Head Machine Screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
12	30-amp.	.128	387-2	$2.67

TYPE DP FITTINGS

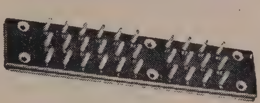
TYPE "DP-30-57" RECEPTACLE
(Socket Panel Assembly)



7¼"x1½"x$1\frac{15}{64}$" overall, solder pots extend approximately ⅜" from rear insulator. Fitting designed for mounting on panel with six No. 6 Flat Head Machine Screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
30	30-amp.	.337	807	$8.44

TYPE "DP-30-58" PLUG

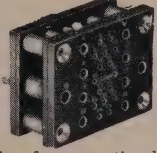


Pin Panel Assembly

7¼" x 1½" x $1\frac{5}{16}$" overall, contacts extend $\frac{9}{16}$" from insulation on engaging end and ⅜" on solder pot end. Has six mounting holes for No. 6 Flat Head Machine Screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
30	30-amp.	.225	808	$5.34

TYPE "DP-N26-33" RECEPTACLE

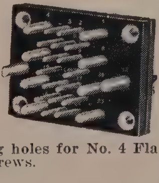


Socket Panel Assembly

2" x 1½" x $1\frac{11}{64}$" overall, maximum solder pot extension from rear insulator is approximately $\frac{11}{64}$". Receptacle has four mounting holes for No. 4 Flat Head Machine Screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
26	2-40-amp. 8-30-amp. 16-10-amp.	.116	1269-1	$6.01

TYPE "DP-N26-34" PLUG

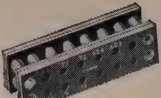


Pin Panel Assembly

2" x 1½" x $1\frac{3}{16}$" overall, contacts extend $\frac{35}{64}$" from insulation on engaging end and $\frac{21}{64}$" maximum on solder pot end. Has four mounting holes for No. 4 Flat Head Machine Screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
20	2-40-amp. 8-30-amp. 16-10-amp.	.111	1269-2	$4.23

TYPE "DP-P10-33" RECEPTACLE

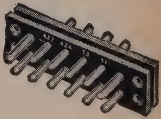


Socket Panel Assembly

Dimensions: $2\frac{15}{16}$" x ⅞" x ⅞", with max. solder pot extension $\frac{5}{16}$". Ten 30-amp. contacts for No. 10 B&S stranded wire. Clearance $\frac{3}{32}$". Insulation is phenolic. Spacer rivets aluminum alloy. Four mounting holes for No. 4 flat head machine screws. See illustration at upper left of page for application view.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	30-amp.	.109	11460	$3.56

TYPE "DP-P10-34" PLUG

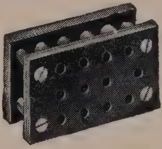


Pin Panel Assembly

Dimensions: $2\frac{15}{16}$" x ⅞" x ⅜" with guide pin extension ¾", 30-amp. pin extensions $\frac{37}{64}$" and max. solder pot extension $\frac{25}{64}$". Four mounting holes for No. 4 flat head machine screws. Two guide pins. Insulation phenolic.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	30-amp.	.069	11461	$3.25

TYPE "DP-S12-33" RECEPTACLE

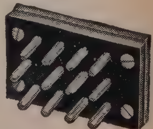


Socket Panel Assembly

Dimensions: 2½" x 1¼" x ⅞", with $\frac{21}{64}$" max. solder pot extension. Twelve 30-amp. contacts using No. 10 B&S stranded wire. Insulation is phenolic. Four No. 4x40x1⅛" flat head machine screws. Hex nuts and lockwashers plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
12	30-amp.	.083	1164	$2.86

TYPE "DP-S12-34" PLUG



Pin Panel Assembly

Dimensions: 2⅛" x 1¼" x ⅜", with max. pin extension $\frac{37}{64}$" and $\frac{25}{64}$" max. solder pot extension. Insulation is phenolic. Four No. 4-40x⅝" flat head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
12	30-amp.	.121	1165	$2.31

Write for "DP" Bulletin for full dimensional data.

CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE DP FITTINGS

CONTINUED

TYPE "DP-S10-33" RECEPTACLE

(Socket Insert)

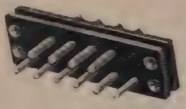
Socket Panel Assembly

Dimensions. Length 2[illegible]; width ⅞. Max. solder pot extension [illegible]. 30-amp. contacts use No. 10 B & S stranded wire with [illegible] clearance. Insulation: phenolic. 4 mounting holes countersunk for No. 4 flat head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	10-30-amp.	.104	1596	2.72

TYPE "DP-S10-34" PLUG

Pin Panel Assembly



Dimensions: 2$\frac{15}{16}$'' x ⅞'' x ⅜''. with [illegible]'' max. pin extension and [illegible]'' max. solder pot extension. Insulation is phenolic. Four mounting holes countersunk for No. 4 flat head machine screws.

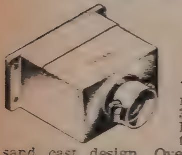
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
10	10-30-amp.	.065	1597	2.81

TYPE "DPD-33" JUNCTION SHELL

Mounting flange 3[illegible]'' x 1[illegible]''. drilled for four No. 6 mounting screws. overall length of shell 2''. Shell material aluminum alloy with sand blast and clear lacquer finish. Equipped with clamp type gland for cables up to ⅞ diameter.

Wt. Lbs.	Cat. No.	List Pr.
.121	11612	.83

TYPE "DPD-34" JUNCTION SHELL

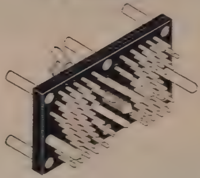


Used with Cannon Type DPD-34 Connectors. Production illustration shows sand cast design. Overall width 3⅜; length 2 [illegible]. including clamp; depth 1[illegible]. Cable entry [illegible]. Four mounting holes tapped #6-32.

	Wt. Lbs.	Cat. No.	List Pr.
4.10	.2968	12172	

TYPE "DPL-92-34" PLUG

(Pin Contacts)



Rack or panel type connector, having wing nut center post extraction means. Two guide pins. 82 contacts accommodating No. 16 B&S stranded wire: 6 for No. 12. and 4 for No. 8. Phenolic insulation.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
92	82-amp. 6-amp. 4-amp.	.3901	4424-2	15.26

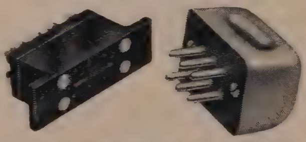
TYPE "DPL-92-33" RECEPTACLE

(Socket Contacts)

Socket insert assembly, mating fitting for the above plug. Threaded center post. and 6 long spacer posts for mounting in rack or panel. Cannon full-floating socket contacts.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
92	82-amp. 6-amp. 4-amp.	.5312	4424-1	26.35

TYPE "DP-C6" and DP-C8" SWITCHING CONNECTORS



A switching connector for switching from 12 volts to 24 volts or vice versa. Pin contacts are bussed at the solder pot end. Shells material of the pin contact assembly is drawn steel; insulation melamine. DP-C8 is used for switching from positive ground to negative ground.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
	Type DP-C8-34 Plug			
8	30-amp.	.110	12923	2.78
	Type DP-C6-33 Receptacle			
6	30-amp.	.092	12922	2.25
	Type DP-C-34 Plug			
8	30-amp.	.1210	12921	2.12
	Type DP-C8-33 Receptacle			
8	30-amp.	.0990	12924	1.82

TYPE "DP-U60-33 AND -34" PANEL CONNECTOR

This panel connector has a single unit in the receptacle portion of the complete fitting. while the pin inserts are furnished in three sections or units, each having distinct polarization. Overall dimensions of the receptacle, 5½ by 1½ by ⅞. Plug units are 1¾ in length each. Twelve hollow spacer tubes on plug. Contacts have clearance of $\frac{5}{64}$ min.

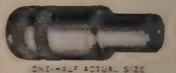
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
60	5-30-amp. 55-15-amp.		1128	11.43
	"DP-U60-34"			
Sect. "A"			1129-1	3.62
Sect. "B"			1129-2	3.64
Sect. "C"			1129-3	3.14

TYPE TQ FITTINGS

CANNON TYPE "TQ" COAXIAL FITTINGS. Type "TQ" Coaxial Fittings provide continuous shielding with constant impedence. Each fitting contains 1 standard Cannon style silver-plated contact, rated at 10-amp. and accommodating #16 stranded or #14 solid, or smaller B&S stranded wire. Solder pots are tinned for ease in wiring. Insulation discs are ceramic.

CANNON TYPE "TQ" COAXIAL CORD PLUG (With Socket Insert)

For Continuous Shielding



ONE-HALF ACTUAL SIZE

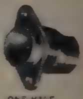
A tapered skirt is provided on this Plug, to which the shielding is easily soldered. Accommodates ½'' cable, but can be supplied for ⅝'' cable if specified with order. Body is brass, silver plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.106	TQ-1-12	$2.00

TYPE "TQ13BC" FLUSH RECEPTACLE

(With Pin Insert)

For Mounting Behind Panel



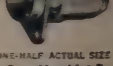
ONE-HALF ACTUAL SIZE

Same construction as No. TQ-1-13C. except that the flange is mounted on back of panel. Body is brass, zinc plated.

Contact	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.039	TQ-1-13BC	$2.00

TYPE "TQ-13B" RECEPTACLE

For Continuous Shielding



ONE-HALF ACTUAL SIZE

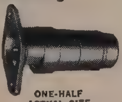
Designed for mounting behind panel. Accommodates ½'' cable. Body is brass, zinc plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.057	TQ-1-13B	$2.00

(Continued on next page)

"TQ" CONTINUED

TYPE "TQ-13" COAXIAL FLUSH RECEPTACLE
(With Pin Insert)
For Continuous Shielding


ONE-HALF ACTUAL SIZE

Provided with a tapered skirt to which the shielding is easily soldered. Also has a removable solder pot shield, which snaps into place. Ceramic insulation is used in all Type "TQ" Connectors, silver plated Accommodates ½" cable, but can be supplied for ⅝" cable if specified with order. Two holes—.120 in diameter, $\frac{15}{16}$ apart for mounting.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	.043	TQ-1-13	$2.00

TYPE "TQ-13C" RECEPTACLE
(With Pin Insert)

ONE-HALF ACTUAL SIZE

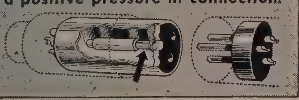
Similar to TQ-1-13, except that it is not provided with solder pot shield and is not designed for continuous shielding Uses Ceramic insulation. For mounting on front of panel. Body is brass, silver plated. Two holes —.120 in diameter, $\frac{15}{16}$ apart for mounting.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.037	TQ-1-13C	$2.00

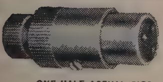
TYPE X FITTINGS

CANNON "TYPE X" PLUGS AND RECEPTACLES—The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily accessible. Cable glands are removable. Contacts are so positive that no latching device is needed for ordinary uses.

The arrow shows spring clip on full-floating socket contact which gives a positive pressure fit connection.



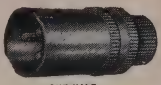
TYPE "X-11" CORD PLUG
(With Socket Insert)


ONE-HALF ACTUAL SIZE

Sturdily built for dependable service. Light in weight. Shell is diecast zinc, nickel finish. Will take $\frac{3}{16}$ to $\frac{9}{32}$" cable. Used in conjunction with the following: X-14 Wall Receptacle, X-12 Straight Cord Plug, and X-42 Microphone Receptacle X-44L Receptacle.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-11	$1.75
3	15-amp.	0.083	X-3-11	1.75
4	3-10-amp. 1-15-amp.	0.085	X-4-11	3.25

TYPE "X-12" CORD PLUG
(With Pin Insert)


ONE-HALF ACTUAL SIZE

For use in conjunction with X-11 Straight Cord Plug (Socket Insert) or X-13 Wall Receptacle (Socket Insert). Shell is die-cast zinc, nickle finish. Will take $\frac{3}{16}$ to $\frac{9}{32}$" cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0 061	X-1-12	$1.25
3	15-amp.	0.063	X-3-12	1.25
4	3-10-amp. 1-15-amp.	0.065	X-4-12	2.25

TYPE "X-13" WALL RECEPTACLE
(With Socket Insert)

ONE-HALF ACTUAL SIZE

Body fits in ⅞" hole and extends $1\frac{3}{16}$" behind flange. Flange is 1⅜" in diameter and drilled for three #4-40 oval-head screws on $\frac{17}{32}$" radius 120° apart. Shell is die-cast zinc, nickel finish. To be used in conjunction with the following X-12 straight cord plug.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-13	$1.75
3	15-amp.	0.083	X-3-13	1.75
4	3-10-amp. 1-15-amp.	0.085	X-4-13	3.25

TYPE "X-14" WALL RECEPTACLE
(With Pin Insert)

ONE-HALF ACTUAL SIZE

Body fits in ¾" hole and extends $\frac{23}{32}$" behind the flange, which is 1⅜" in diameter and drilled for three #4-40 oval-head screws on $\frac{17}{32}$ radius, 120° apart. Shell is zinc, nickel plated finish. Used in conjunction with straight cord plug (Socket Insert) X-11. Solder pots extend ¼ beyond rear of body.

Contact	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.040	X-1-14	$1.25
3	15-amp.	0.042	X-3-14	1.25
4	3-10-amp. 1-15-amp.	0.044	X-4-14	2.25

TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert)

ONE-HALF ACTUAL SIZE

Has all the features of "Type X" Straight Cord Plugs and Wall Receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Use with X-11 straight Cord Plug (Socket Insert) Mounting holes are .144" in diameter and 1" apart.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.063	X-3-42	$1.25

TYPE "X-44L" RECEPTACLE
(With Pin Insert)
(Shown with X-11 Plug)

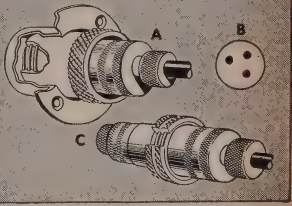
ONE-THIRD ACTUAL SIZE

The X-44L is an adaptation of the X-42. It has a longer shell body and provision for protection against foreign matter or water getting into the receptacle. A protecting cap with spring covers the receptacle opening. Specially designed for use on outside poles or buildings. **(Write factory for availability and prices.)**

TYPE XK FITTINGS

CANNON "TYPE XK" PLUGS AND RECEPTACLES — A quality line of Connectors, similar in design and construction to the "Type X" Series, but equipped with the fast-acting, sturdy Acme Threaded Coupling Ring and, therefore, ideal for use on equipment which is subjected to considerable vibration and tension on cables, such as on sound trucks and other portable units.

Quick-acting locking ring. Plugs and receptacles cannot be accidentally disconnected by jarring apart due to vibration or pulling on lines. 2 types of threaded coupling rings are shown below at A & C. Full-floating 'napkin ring' type socket contact. Pin and insert protected by shell. Built to withstand hard service. (B) Correct polarization governed by layout arrangement.



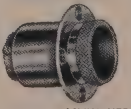
TYPE "XK-14" WALL RECEPTACLE
(With Pin Insert)

ONE-THIRD ACTUAL SIZE

Body fits in a ¾" hole and extends $\frac{13}{32}$" behind a $\frac{1}{16}$" flange. Flange is 1½" in diameter, drilled for four #4-40 oval-head mounting screws on a ⅝" radius, 90° apart. Shell is made of brass, nickel finish. Solder pots extend $\frac{9}{32}$" beyond body. Has external acme thread on shell and is used in conjunction with straight cord plug XK-11.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.045	XK-1-14	$2.00
3	15-amp.	0.047	XK-3-14	2.00
4	3-10-amp. 1-15-amp.	0.049	XK-4-14	3.00

TYPE "XK-13L" WALL RECEPTACLE
(With Socket Insert)


ONE-HALF ACTUAL SIZE

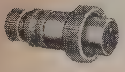
Body fits in $1\frac{1}{64}$" hole and extends $1\frac{1}{16}$" behind flange. Flange is 1½" in diameter and drilled for four #4-40 oval-head mounting screws on a ⅝" radius, 90° apart. Shell is made of brass, nickel finish. Solder pots on contacts extend ⅛" beyond body. Use in conjunction with a straight cord plug (Pin Insert) XK-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.144	XK-1-13L	$3.50
3	15-amp.	0.146	XK-3-13L	3.50
4	3-10-amp. 1-15-amp.	0.148	XK-4-13L	5.00

CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

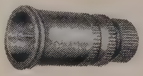
TYPE "XK-11" STRAIGHT CORD PLUG (With Socket Insert)



Shell is of die-cast zinc, cad. plated finish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes $\frac{3}{16}$″ to $\frac{9}{32}$″ cable. Built for long, dependable service. Used in conjunction with XK-12, XK-14.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-11	$3.50
3	15-amp.	0.083	XK-3-11	3.50
4	3-10-amp. 1-15-amp.	0.085	XK-4-11	5.00

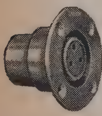
TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)



For use in conjunction with Straight Cord Plug (Socket Insert) or Wall Receptacle (Socket Insert) with Coupling Ring. Provided with Shell is made of die-cast zinc, cad. plated finish. Takes $\frac{3}{16}$″ to $\frac{9}{32}$″ cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-12	$2.00
3	15-amp.	0.083	XK-3-12	2.00
4	3-10-amp. 1-15-amp.	0.085	XK-4-12	3.00

TYPE "XK-13" WALL RECEPTACLE (With Socket Insert)



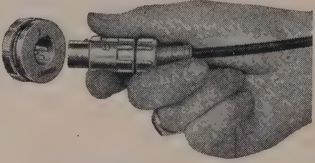
Body fits in $\frac{21}{32}$″ hole and extends $\frac{15}{16}$″ behind $\frac{1}{16}$″ flange which is 1½″ in diameter and drilled for four #4-40 oval-head mounting screws on a ⅝″ radius, 90° apart. Solder pots extended $\frac{7}{32}$″ beyond rear of body. Shell is made of brass, zinc plated. Fitting has no coupling ring but will mate with a straight cord plug, XK-12. Whereas two cord connectors need a coupling ring, on a panel not subjected to vibration or hard wear it is not necessary.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-13	$2.25
3	15-amp.	0.083	XK-3-13	2.25
4	1-15-amp. 3-10-amp.	0.085	XK-4-13	3.75

TYPE XL FITTINGS

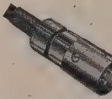
The new Cannon Electric Type "XL" Connector combines various features found in other Cannon types into a small fitting comparable only in size to the Type "X" for low level sound transmission circuits. Among the leading features are the following: (1) convenient latchlock device to hold connector tight. (2) lightweight. (3) polarizing means (4) compression gland with relief spring or integral clamp, if desired. (5) streamlined design. (6) tapped metal for insert retaining screw. (7) provision for special grounding contact. Contacts are 15-amp. for No. 14 B&S stranded wire. Shell is zinc or steel, with various finishes available, bright nickle being standard. Satin-chrome finish available on steel shells. Min .flashover voltage, 1500 (250 working voltage). Packed in boxes of 10 identical fittings.

TYPE "XL" CONNECTORS



"XL-3-14N" Receptacle and "XL-3-11" Plug in engaging position. Compare small size of plug with hand.

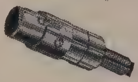
TYPE "XL-12" STRAIGHT CORD PLUG (Pin Insert)



Type XL-12 plug has alignment rib in addition to polarizing groove. Cable accommodation is $\frac{9}{32}$. Insert is removable for soldering or inspection. Overall dimensions: length, 1⅞, with cable relief spring, 2⅝; diameter ¾. Type XL-12SC is steel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0792	XL-3-12	1.20
3	15-amp.	.0937	XL-3-12SC	2.75

TYPE "XL-11" STRAIGHT CORD PLUG (Socket Insert)



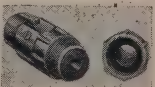
Type XL-11 is equipped with latch lock device and has raised polarizing boss. No. 1 contact engages before Nos. 2 and 3, and may be used for grounding purposes, if desired. $\frac{9}{32}$ cable accommodation. Overall dimensions: length, 2 $\frac{3}{32}$, with relief spring, 2 $\frac{21}{32}$ approx. Type XL-11SC steel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0092	XL-3-11	1.25
3	15-amp.	.1125	XL-3-11SC	2.80

TYPE "XL-14" RECEPTACLE (Pin Insert)

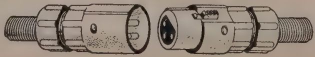
This wall mounting receptacle has three mounting holes having .136 diameter. Overall dimensions: flange diameter, 1 $\frac{7}{16}$; width flange, $\frac{3}{32}$; length behind flange to solder pot extension, 1 $\frac{1}{64}$; barrel diameter, ¾. Material zinc, bright nickle finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0592	XL-3-14	1.00

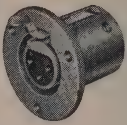


XL-3-11 with compression gland removed, showing rubber reducer bushing.

XL-3-12 and XL-3-11 Mating Plugs.



TYPE "XL-13" RECEPTACLE (Socket Insert)



A wall mounting receptacle similar to XL-14 except that it has socket insert assembly and latch locking device. Overall Dimensions: flange diameter, 1$\frac{7}{16}$; flange thickness $\frac{3}{32}$; rear of flange to solder pot extension 1 $\frac{9}{16}$; dia. barrel, $\frac{15}{16}$; three mounting holes drilled .136

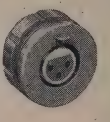
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0132	XL-3-13	1.25

TYPE "XL-14N" RECEPTACLE (Pin Insert)

Designed to be mounted in a panel and has lock nut, accommodating up to $\frac{5}{16}$ inch panel. Two fittings may be mounted on a single gang plate. Overall Dimensions: flange diameter, 1 $\frac{7}{16}$; barrel diameter, 1; width flange to barrel, $\frac{27}{32}$, with $\frac{15}{64}$ max. solder pot extension; flange thickness, $\frac{5}{32}$.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2048	XL-3-14N	1.15

TYPE "XL-13N" RECEPTACLE (Socket Insert)



Similar to XL-14N except has socket insert assembly, with latch-lock device, and polarizing boss on insert barrel. No. 1 contact engages before Nos. 2 and 3 and may be used for grounding circuit, if desired. Overall dimensions: flange and barrel and nut are identical to XL-14N, length from face of flange including solder pot extension, 1 $\frac{17}{64}$.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2112	XL-3-13N	1.25

INTEGRAL CLAMP TYPES AND ADAPTERS

Two steel shell plug types with integral clamps are now available, designated XL-3-11SC and XL-3-12SC. Also 3 adapters for converting microphones to use with XL plugs: XL-3-50, 1.70; XL-3-50T, 1.85, and XL-3-50N, 1.15.

"XL-3-11" PLUG on RCA "Announce" Microphone

CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

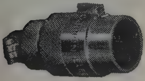
TYPE P FITTINGS

ANNON "TYPE P" FITTINGS. Uniersally used in sound and allied appliations. "Type P" Fittings include a ize and type for every requirement, ll of a high standard of quality. All 0° Plugs, Pins and Sockets have plit-shell construction for quick, easy ccess for wiring or inspection. Splashroof, but not weather-proof. Plug and eceptacle dust caps are available for se under severe dust conditions. Laboratory tests show an average voltagelrop of not more than 10 millivolts, vith current flowing at the rated caacity. Insulating material is black henolic which has a 0.7% absorpion in 24 hours of immersion in water nd a dielectric strength of 550 volts er mil at 60 cycles. P2-CG-11, P3-G-12 and P3-CG-12 are furnished with rubber reducer bushing to accommodate 9/32" cable.

Revised P & O Bulletin available upon equest.

P3-CG-12 WITH CBS MIKE

TYPE "P-CG-11" CORD PLUG
(With Socket Insert), ZINC

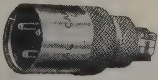


ONE-THIRD ACTUAL SIZE

Has all the usual "Type P" features except is equipped with Clamp Gland for ½" or smaller cable, insuring positive clamping with a waterproof gland. Made of die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.213	P2-CG-11	$3.95
3	30-amp.	0.217	P3-CG-11	4.25
4	30-amp.	0.221	P4-CG-11	4.55
5	30-amp.	0.225	P5-CG-11	4.85
6	30-amp.	0.229	P6-CG-11	5.15
8	15-amp.	0.225	P8-CG-11	5.15

TYPE "P-CG-12" CORD PLUG
(With Pin Insert), ZINC

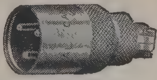


ONE-THIRD ACTUAL SIZE

Corresponds with "Type P-CG-11" (Socket insert). Has clamp gland for ½" cable, insuring positive clamping with waterproof gland. Shell is made of die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.123	P2-CG-12	$2.50
3	30-amp.	0.126	P3-CG-12	2.50
4	30-amp.	0.129	P4-CG-12	2.50
5	30-amp.	0.132	P5-CG-12	2.50
6	30-amp.	0.135	P6-CG-12	2.75
8	15-amp.	0.132	P8-CG-12	2.75

TYPE "P-CG-12S" STRAIGHT CORD PLUG
(With Pin Insert), STEEL

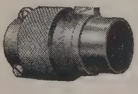


ONE-THIRD ACTUAL SIZE

Corresponds with the "Type P-CG-11". (Socket insert). Has Clamp Gland for ½" or smaller cable, insuring positive clamping with waterproof gland. Shell is made of steel, cadmium plated finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.146	P2-CG-12S	$2.75
3	30-amp.	0.149	P3-CG-12S	2.75
4	30-amp.	0.153	P4-CG-12S	2.75
5	30-amp.	0.156	P5-CG-12S	2.75
6	30-amp.	0.159	P6-CG-12S	3.00
8	15-amp.	0.156	P8-CG-12S	3.00

TYPE "P-23" STRAIGHT CORD PLUG
(With Socket Insert), HEAVY DUTY



ONE-THIRD ACTUAL SIZE

Shell is die-cast zinc for severe service, but employing all features such as the latch type locking device which is standard on "Type P." It has integral clamp for ¾" cable. Also made for 9/16" & ⅝" cable if specified. Cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.166	P2-23	$4.70
3	30-amp.	0.170	P3-23	5.00
4	30-amp.	0.174	P4-23	5.30
5	30-amp.	0.178	P5-23	5.60
6	30-amp.	0.182	P6-23	5.90
8	15-amp.	0.178	P8-23	5.90

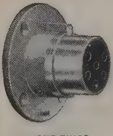
TYPE "P-CG-15" 90° CORD PLUG
(With Socket Insert)

ONE-THIRD ACTUAL SIZE

Has Split Shell and all other "Type P" features found in "Type P-15, 90° Plug" except cable connection, which is an Integral Clamp for ½" or smaller cable. Made of cast aluminum alloy, finished in sand blast and clear lacquer.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.220	P2-CG-15	$5.20
3	30-amp.	0.224	P3-CG-15	5.50
4	30-amp.	0.228	P4-CG-15	5.80
5	30-amp.	0.232	P5-CG-15	6.10
6	30-amp.	0.236	P6-CG-15	6.40
8	15-amp.	0.232	P8-CG-15	6.40

TYPE "P-17" PANEL RECEPTACLE
(With Socket Insert), SURFACE MOUNTING



ONE-THIRD ACTUAL SIZE

P-17 has Latch Locking Device and all other "Type P" features. Made of die-cast zinc, cadmium plated. Flange is 2" in diameter, drilled and countersunk at four points 90° apart on 13/16 radius for four #4-40 oval head M.S. Body extends 1" in front of ⅛" mounting flange.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.125	P2-17	$3.95
3	30-amp.	0.129	P3-17	4.25
4	30-amp.	0.133	P4-17	4.55
5	30-amp.	0.137	P5-17	4.85
6	30-amp.	0.141	P6-17	5.15
8	15-amp.	0.137	P8-17	5.15

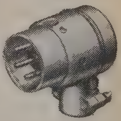
TYPE "P-24" STRAIGHT CORD PLUG
(With Pin Insert), HEAVY DUTY

ONE-THIRD ACTUAL SIZE

Corresponds with "Type P-23" Plug (Socket insert). Built for hard service. The skirt is of steel, body die-cast zinc. Has Integral Clamp, for ¾", ⅝" or 9/16" cable, if specified.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.170	P2-24	$3.25
3	30-amp.	0.173	P3-24	3.25
4	30-amp.	0.176	P4-24	3.25
5	30-amp.	0.179	P5-24	3.25
6	30-amp.	0.182	P6-24	3.50
8	15-amp.	0.179	P8-24	3.50

TYPE "P-CG-16" 90° CORD PLUG
(With Pin Insert)

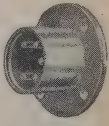


ONE-THIRD ACTUAL SIZE

Corresponds with Type P-CG-15 90° Plug (Socket insert), having Integral Clamp for ½" or smaller cable. Barrel is of steel, zinc plated and shell of cast aluminum alloy, sand blast and clear lacquer finish. Removable cap for easy access to contacts for wiring or inspection.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.195	P2-CG-16	$3.75
3	30-amp.	0.198	P3-CG-16	3.75
4	30-amp.	0.201	P4-CG-16	3.75
5	30-amp.	0.204	P5-CG-16	3.75
6	30-amp.	0.207	P6-CG-16	4.00
8	15-amp.	0.204	P8-CG-16	4.00

TYPE "P-18" PANEL RECEPTACLE
(with Pin Insert) Surface Mounting

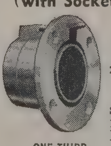


ONE-THIRD ACTUAL SIZE

Corresponds to "Type P-17", Panel Receptacle. Shell is made of brass, cadmium plated. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four #4-40 oval head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.156	P2-18	$2.50
3	30-amp.	0.159	P3-18	2.50
4	30-amp.	0.162	P4-18	2.50
5	30-amp.	0.165	P5-18	2.50
6	30-amp.	0.168	P6-18	2.75
8	15-amp.	0.165	P8-18	2.75

TYPE "P-13" PANEL RECEPTACLE
(with Socket Insert) Flush Mounting



ONE-THIRD ACTUAL SIZE

Has Latch Locking Device which operates from front of panel. Made of die-cast zinc, cadmium plated. Flange is 2" in diameter and drilled and countersunk at four points on 13/16 radius for four #4-40 oval head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.202	P2-13	$3.95
3	30-amp.	0.206	P3-13	4.25
4	30-amp.	0.210	P4-13	4.55
5	30-amp.	0.214	P5-13	4.85
6	30-amp.	0.218	P6-13	5.15
8	15-amp.	0.214	P8-13	5.15

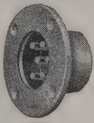
CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE P FITTINGS

CONTINUED

TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING



Flange is 2″ in diameter, drilled with four .120″ diameter holes to take four #4-40 oval-head mounting screws, arranged 90° apart on a radius of $\frac{13}{16}$″. Shell is die-cast zinc, cadmium plated.

ONE-THIRD ACTUAL SIZE

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.104	P2-14	$2.50
3	30-amp.	0.107	P3-14	2.50
4	30-amp.	0.110	P4-14	2.50
5	30-amp.	0.113	P5-14	2.50
6	30-amp.	0.116	P6-14	2.75
8	15-amp.	0.113	P8-14	2.75

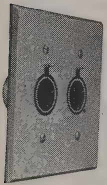
ONE-FOURTH ACTUAL SIZE

TYPE "P-35" SINGLE GANG WALL RECEPTACLE (With Socket Insert)

Furnished with brackets for standard switch box. Shell is die-cast zinc, cadmium plated. Plate is 4½″ high and 2¾″ wide. Latch Locking Device operates from front of panel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.341	P2-35	$4.95
3	30-amp.	0.345	P3-35	5.25
4	30-amp.	0.349	P4-35	5.55
5	30-amp.	0.353	P5-35	5.85
6	30-amp.	0.357	P6-35	6.15
8	15-amp.	0.353	P8-35	6.15

TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Socket Inserts)

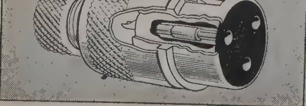


ONE-FOURTH ACTUAL SIZE

Furnished with brackets for standard switch box. Plate is 4½″ high and 4$\frac{9}{16}$″ wide. Both receptacles have Latch Locking Device, operated from front of panel. Shell is die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.448	P2-35-2G	$9.90
3	30-amp.	0.456	P3-35-2G	10.50
4	30-amp.	0.464	P4-35-2G	11.10
5	30-amp.	0.472	P5-35-2G	11.70
6	30-amp.	0.480	P6-35-2G	12.30
8	15-amp.	0.472	P8-35-2G	12.30

Excessive strain on contacts is eliminated by exclusive use of Cannon's FULL-FLOATING socket and RIGID pin inserts. Latch secures coupling.



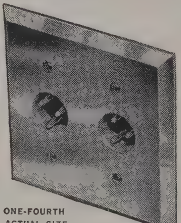
TYPE "P-36" SINGLE GANG WALL RECEPTACLE (With Pin Insert)

Plate is 4½″ high and 2¾″ wide. Furnished with brackets for standard switch box. Made of die-cast zinc, cadmium plated.

ONE-FOURTH ACTUAL SIZE

Contacts	Capacity	Wt. Lbs.	Cat. No	List Pr.
2	30-amp.	0.277	P2-36	$3.50
3	30-amp.	0.280	P3-36	3.50
4	30-amp.	0.283	P4-36	3.50
5	30-amp.	0.286	P5-36	3.50
6	30-amp.	0.289	P6-36	3.75
8	15-amp.	0.286	P8-36	3.75

TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)



ONE-FOURTH ACTUAL SIZE

Plate is 4½″ high and 4$\frac{9}{16}$″ wide. Drilled to take four #6-32 oval-head mounting screws. Furnished with brackets for standard switch box. Made of die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.554	P2-36-2G	$7.00
3	30-amp.	0.563	P3-36-2G	7.00
4	30-amp.	0.572	P4-36-2G	7.00
5	30-amp.	0.579	P5-36-2G	7.00
6	30-amp.	0.588	P6-36-2G	7.50
8	15-amp.	0.579	P8-36-2G	7.50

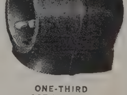
TYPE "P-41" 90° MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)

ONE-THIRD ACTUAL SIZE

Can be mounted in equipment or instrument panel. Equipped with Latch Locking Device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.249	P2-41	$4.70
3	30-amp.	0.253	P3-41	5.00
4	30-amp.	0.257	P4-41	5.30
5	30-amp.	0.261	P5-41	5.60
6	30-amp.	0.265	P6-41	5.90
8	15-amp.	0.261	P8-41	5.90

TYPE "P-42" 90° MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)



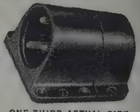
ONE-THIRD ACTUAL SIZE

For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.176	P2-42	$3.25
3	30-amp.	0.179	P3-42	3.25
4	30-amp.	0.182	P4-42	3.25
5	30-amp.	0.185	P5-42	3.25
6	30-amp.	0.188	P6-42	3.50
8	15-amp.	0.185	P8-42	3.50

TYPE "P-48" MICROPHONE OR PANEL RECEPTACLE (Special)

(With Pin Inser[illegible]



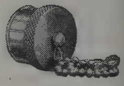
Plug is at 10° angle to flat, flanged base. Cap is removable Shell is made of die-cast zinc with statuary bronze finish.

ONE-THIRD ACTUAL SIZE

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.311	P2-48	$4.50
3	30-amp.	0.314	P3-48	4.50
4	30-amp.	0.317	P4-48	4.50
5	30-amp.	0.320	P5-48	4.50
6	30-amp.	0.323	P6-48	4.75
8	15-amp.	0.320	P8-48	4.75

ACCESSORY ITEMS

DUST CAPS



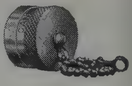
ONE-THIRD ACTUAL SIZE

Fits all "Type P" fittings with pin inserts. Made of brass, cadmium plated, with nickel silver bead chain.

Lbs.	Cat. No	List
0.081	PPC	$1.25
0.082	PCI*	1.75

*Type PCI is insulated inside for application where contacts are "hot."

TYPE PRC DUST CAP

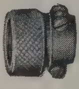


ONE-THIRD ACTUAL SIZE

Fits all "Type P" fittings with socket inserts. Made of brass, cadmium plated with nickel silver bead chain.

Lbs.	Cat. No	List
0.095	PRC	$1.25

TYPE "PCG" CLAMP GLAND NUT



ONE-THIRD ACTUAL SIZE

Made of die-cast zinc, cadmium plated. Complete with gasket.

Wt. Lbs	Cat. No.	List Price
0.037	PCG	$ .75

TYPE "P" GLAND GASKET

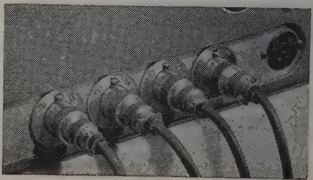
ONE-THIRD ACTUAL SIZE

As used in Straight Glands and Clamp Glands. Made of soft white rubber.

Cat. No.	List Price
P Gasket	$ .10

A number of Type P and Type O Connectors formerly catalogued have been omitted from the list. These include various Special Items. It is the policy of the company at the present time to list such items as obsolete or replacement fittings, which are available only upon special request. If, however, they are required for replacement purposes, write for Type P & O Replacement Page for listing and catalog number identification.

A LINE-UP OF "P" CONNECTORS ON RCA AMPLIFIER



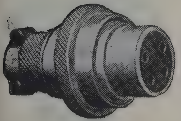
CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE AP FITTINGS

CANNON TYPE "AP" CONNECTORS are standard for many radio, telephone and instrument applications. Standard Mounting Units, Dust Caps. Contacts are Cannon full-floating, non-twisting, silver-plated; solder pots tinned for easy wiring. 30-amp. contacts use No. 10 stranded wire or No. 8 solid. 15-amp. use No. 14 stranded wire or No. 11 solid. Six insert arrangements having 2, 3, 4, 5, 6 and 8 contacts available. Cord connector items have cable clamp for ½" and ⅝" cable. Insert diameter 1". Standard insert insulation material is phenolic; melamine by special request. Finish, cadmium plate on most items; others sand blast and clear lacquer. A complete bulletin with dimensional and production illustration drawings is available upon request.

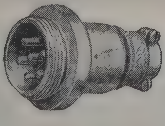
TYPE AP STRAIGHT PLUG
AP-CG-11
(Plug)—ZINC
(With socket insert)



Dimensions: overall length 2¼, dia. 1⅝. Finished in cadmium plate. Shell parts: insert armor, zinc alloy. Cable clamp for ⅝ cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.197	AP-2-CG-11	$4.45
3	30-amp.	0.200	AP-3-CG-11	4.75
4	30-amp.	0.208	AP-4-CG-11	5.05
5	30-amp.	0.209	AP-5-CG-11	5.35
6	30-amp.	0.212	AP-6-CG-11	5.65
8	15-amp.	0.207	AP-8-CG-11	5.95

TYPE AP STRAIGHT PLUG
AP-CG-12
(Plug)—ZINC
(With pin insert)



Dimensions: overall length, 2⅝", width, threaded 1¼, rubber bumper ring to clamp $2\frac{5}{32}$ (approx. length after insertion). Shell parts, zinc alloy, finish cad. plate. Rubber bumper ring.

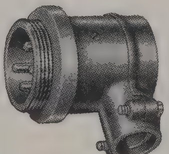
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.121	AP-2-CG-12	$3.50
3	30-amp.	0.124	AP-3-CG-12	3.50
4	30-amp.	0.127	AP-4-CG-12	3.50
5	30-amp.	0.130	AP-5-CG-12	3.50
6	30-amp.	0.133	AP-6-CG-12	3.75
8	15-amp.	0.129	AP-8-CG-12	3.75

TYPE AP ANGLE 90° PLUG
AP-CG-15
(Plug) (With socket insert)

Dimensions: overall length, $2\frac{19}{64}$; dia. coupling nut, 1⅝. Cable entry $\frac{17}{32}$. Integral clamp. Shell material, aluminum alloy, with sand blast and clear lacquer finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.234	AP-2-CG-15	$5.70
3	30-amp.	0.237	AP-3-CG-15	6.00
4	30-amp.	0.245	AP-4-CG-15	6.30
5	30-amp.	0.246	AP-5-CG-15	6.60
6	30-amp.	0.249	AP-6-CG-15	6.90
8	15-amp.	0.244	AP-8-CG-15	7.20

TYPE AP ANGLE 90° PLUG
AP-CG-16
(Plug) (With pin insert)



Shell material aluminum alloy with sand blast and clear lacquer finish. Cable clamp is integral with end bell body for ½ inch cable. Rubber ring to protect threads.

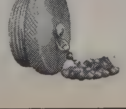
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.189	AP-2-CG-16	$4.25
3	30-amp.	0.192	AP-3-CG-16	4.25
4	30-amp.	0.195	AP-4-CG-16	4.25
5	30-amp.	0.198	AP-5-CG-16	4.25
6	30-amp.	0.201	AP-6-CG-16	4.50
8	15-amp.	0.197	AP-8-CG-16	4.50

TYPE AP PANEL MOUNTING RECEPTACLE AP-13
(With socket insert)

Shell zinc alloy with cadmium plate finish. Coupling ring, brass. Dimensions: O.D. flange, 2. Flange to solder pot ext. $\frac{15}{16}$. O.D. dia. shell, 1½. Four countersunk mounting holes, 45°.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.278	AP-2-13	$4.95
3	30-amp.	0.281	AP-3-13	5.25
4	30-amp.	0.289	AP-4-13	5.55
5	30-amp.	0.290	AP-5-13	5.85
6	30-amp.	0.293	AP-6-13	6.15
8	15-amp.	0.288	AP-8-13	6.45

DUST CAP (used with socket inserts)



Four and one-half inch bead retaining chain on each Cap. Cadmium plated brass.

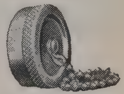
Cat. No.	List Pr.
AP-59A	$1.75

TYPE AP PANEL RECEPTACLE
AP-14
(With pin insert)

Shell zinc alloy, cadmium plated finish. Dimensions: overall depth, 1" including width flange, 2. Flange to rear ¾. solder pot ext. $\frac{15}{16}$. Four countersunk mounting holes.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.159	AP-2-14	$4.00
3	30-amp.	0.162	AP-3-14	4.00
4	30-amp.	0.165	AP-4-14	4.00
5	30-amp.	0.168	AP-5-14	4.00
6	30-amp.	0.171	AP-6-14	4.25
8	15-amp.	0.167	AP-8-14	4.25

DUST CAP
For fittings with pin inserts



Four and one-half inch bead retaining chain on each cap. Brass cad. plated.

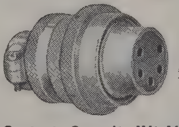
Cat. No.	List Price
AP-60A	$1.75

TYPE AP SPECIALS

The AP-23 Plug is especially designed for heavy duty requirements, with larger (⅝) cable maximum. The AP-18S Receptacle is designed for limited space. Insulation is phenolic.

The AP series is flexible in design and easily adapted to many uses such as sealed-in battery cases, x-ray transformer boxes, etc.

TYPE AP STRAIGHT PLUG
AP-23-⅝
(With socket insert)



Shell material aluminum alloy, sand blast and clear lacquer finish. Coupling ring zinc. Dimensions 2¼ x 1⅝. Clamp for ⅝" cable.

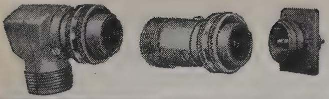
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.234	AP-2-23-⅝	$5.45
3	30-amp.	0.237	AP-3-23-⅝	5.75
4	30-amp.	0.245	AP-4-23-⅝	6.05
5	30-amp.	0.246	AP-5-23-⅝	6.35
6	30-amp.	0.249	AP-6-23-⅝	6.65
8	15-amp.	0.244	AP-8-23-⅝	6.95

TYPE AP PANEL RECEPTACLE
AP-18S
(With pin insert)

Shell material is aluminum alloy, sand blast and clear lacquer finish. Dimensions: overall, 2 x ⅞. Four mounting holes drilled and countersunk.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.065	AP-2-18S	$4.00
3	30-amp.	0.068	AP-3-18S	4.00
4	30-amp.	0.071	AP-4-18S	4.00
5	30-amp.	0.074	AP-5-18S	4.00
6	30-amp.	0.077	AP-6-18S	4.25
8	15-amp.	0.073	AP-8-18S	4.25

CANNON
TYPES K & RK PLUGS FOR AIRCRAFT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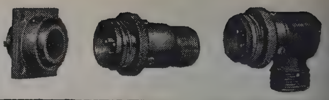
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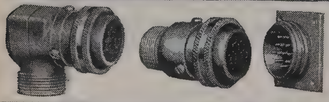
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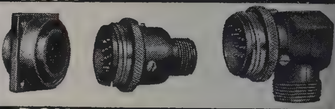
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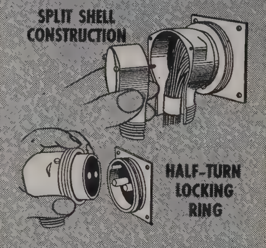

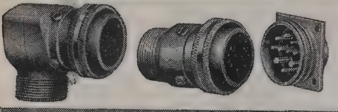
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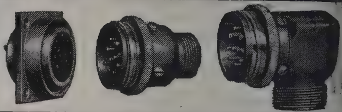
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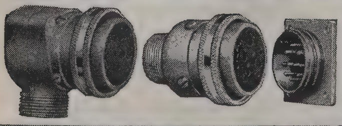
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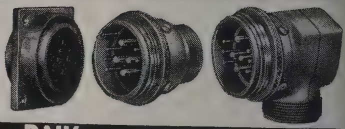
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The Type "K" Series was designed especially for use in the aircraft field and is used almost universally for aircraft radio, instrument and electrical circuits. Although light in weight, units are rugged and durable. The "K" Series is made in 3 basic types: (1) Straight Type. (2) 90° Type. (3) Wall Mounting Unit, for which either straight or right angle junction shells are provided. Inserts of laminated and molded phenolic are removable.

The cable entry is regularly threaded for various sizes of aircraft flexible conduit, but there are fittings also available with cable clamp for special applications. The "K" Series is comprised of 8 diameters, with a great variety of contact arrangements covering a range of from 1 to 82 contacts, depending, of course, upon the diameter. 188 insert arrangements.

A key and groove arrangement makes it possible to connect fittings easily and quickly without the necessity of fumbling to match pins and sockets. This eliminates any possibility of forcing together in improper alignment and thus bending or breaking pins. Large contacts may be removed for soldering, thereby eliminating the possibility of damaging the insert with excessive heat.

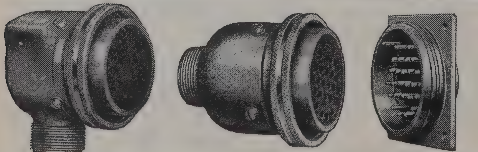
Quick, easy access to solder pots at back of contact is made possible simply by removing either 3 or 4 Shakeproof Sems, depending upon the size of the fitting. Since these screws are equidistant, the barrel and insert may be rotated to accommodate 3 or 4 different positions. This is also true of the flanges on wall mounting units, making it easy to rotate these fittings to facilitate cable installation and avoid sharp bends in conduit.

Plugs and receptacles are locked together by means of a quick-acting threaded nut which holds both members firmly together and prevents shaking or accidentally pulling them apart. 10 to 250-amp. contacts.

NOTE: Detailed Catalog Bulletin and Wall Chart for K Connectors available on request.

FK

RFK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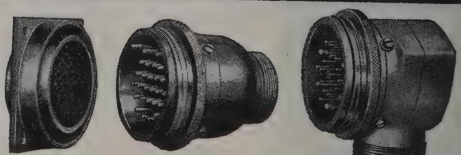
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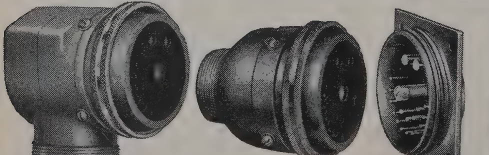
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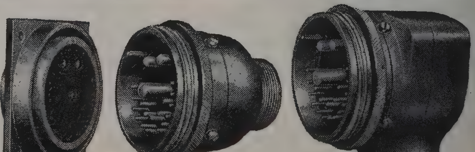
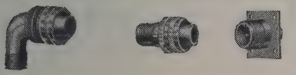

RLK

ALL FITTINGS ON THIS PAGE ARE SLIGHTLY MORE THAN ONE-QUARTER ACTUAL SIZE

8 S



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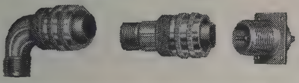

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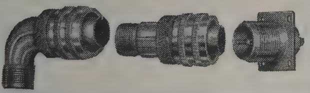

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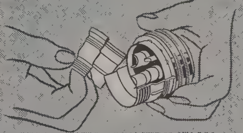
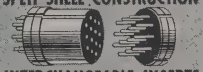
CANNON

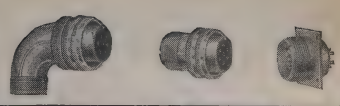
TYPE AN PLUGS FOR AIRCRAFT



SPLIT SHELL CONSTRUCTION



INTERCHANGEABLE INSERTS



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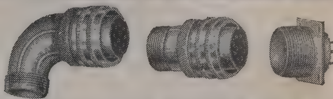

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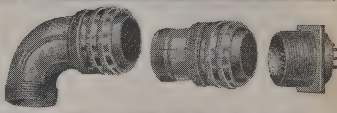

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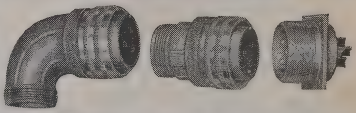

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MORE THAN 200 INSERT ARRANGEMENTS AVAILABLE

CANNON "Type AN" Series of plugs and receptacles was designed especially to meet Army-Navy Specifications for aircraft electrical connectors. While the AN Series retains all the basic features of the Type K Series—features which have established conclusive proof of their effectiveness as applied to aircraft—numerous changes in design and construction have been made to conform to latest Army-Navy Specifications.

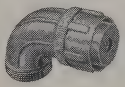
Type AN Plugs are made in three basic shapes or styles. These are: 1. Straight cord connectors. 2. Right angle or 90° cord connectors. 3. Flanged connectors for wall mounting. An almost unlimited combination of circuits and current capacities can be handled with AN connectors and their interchangeable inserts.

Removable and interchangeable inserts make it possible to change any fitting from a pin to a socket, or vice versa, and also to change the number of circuits handled through any fitting provided the inserts are of the same diameter. The split shell, a feature pioneered by Cannon, makes it easy to install wiring or to solder contacts.

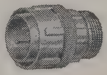
An important feature of the Type AN Series is the means provided for coupling the members together. This consists of a coupling nut which serves to draw the parts together and to release them, while it also prevents plugs and receptacles from being jarred apart by excessive vibration. No special tools are required to lock or unlock plugs and receptacles, to separate split shells or to remove inserts. This feature is invaluable, since it eliminates delay in servicing in the field and also because there are so many combinations possible with Type AN Series.

***Write for Complete "AN" Bulletin,** **Also "AN" Wall Charts.**

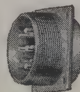
CONTACT CAPACITIES 5 to 200-amp.



AN3108 Plug



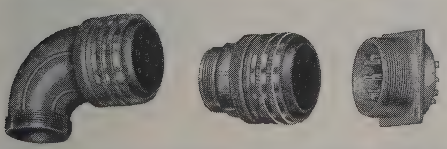
AN3106 Plug



AN3102

PEAK VOLTAGES 70 to 14,000V.

24



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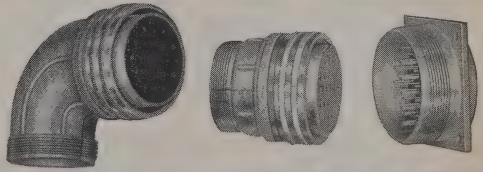

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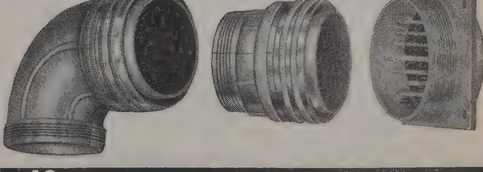
32



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ALL FITTINGS ON THIS PAGE ARE SLIGHTLY MORE THAN ONE-QUARTER ACTUAL SIZE

"300" SERIES PLUGS AND SOCKETS

General Specifications

2 Contacts to 33 Contacts. All plugs and sockets are polarized.

2 Contact Plugs and Sockets are round, others rectangular.

Plugs of one size cannot fit into sockets of another size.

Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.

Molded Bakelite insulation.

Formed metal caps. Formed fibre linings in caps.

Small size, with good separation between contacts.

Plug or socket for panel mounting.

Plug or socket with cap.

Simple, fool-proof assembly.

Finish on caps—Black Crystal.

Plug prongs—$\frac{5}{32}$″ wide by $\frac{3}{64}$″ thick.

We suggest using the 300 series in circuits not exceeding 45 Volts and 5 Amps., although circuit characteristics may permit higher ratings.

Plug with Angle Brackets

P304AB

No.	Contacts	Ea.
P-302-AB	(2)	$ .16
P-303-AB	(3)	.19
P-304-AB	(4)	.22
P-306-AB	(6)	.27
P-308-AB	(8)	.32
P-310-AB	(10)	.37
P-312-AB	(12)	.42

Socket with Angle Brackets

S304AB

No.	Contacts	Ea.
S-302-AB	(2)	$ .17
S-303-AB	(3)	.20
S-304-AB	(4)	.23
S-306-AB	(6)	.30
S-308-AB	(8)	.37
S-310-AB	(10)	.44
S-312-AB	(12)	.51

Plug with Flush Plate

P304FP

No.	Contacts	Ea.
P-302-FP	(2)	$ .27
P-303-FP	(3)	.30
P-304-FP	(4)	.33
P-306-FP	(6)	.38
P-308-FP	(8)	.43
P-310-FP	(10)	.48
P-312-FP	(12)	.53

Socket with Flush Plate

S304FP

No.	Contacts	Ea.
S-302-FP	(2)	$ .28
S-303-FP	(3)	.31
S-304-FP	(4)	.34
S-306-FP	(6)	.41
S-308-FP	(8)	.48
S-310-FP	(10)	.55
S-312-FP	(12)	.62

Plug with Recessed Plate

P304RP

No.	Contacts	Ea.
P-302-RP	(2)	$ .32
P-303-RP	(3)	.35
P-304-RP	(4)	.38
P-306-RP	(6)	.45
P-308-RP	(8)	.52
P-310-RP	(10)	.59
P-312-RP	(12)	.66

Socket with Recessed Plate

S304RP

No.	Contacts	Ea.
S-302-RP	(2)	$ .33
S-303-RP	(3)	.36
S-304-RP	(4)	.39
S-306-RP	(6)	.48
S-308-RP	(8)	.57
S-310-RP	(10)	.66
S-312-RP	(12)	.75

Plug, Flared Hole in Cap

P304FHT

No.	Contacts	Ea.
P-302-FHT	(2)	$ .26
P-303-FHT	(3)	.29
P-304-FHT	(4)	.32
P-306-FHT	(6)	.38
P-308-FHT	(8)	.44
P-310-FHT	(10)	.50
P-312-FHT	(12)	.56

Socket, Flared Hole in Cap

S304FHT

No.	Contacts	Ea.
S-302-FHT	(2)	$ .27
S-303-FHT	(3)	.30
S-304-FHT	(4)	.33
S-306-FHT	(6)	.41
S-308-FHT	(8)	.49
S-310-FHT	(10)	.57
S-312-FHT	(12)	.65

Plug, Flared Hole in Cap and with Latches

P304FHT-L

No.	Contacts	Ea.
P-302-FHT-L	(2)	$ .36
P-303-FHT-L	(3)	.39
P-304-FHT-L	(4)	.42
P-306-FHT-L	(6)	.48
P-308-FHT-L	(8)	.54
P-310-FHT-L	(10)	.60
P-312-FHT-L	(12)	.66

Socket, Flared Hole in Cap and with Keepers

S304FHT-K

No.	Contacts	Ea.
S-302-FHT-K	(2)	$ .37
S-303-FHT-K	(3)	.40
S-304-FHT-K	(4)	.43
S-306-FHT-K	(6)	.51
S-308-FHT-K	(8)	.59
S-310-FHT-K	(10)	.67
S-312-FHT-K	(12)	.75

Plug, Cable Clamp in Cap

P304CCT

No.	Contacts	Ea.
P-302-CCT	(2)	$ .36
P-303-CCT	(3)	.39
P-304-CCT	(4)	.42
P-306-CCT	(6)	.48
P-308-CCT	(8)	.54
P-310-CCT	(10)	.60
P-312-CCT	(12)	.66

Socket, Cable Clamp in Cap

S304CCT

No.	Contacts	Ea.
S-302-CCT	(2)	$ .37
S-303-CCT	(3)	.40
S-304-CCT	(4)	.43
S-306-CCT	(6)	.51
S-308-CCT	(8)	.59
S-310-CCT	(10)	.67
S-312-CCT	(12)	.75

Plug, Cable Clamp in Cap and with Latches

P304CCT-L

No.	Contacts	Ea.
P-302-CCT-L	(2)	$ .46
P-303-CCT-L	(3)	.49
P-304-CCT-L	(4)	.52
P-306-CCT-L	(6)	.58
P-308-CCT-L	(8)	.64
P-310-CCT-L	(10)	.70
P-312-CCT-L	(12)	.76

Socket, Cable Clamp in Cap and with Keepers

S304CCT-K

No.	Contacts	Ea.
S-302-CCT-K	(2)	$ .47
S-303-CCT-K	(3)	.50
S-304-CCT-K	(4)	.53
S-306-CCT-K	(6)	.61
S-308-CCT-K	(8)	.69
S-310-CCT-K	(10)	.77
S-312-CCT-K	(12)	.85

Plug with Angle Brackets

P315AB

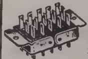
No.	Contacts	Ea.
P-315-AB	(15)	$ .60
P-318-AB	(18)	.75
P-321-AB	(21)	.95
P-324-AB	(24)	1.15
P-327-AB	(27)	1.35
P-330-AB	(30)	1.55
P-333-AB	(33)	1.75

Socket with Angle Brackets

S315AB

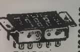
No.	Contacts	Ea.
S-315-AB	(15)	$ .70
S-318-AB	(18)	.85
S-321-AB	(21)	1.05
S-324-AB	(24)	1.25
S-327-AB	(27)	1.45
S-330-AB	(30)	1.65
S-333-AB	(33)	1.85

Plug with End Brackets


P315EB

No.	Contacts	Ea.
P-315-EB	(15)	$ .60
P-318-EB	(18)	.75
P-321-EB	(21)	.95
P-324-EB	(24)	1.15
P-327-EB	(27)	1.35
P-330-EB	(30)	1.55
P-333-EB	(33)	1.75

Sockets with End Brackets


S315EB

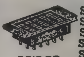
No.	Contacts	Ea.
S-315-EB	(15)	$ .70
S-318-EB	(18)	.85
S-321-EB	(21)	1.05
S-324-EB	(24)	1.25
S-327-EB	(27)	1.45
S-330-EB	(30)	1.65
S-333-EB	(33)	1.85

Plug with Shallow Brackets

P315SB

No.	Contacts	Ea.
P-315-SB	(15)	$ .90
P-318-SB	(18)	1.10
P-321-SB	(21)	1.30
P-324-SB	(24)	1.55
P-327-SB	(27)	1.75
P-330-SB	(30)	2.00
P-333-SB	(33)	2.20

Sockets with Shallow Brackets


S315SB

No.	Contacts	Ea.
S-315-SB	(15)	$1.00
S-318-SB	(18)	1.20
S-321-SB	(21)	1.40
S-324-SB	(24)	1.65
S-327-SB	(27)	1.85
S-330-SB	(30)	2.10
S-333-SB	(33)	2.30

Plug with Deep Bracket

P315DB

No.	Contacts	Ea.
P-315-DB	(15)	$ .90
P-318-DB	(18)	1.10
P-321-DB	(21)	1.30
P-324-DB	(24)	1.55
P-327-DB	(27)	1.75
P-330-DB	(30)	2.00
P-333-DB	(33)	2.20

Socket with Deep Bracket

S315DB

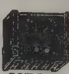
No.	Contacts	Ea.
S-315-DB	(15)	$1.00
S-318-DB	(18)	1.20
S-321-DB	(21)	1.40
S-324-DB	(24)	1.65
S-327-DB	(27)	1.85
S-330-DB	(30)	2.10
S-333-DB	(33)	2.30

Plug with Flared Hole in Top of Cap

P315FHT

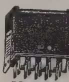
No.	Contacts	Ea.
P-315-FHT	(15)	$ .80
P-318-FHT	(18)	1.00
P-321-FHT	(21)	1.20
P-324-FHT	(24)	1.45
P-327-FHT	(27)	1.65
P-330-FHT	(30)	1.90
P-333-FHT	(33)	2.10

Socket, Flared Hole in Top of Cap


S315FHT

No.	Contacts	Ea.
S-315-FHT	(15)	$ .90
S-318-FHT	(18)	1.10
S-321-FHT	(21)	1.30
S-324-FHT	(24)	1.55
S-327-FHT	(27)	1.75
S-330-FHT	(30)	2.00
S-333-FHT	(33)	2.20

Plug, Flared Hole in Top of Cap and with Latches


P315FHT-L

No.	Contacts	Ea.
P-315-FHT-L	(15)	$ .90
P-318-FHT-L	(18)	1.10
P-321-FHT-L	(21)	1.30
P-324-FHT-L	(24)	1.55
P-327-FHT-L	(27)	1.75
P-330-FHT-L	(30)	2.00
P-333-FHT-L	(33)	2.20

Socket, Flared Hole in Top of Cap and with Keepers

S315FHT-K

No.	Contacts	Ea.
S-315-FHT-K	(15)	$1.00
S-318-FHT-K	(18)	1.20
S-321-FHT-K	(21)	1.40
S-324-FHT-K	(24)	1.65
S-327-FHT-K	(27)	1.85
S-330-FHT-K	(30)	2.10
S-333-FHT-K	(33)	2.30

Plug, Cable Clamp in Top of Cap

P315CCT-

No.	Contacts	Ea.
P-315-CCT	(15)	$ .95
P-318-CCT	(18)	1.15
P-321-CCT	(21)	1.35
P-324-CCT	(24)	1.60
P-327-CCT	(27)	1.80
P-330-CCT	(30)	2.10
P-333-CCT	(33)	2.25

Socket, Cable Clamp in Top of Cap

S315CCT

No.	Contacts	Ea.
S-315-CCT	(15)	$1.05
S-318-CCT	(18)	1.25
S-321-CCT	(21)	1.45
S-324-CCT	(24)	1.70
S-327-CCT	(27)	1.90
S-330-CCT	(30)	2.20
S-333-CCT	(33)	2.35

Plug, Cable Clamp in Top of Cap and with Latches

P315CCT-L

No.	Contacts	Ea.
P-315-CCT-L	(15)	$1.05
P-318-CCT-L	(18)	1.25
P-321-CCT-L	(21)	1.45
P-324-CCT-L	(24)	1.70
P-327-CCT-L	(27)	1.90
P-330-CCT-L	(30)	2.20
P-333-CCT-L	(33)	2.35

Socket, Cable Clamp in Top of Cap and with Keepers

S315CCT-K

No.	Contacts	Ea.
S-315-CCT-K	(15)	$1.15
S-318-CCT-K	(18)	1.35
S-321-CCT-K	(21)	1.55
S-324-CCT-K	(24)	1.80
S-327-CCT-K	(27)	2.00
S-330-CCT-K	(30)	2.30
S-333-CCT-K	(33)	2.45

"400" SERIES PLUGS AND SOCKETS
(Formerly "Heavy Duty")

General Specifications

2, 4, 6, 8, 10 and 12 Contacts.
All plugs and sockets are polarized.
Phosphor bronze "knife switch" type socket contacts engage both sides of flat plug contacts—double contact area.
Molded Bakelite insulation.
Fibre linings in caps.
Plug or socket for panel mounting.
Plug or socket with caps.
Finish on caps—Black Crystal.
Plug prong cross section ¼" x $\frac{1}{16}$".
Locking fittings available for panel types or extension cables as shown.
We recommend using the 400 series in circuits not exceeding 110 Volts and 10 Amperes, although circuit characteristics may permit higher ratings.

PLUG—Less Angle Brackets not Drilled or Tapped Unless Specified

P-404-LAB

No.	Contacts	Ea.
P-402-LAB	(2)	$ .25
P-404-LAB	(4)	.35
P-406-LAB	(6)	.45
P-408-LAB	(8)	.55
P-410-LAB	(10)	.65
P-412-LAB	(12)	.75

SOCKET—Less Angle Brackets. Not Drilled or Tapped Unless Specified

S-404-LAB

No.	Contacts	Ea.
S-402-LAB	(2)	$ .30
S-404-LAB	(4)	.45
S-406-LAB	(6)	.60
S-408-LAB	(8)	.75
S-410-LAB	(10)	.90
S-412-LAB	(12)	1.05

PLUG—with Angle Brackets for 1/16" Panel

P-404-AB $\frac{1}{16}$"

No.		Contacts	Ea.
P-402-AB	$\frac{1}{16}$"	(2)	$.45
P-404-AB	$\frac{1}{16}$"	(4)	.55
P-406-AB	$\frac{1}{16}$"	(6)	.65
P-408-AB	$\frac{1}{16}$"	(8)	.75
P-410-AB	$\frac{1}{16}$"	(10)	.85
P-412-AB	$\frac{1}{16}$"	(12)	.95

SOCKET—with Angle Brackets

S-404-AB

No	Contacts	Ea.
S-402-AB	(2)	$ .50
S-404-AB	(4)	.65
S-406-AB	(6)	.80
S-408-AB	(8)	.95
S-410-AB	(10)	1.10
S-412-AB	(12)	1.25

PLUG—with Shallow Brackets

P 404 SB

No.	Contacts	Ea.
P-402-SB	(2)	$ .55
P-404-SB	(4)	.70
P-406-SB	(6)	.85
P-408-SB	(8)	1.00
P-410-SB	(10)	1.15
P-412-SB	(12)	1.30

SOCKET—with Shallow Brackets

S 404 SB

No.	Contacts	Ea.
S-402-SB	(2)	$ .60
S-404-SB	(4)	.80
S-406-SB	(6)	1.00
S-408-SB	(8)	1.20
S-410-SB	(10)	1.40
S-412-SB	(12)	1.60

PLUG—with Deep Bracket

P-404-DB

No.	Contacts	Ea.
P-402-DB	(2)	$ .55
P-404-DB	(4)	.70
P-406-DB	(6)	.85
P-408-DB	(8)	1.00
P-410-DB	(10)	1.15
P-412-DB	(12)	1.30

SOCKET—with Deep Brackets

S 404 DB

No.	Contacts	Ea.
S-402-DB	(2)	$ .60
S-404-DB	(4)	.80
S-406-DB	(6)	1.00
S-408-DB	(8)	1.20
S-410-DB	(10)	1.40
S-412-DB	(12)	1.60

PLUGS

P-404-FHT

PLUG—Flared Hole in Top

No.	Contacts	Ea.
P-402-FHT	(2)	$ .50
P-404-FHT	(4)	.65
P-406-FHT	(6)	.80
P-408-FHT	(8)	.95
P-410-FHT	(10)	1.10
P-412-FHT	(12)	1.25

PLUG—Flared Hole in End

No.	Contacts	Ea.
P-402-FHE	(2)	$ .50
P-404-FHE	(4)	.65
P-406-FHE	(6)	.80
P-408-FHE	(8)	.95
P-410-FHE	(10)	1.10
P-412-FHE	(12)	1.25

SOCKETS

SOCKET—Flared Hole in Top

No.	Contacts	Ea.
S-402-FHT	(2)	$ .55
S-404-FHT	(4)	.75
S-406-FHT	(6)	.95
S-408-FHT	(8)	1.15
S-410-FHT	(10)	1.35
S-412-FHT	(12)	1.55

SOCKET—Flared Hole in End

No.	Contacts	Ea.
S-402-FHE	(2)	$ .55
S-404-FHE	(4)	.75
S-406-FHE	(6)	.95
S-408-FHE	(8)	1.15
S-410-FHE	(10)	1.35
S-412-FHE	(12)	1.55

PLUGS

P-404-CCT

PLUG—Cable Clamp in Top

No.	Contacts	Ea.
P-402-CCT	(2)	$ .70
P-404-CCT	(4)	.85
P-406-CCT	(6)	1.00
P-408-CCT	(8)	1.15
P-410-CCT	(10)	1.30
P-412-CCT	(12)	1.45

PLUG—Cable Clamp in End

No.	Contacts	Ea.
P-482-CCE	(2)	$ .70
P-404-CCE	(4)	.85
P-406-CCE	(6)	1.00
P-408-CCE	(8)	1.15
P-410-CCE	(10)	1.30
P-412-CCE	(12)	1.45

SOCKETS

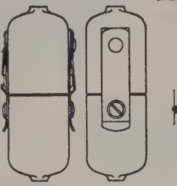
SOCKET—Cable Clamp in Top

No.	Contacts	Ea.
S-402-CCT	(2)	$ .75
S-404-CCT	(4)	.95
S-406-CCT	(6)	1.15
S-408-CCT	(8)	1.35
S-410-CCT	(10)	1.55
S-412-CCT	(12)	1.75

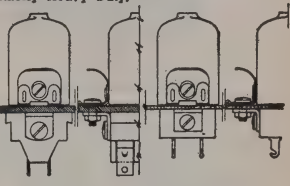
SOCKET—Cable Clamp in End

No.	Contacts	Ea.
S-402-CCE	(2)	$ .75
S-404-CCE	(4)	.95
S-406-CCE	(6)	1.15
S-408-CCE	(8)	1.35
S-410-CCE	(10)	1.55
S-412-CCE	(12)	1.75

LOCKS FOR 400 SERIES PLUGS AND SOCKETS
(Formerly Heavy Duty)

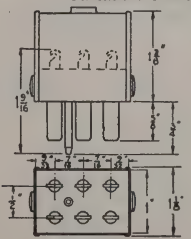

ILLUSTRATING No. 93 LOCK. May be attached to any 400 Series plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 locks."

No. 93 Lock when attached to plug, add to list per pair .... $ .30
No. 93 Locks ONLY per pair .... .30

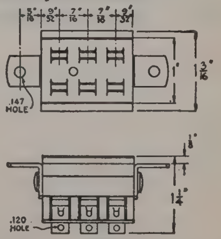

ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top of panel. Cannot be used on type DB plugs.

No. 63 Locks ONLY, per pair .... $ .30

Dimensions of 400 Series Plugs and Sockets



P-406-FHT



S-406-AB

"500" SERIES PLUGS AND SOCKETS

For Complete Listing of 500 SERIES, Write for No. 500 Catalog

Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

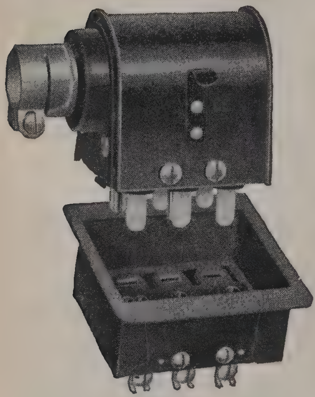
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

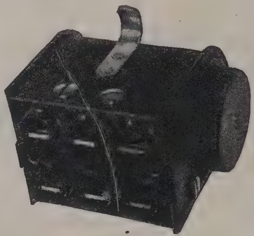
Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}''$ x $\frac{3}{32}''$.

IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

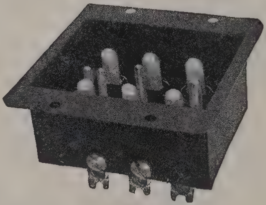
P-506-CE
(Plug with Cap)
(BX Clamp shown but not furnished)



S-506-DB
(Socket with Deep Bracket)

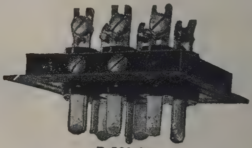


S-506-CE
(Socket with Cap)



P-506-DB
(Plug with Deep Bracket)

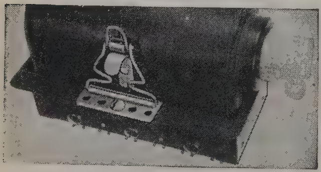
Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from ½" diameter and 1¼" diameter in steps of ⅛", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.



P-506-SB
(Plug with Shallow Bracket)

S-506-SB
(Socket with Shallow Bracket

LOCKS FOR 500 SERIES PLUGS AND SOCKETS



Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

No. 500-L Locks...... ....**Per pair $0.75**

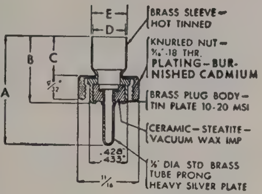
PLUG

With Cap		With Deep Bracket		With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
P-502-CE	**$2.00**	**P-502-DB**	**$1.75**	**P-502-SB**	**$1.75**
P-504-CE	**2.85**	**P-504-DB**	**2.50**	**P-504-SB**	**2.50**
P-506-CE	**3.70**	**P-506-DB**	**3.25**	**P-506-SB**	**3.25**
P-508-CE	**4.55**	**P-508-DB**	**4.00**	**P-508-SB**	**4.00**
P-510-CE	**5.40**	**P-510-DB**	**4.75**	**P-510-SB**	**4.75**
P-512-CE	**6.25**	**P-512-DB**	**5.50**	**P-512-SB**	**5.50**

SOCKET

With Cap		With Deep Bracket		With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
S-502-CE	**$2.00**	**S-502-DB**	**$1.75**	**S-502-SB**	**$1.75**
S-504-CE	**2.85**	**S-504-DB**	**2.50**	**S-504-SB**	**2.50**
S-506-CE	**3.70**	**S-506-DB**	**3.25**	**S-506-SB**	**3.25**
S-508-CE	**4.55**	**S-508-DB**	**4.00**	**S-508-SB**	**4.00**
S-510-CE	**5.40**	**S-510-DB**	**4.75**	**S-510-SB**	**4.75**
S-512-CE	**6.25**	**S-512-DB**	**5.50**	**S-512-SB**	**5.50**

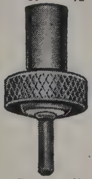
SERIES 101 PLUGS


E
D
B
C
A
9/32"
.426"
.433"
11/16
BRASS SLEEVE— HOT TINNED
KNURLED NUT— 9/16"-18 THR. PLATING—BURNISHED CADMIUM
BRASS PLUG BODY— TIN PLATE 10-20 MSI
CERAMIC—STEATITE— VACUUM WAX IMP
⅛" DIA STD BRASS TUBE PRONG HEAVY SILVER PLATE

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. Assembly meets Navy Specifications. A low loss Plug and Socket ideal for high frequency connections.

Code,No.	A	B	C	D	E	Ea.
P-101-¼"	1¼"	¾"	7/16"	¼"	9/32"	$0.45
P-101-5/16"	1⅜"	⅞"	9/16"	5/16"	11/32"	.55
P-101-⅜"	1 3/16"	11/16"	⅜"	⅜"	13/32"	.55
P-101½"	1⅞"	1⅜"	1 1/16"	½"	9/16"	.60

P-101-¼"


P-101-5/16"

P-101-⅜"

P-101-½"

SERIES 101 SOCKETS

The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass, Nickel Plated with Chrome Flash. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101 —No. 41 drill on 11/16" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 13/16" centers.

S-101
Price Each—$0.40

S-101-D
Price Each—$0.60

S-101-D Mod
Price Each—$0.60

SERIES 201

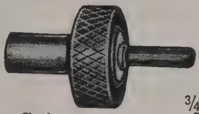
PLUGS

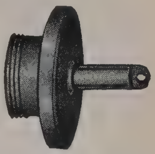
The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with ⅜" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16". Prong diameter 5/32". Fits only the 201 Socket.

SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is nickel plated with Chrome Flash. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications.

Mounting holes — No. 30 drill on 1" centers.





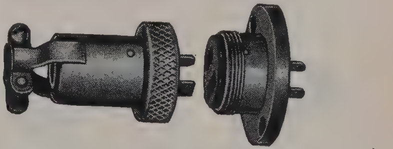
¾"—27 thread.

Code	Ea.	Code	Ea.
P-201-⅜"	$0.70	S-201	$0.75

SERIES 202

PLUGS SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with burnished Cadmium Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has ¾"—27 thread.
Socket Mounting Holes. No. 30 drill on 1" centers.



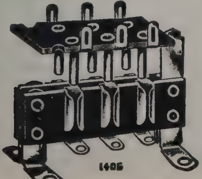
P-202-CCT—$0.55 (as shown above)
S-202-CCT—$0.56
P-202-FHT—$0.45 (without Cable Clamps)
S-202-FHT—$0.46
S-202-B—$0.65
P-202-B—$0.64

1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separate unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing.

Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized—assures correct coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However we can supply units having as many as 30 or more contacts.

On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.



No. 1405	(5 Contacts)	Ea. $0.28	No. 1411	(11 Contacts)	Ea. $0.52
No. 1406	(6 Contacts)	Ea. .32	No. 1412	(12 Contacts)	Ea. .56
No. 1407	(7 Contacts)	Ea. .36	No. 1413	(13 Contacts)	Ea. .60
No. 1408	(8 Contacts)	Ea. .40	No. 1414	(14 Contacts)	Ea. .64
No. 1409	(9 Contacts)	Ea. .44	No. 1415	(15 Contacts)	Ea. .68
No. 1410	(10 Contcats)	Ea. .48	No. 1416	(16 Contacts)	Ea. .72

For units with more than 16 contacts, add 4c to the No. 1416 price for each additional contact.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite.

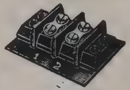
The Terminals and Binder Screws are of brass, nickel plated. **Marker Strips** may be ordered and imprinted to supply terminal designations. These Marker Strips mount beneath Terminal Strips and also afford insulation from metal mounting surface.

No. 140 TERMINAL STRIPS

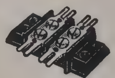
5-40 x $\frac{3}{16}$ Binder Head Screws

Metal to Metal Spacing over Bakelite ¼"

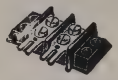
No. 2-140



No. 2-140-MS



No. 2-140-W



No. 2-140-¾ W

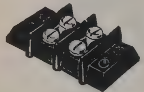
No. 2-140-Y

No. 140 Code	Ea.	No. 140-MS With Marker Strip Code	Ea.	No. 140-W Code	Ea.	No. 140-W-MS With Marker Strip Code	Ea.	No. 140-¾ W Code	Ea.	No. 140-¾ W-MS With Marker Strip Code	Ea.	No. 140-Y Code	Ea.	No. 140-Y-MS With Marker Strip Code	Ea.
1-140	$ .12	1-140-MS	$ .13	1-140-W	$ .15	1-140-W-MS	$ .16	1-140-¾ W	$ .15	1-140-¾ W-MS	$ .16	1-140-Y	$ .15	1-140-Y-MS	$ .16
2-140	.19	2-140-MS	.21	2-140-W	.25	2-140-W-MS	.27	2-140-¾ W	.25	2-140-¾ W-MS	.27	2-140-Y	.25	2-140-Y-MS	.27
3-140	.26	3-140-MS	.29	3-140-W	.35	3-140-W-MS	.38	3-140-¾ W	.35	3-140-¾ W-MS	.38	3-140-Y	.35	3-140-Y-MS	.38
4-140	.33	4-140-MS	.36	4-140-W	.45	4-140-W-MS	.48	4-140-¾ W	.45	4-140-¾ W-MS	.48	4-140-Y	.45	4-140-Y-MS	.48
5-140	.40	5-140-MS	.44	5-140-W	.55	5-140-W-MS	.59	5-140-¾ W	.55	5-140-¾ W-MS	.59	5-140-Y	.55	5-140-Y-MS	.59
6-140	.47	6-140-MS	.52	6-140-W	.65	6-140-W-MS	.70	6-140-¾ W	.65	6-140-¾ W-MS	.70	6-140-Y	.65	6-140-Y-MS	.70
7-140	.54	7-140-MS	.59	7-140-W	.75	7-140-W-MS	.80	7-140-¾ W	.75	7-140-¾ W-MS	.80	7-140-Y	.75	7-140-Y-MS	.80
8-140	.61	8-140-MS	.67	8-140-W	.85	8-140-W-MS	.91	8-140-¾ W	.85	8-140-¾ W-MS	.91	8-140-Y	.85	8-140-Y-MS	.91
9-140	.68	9-140-MS	.75	9-140-W	.95	9-140-W-MS	1.02	9-140-¾ W	.95	9-140-¾ W-MS	1.02	9-140-Y	.95	9-140-Y-MS	1.02
10-140	.75	10-140-MS	.82	10-140-W	1.05	10-140-W-MS	1.13	10-140-¾ W	1.05	10-140-¾ W-MS	1.13	10-140-Y	1.05	10-140-Y-MS	1.13
11-140	.82	11-140-MS	.90	11-140-W	1.15	11-140-W-MS	1.23	11-140-¾ W	1.15	11-140-¾ W-MS	1.23	11-140-Y	1.15	11-140-Y-MS	1.23
12-140	.89	12-140-MS	.98	12-140-W	1.25	12-140-W-MS	1.34	12-140-¾ W	1.25	12-140-¾ W-MS	1.34	12-140-Y	1.25	12-140-Y-MS	1.34
13-140	.96	13-140-MS	1.06	13-140-W	1.35	13-140-W-MS	1.45	13-140-¾ W	1.35	13-140-¾ W-MS	1.45	13-140-Y	1.35	13-140-Y-MS	1.45
14-140	1.03	14-140-MS	1.13	14-140-W	1.45	14-140-W-MS	1.55	14-140-¾ W	1.45	14-140-¾ W-MS	1.55	14-140-Y	1.45	14-140-Y-MS	1.55
15-140	1.10	15-140-MS	1.21	15-140-W	1.55	15-140-W-MS	1.66	15-140-¾ W	1.55	15-140-¾ W-MS	1.66	15-140-Y	1.55	15-140-Y-MS	1.66
16-140	1.17	16-140-MS	1.29	16-140-W	1.65	16-140-W-MS	1.77	16-140-¾ W	1.65	16-140-¾ W-MS	1.77	16-140-Y	1.65	16-140-Y-MS	1.77
17-140	1.24	17-140-MS	1.36	17-140-W	1.75	17-140-W-MS	1.87	17-140-¾ W	1.75	17-140-¾ W-MS	1.87	17-140-Y	1.75	17-140-Y-MS	1.87
18-140	1.31	18-140-MS	1.44	18-140-W	1.85	18-140-W-MS	1.98	18-140-¾ W	1.85	18-140-¾ W-MS	1.98	18-140-Y	1.85	18-140-Y-MS	1.98
19-140	1.38	19-140-MS	1.52	19-140-W	1.95	19-140-W-MS	2.09	19-140-¾ W	1.95	19-140-¾ W-MS	2.09	19-140-Y	1.95	19-140-Y-MS	2.09
20-140	1.45	20-140-MS	1.60	20-140-W	2.05	20-140-W-MS	2.20	20-140-¾ W	2.05	20-140-¾ W-MS	2.20	20-140-Y	2.05	20-140-Y-MS	2.20
21-140	1.52	21-140-MS	1.67	21-140-W	2.15	21-140-W-MS	2.30	21-140-¾ W	2.15	21-140-¾ W-MS	2.30	21-140-Y	2.15	21-140-Y-MS	2.30

No. 141 TERMINAL STRIPS

6-32 x ¼ Binder Head Screws

Metal to Metal Spacing over Bakelite ⅜"



No. 2-141

No. 2-141-W

No. 2-141-¾-W

No. 2-141-Y

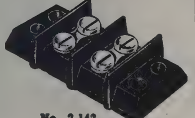
No. 141 Code	Ea.	No. 141-MS With Marker Strip Code	Ea.	No. 141-W Code	Ea.	No. 141-W-MS With Marker Strip Code	Ea.	No. 141-¾ W Code	Ea.	No. 141-¾ W-MS With Marker Strip Code	Ea.	No. 141-Y Code	Ea.	No. 141-Y-MS With Marker Strip Code	Ea.
1-141	$ .15	1-141-MS	$ .17	1-141-W	$ .19	1-141-W-MS	$ .21	1-141-¾ W	$ .19	1-141-¾ W-MS	$ .21	1-141-Y	$ .19	1-141-Y-MS	$ .21
2-141	.24	2-141-MS	.26	2-141-W	.32	2-141-W-MS	.34	2-141-¾ W	.32	2-141-¾ W-MS	.34	2-141-Y	.32	2-141-Y-MS	.34
3-141	.33	3-141-MS	.36	3-141-W	.45	3-141-W-MS	.48	3-141-¾ W	.45	3-141-¾ W-MS	.48	3-141-Y	.45	3-141-Y-MS	.48
4-141	.42	4-141-MS	.46	4-141-W	.58	4-141-W-MS	.62	4-141-¾ W	.58	4-141-¾ W-MS	.62	4-141-Y	.58	4-141-Y-MS	.62
5-141	.51	5-141-MS	.56	5-141-W	.71	5-141-W-MS	.76	5-141-¾ W	.71	5-141-¾ W-MS	.76	5-141-Y	.71	5-141-Y-MS	.76
6-141	.60	6-141-MS	.66	6-141-W	.84	6-141-W-MS	.90	6-141-¾ W	.84	6-141-¾ W-MS	.90	6-141-Y	.84	6-141-Y-MS	.90
7-141	.69	7-141-MS	.76	7-141-W	.97	7-141-W-MS	1.04	7-141-¾ W	.97	7-141-¾ W-MS	1.04	7-141-Y	.97	7-141-Y-MS	1.04
8-141	.78	8-141-MS	.86	8-141-W	1.10	8-141-W-MS	1.18	8-141-¾ W	1.10	8-141-¾ W-MS	1.18	8-141-Y	1.10	8-141-Y-MS	1.18
9-141	.87	9-141-MS	.96	9-141-W	1.23	9-141-W-MS	1.32	9-141-¾ W	1.23	9-141-¾ W-MS	1.32	9-141-Y	1.23	9-141-Y-MS	1.32
10-141	.96	10-141-MS	1.06	10-141-W	1.36	10-141-W-MS	1.46	10-141-¾ W	1.36	10-141-¾ W-MS	1.46	10-141-Y	1.36	10-141-Y-MS	1.46
11-141	1.05	11-141-MS	1.16	11-141-W	1.49	11-141-W-MS	1.60	11-141-¾ W	1.49	11-141-¾ W-MS	1.60	11-141-Y	1.49	11-141-Y-MS	1.60
12-141	1.14	12-141-MS	1.25	12-141-W	1.62	12-141-W-MS	1.73	12-141-¾ W	1.62	12-141-¾W-MS	1.73	12-141-Y	1.62	12-141-Y-MS	1.73
13-141	1.23	13-141-MS	1.35	13-141-W	1.75	13-141-W-MS	1.87	13-141-¾ W	1.75	13-141-¾ W-MS	1.87	13-141-Y	1.75	13-141-Y-MS	1.87
14-141	1.32	14-141-MS	1.45	14-141-W	1.88	14-141-W-MS	2.01	14-141-¾ W	1.88	14-141-¾ W-MS	2.01	14-141-Y	1.88	14-141-Y-MS	2.01
15-141	1.41	15-141-MS	1.55	15-141-W	2.01	15-141-W-MS	2.15	15-141-¾ W	2.01	15-141-¾ W-MS	2.15	15-141-Y	2.01	15-141-Y-MS	2.15
16-141	1.50	16-141-MS	1.65	16-141-W	2.14	16-141-W-MS	2.29	16-141-¾ W	2.14	16-141-¾ W-MS	2.29	16-141-Y	2.14	16-141-Y-MS	2.29
17-141	1.59	17-141-MS	1.75	17-141-W	2.27	17-141-W-MS	2.43	17-141-¾ W	2.27	17-141-¾ W-MS	2.43	17-141-Y	2.27	17-141-Y-MS	2.43
18-141	1.68	18-141-MS	1.85	18-141-W	2.40	18-141-W-MS	2.57	18-141-¾ W	2.40	18-141-¾ W-MS	2.57	18-141-Y	2.40	18-141-Y-MS	2.57
19-141	1.77	19-141-MS	1.95	19-141-W	2.53	19-141-W-MS	2.71	19-141-¾ W	2.53	19-141-¾ W-MS	2.71	19-141-Y	2.53	19-141-Y-MS	2.71
20-141	1.86	20-141-MS	2.05	20-141-W	2.66	20-141-W-MS	2.85	20-141-¾ W	2.66	20-141-¾ W-MS	2.85	20-141-Y	2.66	20-141-Y-MS	2.85

BARRIER TYPE TERMINAL STRIPS

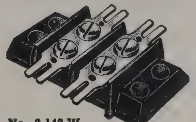
8-32 x $\frac{5}{16}$" Binder Head Screws

No. 142 TERMINAL STRIPS

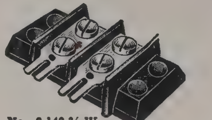
Metal to Metal Spacing over Bakelite $\frac{9}{16}$"



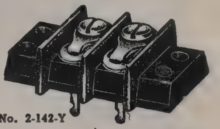
No. 2-142



No. 2-142-W



No. 2-142-¾ W



No. 2-142-Y

No. 142		No. 142-MS With Marker Strip		No. 142-W		No. 142-W-MS With Marker Strip		No. 142-¾ W		No. 142-¾ W-MS With Marker Strip		No. 142-Y		No. 142-Y-MS With Marker Strip	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.
1-142	$ .18	1-142-MS	$ .20	1-142-W	$ .23	1-142-W-MS	$ .25	1-142-¾ W	$ .23	1-142-¾ W-MS	$ .25	1-142-Y	$ .23	1-142-Y-MS	$ .25
2-142	.29	2-142-MS	.32	2-142-W	.39	2-142-W-MS	.42	2-142-¾ W	.39	2-142-¾ W-MS	.42	2-142-Y	.39	2-142-Y-MS	.42
3-142	.40	3-142-MS	.44	3-142-W	.55	3-142-W-MS	.59	3-142-¾ W	.55	3-142-¾ W-MS	.59	3-142-Y	.55	3-142-Y-MS	.59
4-142	.51	4-142-MS	.56	4-142-W	.71	4-142-W-MS	.76	4-142-¾ W	.71	4-142-¾ W-MS	.76	4-142-Y	.71	4-142-Y-MS	.76
5-142	.62	5-142-MS	.68	5-142-W	.87	5-142-W-MS	.93	5-142-¾ W	.87	5-142-¾ W-MS	.93	5-142-Y	.87	5-142-Y-MS	.93
6-142	.73	6-142-MS	.80	6-142-W	1.03	6-142-W-MS	1.10	6-142-¾ W	1.03	6-142-¾ W-MS	1.10	6-142-Y	1.03	6-142-Y-MS	1.10
7-142	.84	7-142-MS	.92	7-142-W	1.19	7-142-W-MS	1.27	7-142-¾ W	1.19	7-142-¾ W-MS	1.27	7-142-Y	1.19	7-142-Y-MS	1.27
8-142	.95	8-142-MS	1.05	8-142-W	1.35	8-142-W-MS	1.45	8-142-¾ W	1.35	8-142-¾ W-MS	1.45	8-142-Y	1.35	8-142-Y-MS	1.45
9-142	1.06	9-142-MS	1.17	9-142-W	1.51	9-142-W-MS	1.62	9-142-¾ W	1.51	9-142-¾ W-MS	1.62	9-142-Y	1.51	9-142-Y-MS	1.62
10-142	1.17	10-142-MS	1.29	10-142-W	1.67	10-142-W-MS	1.79	10-142-¾ W	1.67	10-142-¾ W-MS	1.79	10-142-Y	1.67	10-142-Y-MS	1.79
11-142	1.28	11-142-MS	1.41	11-142-W	1.83	11-142-W-MS	1.96	11-142-¾ W	1.83	11-142-¾ W-MS	1.96	11-142-Y	1.83	11-142-Y-MS	1.96
12-142	1.39	12-142-MS	1.53	12-142-W	1.99	12-142-W-MS	2.13	12-142-¾ W	1.99	12-142-¾ W-MS	2.13	12-142-Y	1.99	12-142-Y-MS	2.13
13-142	1.50	13-142-MS	1.65	13-142-W	2.15	13-142-W-MS	2.30	13-142-¾ W	2.15	13-142-¾ W-MS	2.30	13-142-Y	2.15	13-142-Y-MS	2.30
14-142	1.61	14-142-MS	1.77	14-142-W	2.31	14-142-W-MS	2.47	14-142-¾ W	2.31	14-142-¾ W-MS	2.47	14-142-Y	2.31	14-142-Y-MS	2.47
15-142	1.72	15-142-MS	1.89	15-142-W	2.47	15-142-W-MS	2.64	15-142-¾ W	2.47	15-142-¾ W-MS	2.64	15-142-Y	2.47	15-142-Y-MS	2.64
16-142	1.83	16-142-MS	2.01	16-142-W	2.63	16-142-W-MS	2.81	16-142-¾ W	2.63	16-142-¾ W-MS	2.81	16-142-Y	2.63	16-142-Y-MS	2.81
17-142	1.94	17-142-MS	2.13	17-142-W	2.79	17-142-W-MS	2.98	17-142-¾ W	2.79	17-142-¾ W-MS	2.98	17-142-Y	2.79	17-142-Y-MS	2.98

No. 150 TERMINAL STRIPS

$1\frac{11}{16}$" wide by $\frac{13}{16}$" high. Terminals are mounted on $\frac{11}{16}$" centers. Screws: 10-32 x $\frac{5}{16}$" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite ⅝".

No. 2-150

No. 150		No. 150-MS With Marker Strip		No. 150-W		No. 150-¾ W	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.
1-150	$ .45	1-150-MS	$ .47	1-150-W	$ .52	1-150-¾ W	$ .52
2-150	.75	2-150-MS	.79	2-150-W	.89	2-150-¾ W	.89
3-150	1.05	3-150-MS	1.10	3-150-W	1.26	3-150-¾ W	1.26
4-150	1.35	4-150-MS	1.42	4-150-W	1.63	4-150-¾ W	1.63
5-150	1.65	5-150-MS	1.73	5-150-W	2.00	5-150-¾ W	2.00
6-150	1.95	6-150-MS	2.05	6-150-W	2.37	6-150-¾ W	2.37
7-150	2.25	7-150-MS	2.36	7-150-W	2.74	7-150-¾ W	2.74
8-150	2.55	8-150-MS	2.68	8-150-W	3.11	8-150-¾ W	3.11
9-150	2.85	9-150-MS	2.99	9-150-W	3.48	9-150-¾ W	3.48
10-150	3.15	10-150-MS	3.31	10-150-W	3.85	10-150-¾ W	3.85

No. 151
TERMINAL STRIPS

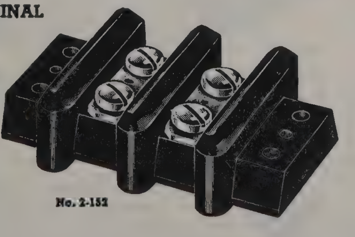
2" wide by $\frac{11}{16}$" high. Terminals are mounted on ⅞" centers. Screws: 12-32 x ⅜" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga. stranded wire. Metal to metal spacing over bakelite ¾".

No. 2-151

No. 151		No. 151-MS With Marker Strip		No. 151-W		No. 151-¾ W	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.
1-151	$ .75	1-151-MS	$ .79	1-151-W	$ .87	1-151-¾ W	$ .87
2-151	1.35	2-151-MS	1.42	2-151-W	1.59	2-151-¾ W	1.59
3-151	1.95	3-151-MS	2.05	3-151-W	2.31	3-151-¾ W	2.31
4-151	2.55	4-151-MS	2.68	4-151-W	3.03	4-151-¾ W	3.03
5-151	3.15	5-151-MS	3.31	5-151-W	3.75	5-151-¾ W	3.75
6-151	3.75	6-151-MS	3.94	6-151-W	4.47	6-151-¾ W	4.47
7-151	4.35	7-151-MS	4.57	7-151-W	5.19	7-151-¾ W	5.19
8-151	4.95	8-151-MS	5.20	8-151-W	5.91	8-151-¾ W	5.91

No. 152 TERMINAL STRIPS

2½" wide by 1⅛" high. Terminals are mounted on 1⅛" centers. Screws: ¼"-28 x ½" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".

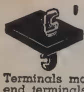


No. 2-152

No. 152		No. 152-MS With Marker Strip		No. 152-W		No. 152-¾ W	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Ea.
1-152	$1.00	1-152-MS	$1.05	1-152-W	$1.18	1-152-¾ W	$1.18
2-152	1.90	2-152-MS	2.00	2-152-W	2.26	2-152-¾ W	2.26
3-152	2.80	3-152-MS	2.94	3-152-W	3.34	3-152-¾ W	3.34
4-152	3.70	4-152-MS	3.89	4-152-W	4.42	4-152-¾ W	4.42
5-152	4.60	5-152-MS	4.83	5-152-W	5.50	5-152-¾ W	5.50
6-152	5.50	6-152-MS	5.78	6-152-W	6.58	6-152-¾ W	6.58

"W" Solder Terminal for Barrier Strips

Code	For use with Barrier Strip	Per 100	Code	For use with Barrier Strip	Per 100	Code	For use with Barrier Strip	Per 100
No. W-140	No. 140	$3.00	No. W-142	No. 142	$5.00	No. W-151	No. 151	$12.00
No. W-141	No. 141	4.00	No. W-150	No. 150	7.00	No. W-152	No. 152	18.00



NO. 1 TERMINAL STRIPS

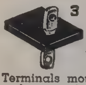
Terminal ⅛" Round Copper, Flattened at Ends, Tin Plated

A convenient and compact strip where solder connections are desired.

Insulation: Canvas Base Bakelite, ½" wide, 3/32" thick. Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-1	**(2 Terminals)**	**$ .07**	**No. 5-1**	**(5 Terminals)**	**$ .10**
No. 3-1	**(3 Terminals)**	**.08**	**No. 6-1**	**(6 Terminals)**	**.11**
No. 4-1	**(4 Terminals)**	**.09**			

For terminal strips with more than 6 terminals, add **1c** to the No. 6-1 price for each additional terminal.



NO. 3 TERMINAL STRIPS

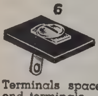
Terminal ⅛" Round Copper, Flattened at Each End, Tin Plated

Similar to No. 1, except closer spacing and furnished with holes instead of hooks.

Insulation: Canvas base Bakelite, ½" wide, 3/32" thick. Terminals mounted on ⅜" centers. Mounting holes ⅜" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-3	**(2 Terminals)**	**$ .09**	**No. 5-3**	**(5 Terminals)**	**$ .12**
No. 3-3	**(3 Terminals)**	**.10**	**No. 6-3**	**(6 Terminals)**	**.13**
No. 4-3	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add **1½c** to the No. 6-3 price for each additional terminal.



NO. 6 TERMINAL STRIPS

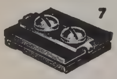
Terminal .046" Brass, Cadmium Plated

Screw and solder terminal. Substantial and reasonably priced.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 3/32" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-6	**(2 Terminals)**	**$ .11**	**No. 5-6**	**(5 Terminals)**	**$ .20**
No. 3-6	**(3 Terminals)**	**.14**	**No. 6-6**	**(6 Terminals)**	**.23**
No. 4-6	**(4 Terminals)**	**.17**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-6 price for each additional terminal.



NO. 7 TERMINAL STRIPS

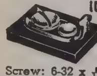
Terminal .046" Brass, Cadmium Plated

A two screw insulated terminal strip that can be mounted directly on metal surface.

Screws: 6-32 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 1/16" thick (total). Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-7	**(2 Terminals)**	**$ .16**	**No. 5-7**	**(5 Terminals)**	**$ .37**
No. 3-7	**(3 Terminals)**	**.23**	**No. 6-7**	**(6 Terminals)**	**.44**
No. 4-7	**(4 Terminals)**	**.30**			

For terminal strips with more than 6 terminals, add **7c** to the No. 6-7 price for each additional terminal.



NO. 10 TERMINAL STRIPS

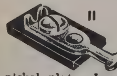
Terminal 1/16" Brass, Tin Plated

Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder terminal turned up.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅝" wide, 3/32" thick. Terminals spaced on ⅝" centers. Mounting holes ⅝" from center of end terminals. Will take up to No. 15 B & S gauge wire (.057").

Code		Ea.	Code		Ea.
No. 2-10	**(2 Terminals)**	**$ .16**	**No. 5-10**	**(5 Terminals)**	**$ .40**
No. 3-10	**(3 Terminals)**	**.24**	**No. 6-10**	**(6 Terminals)**	**.48**
No. 4-10	**(4 Terminals)**	**.32**			

For terminal strips with more than 6 terminals, add **8c** to the No. 6-10 price for each additional terminal.



NO. 11 TERMINAL STRIPS

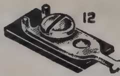
Terminal 1/16" Brass, Tin Plated

Similar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.

Screws: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 12 B & S gauge wire (.080").

Code		Ea.	Code		Ea.
No. 2-11	**(2 Terminals)**	**$ .20**	**No. 5-11**	**(5 Terminals)**	**$ .47**
No. 3-11	**(3 Terminals)**	**.29**	**No. 6-11**	**(6 Terminals)**	**.56**
No. 4-11	**(4 Terminals)**	**.38**			

For terminal strips with more than 6 terminals, add **9c** to the No. 6-11 price for each additional terminal.



NO. 12 TERMINAL STRIPS

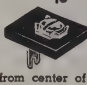
Terminal 1/16" Brass, Tin Plated

Similar to No. 11, except larger. Solder tab is flat, but will be bent up, if specified.

Screw: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/16" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 9 B & S gauge wire (.114").

Code		Ea.	Code		Ea.
No. 2-12	**(2 Terminals)**	**$ .29**	**No. 5-12**	**(5 Terminals)**	**$ .68**
No. 3-12	**(3 Terminals)**	**.42**	**No. 6-12**	**(6 Terminals)**	**.81**
No. 4-12	**(4 Terminals)**	**.55**			

For terminal strips with more than 6 terminals, add **13c** to the No. 6-12 price for each additional terminal.



NO. 16 TERMINAL STRIPS

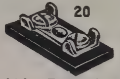
Terminal .028" Brass, Cadmium Plated

A popular priced screw and solder terminal with many desirable features.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 1/16" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-16	**(2 Terminals)**	**$ .10**	**No. 5-16**	**(5 Terminals)**	**$ .19**
No. 3-16	**(3 Terminals)**	**.13**	**No. 6-16**	**(6 Terminals)**	**.22**
No. 4-16	**(4 Terminals)**	**.16**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-16 price for each additional terminal.



NO. 20 TERMINAL STRIPS

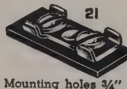
Terminal 1/16" Brass, Cadmium Plated

Strong two screw terminal with ears to hold wire securely under screw.

Screws: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 3/32" thick. Terminals mounted on ⅝" centers. Mounting holes ⅝" from center of end terminals. Will take up to No. 13 B & S gauge wire (.071").

Code		Ea.	Code		Ea.
No. 2-20	**(2 Terminals)**	**$ .22**	**No. 5-20**	**(5 Terminals)**	**$ .55**
No. 3-20	**(3 Terminals)**	**.33**	**No. 6-20**	**(6 Terminals)**	**.66**
No. 4-20	**(4 Terminals)**	**.44**			

For terminal strips with more than 6 terminals, add **11c** to the No. 6-20 price for each additional terminal.



NO. 21 TERMINAL STRIPS

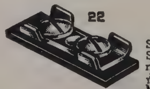
Terminal 1/16" Brass, Cadmium Plated

Similar to No. 20, except larger.

Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1⅛" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 11 B & S gauge wire (.090").

Code		Ea.	Code		Ea.
No. 2-21	**(2 Terminals)**	**$ .29**	**No. 5-21**	**(5 Terminals)**	**$ .68**
No. 3-21	**(3 Terminals)**	**.42**	**No. 6-21**	**(6 Terminals)**	**.81**
No. 4-21	**(4 Terminals)**	**.55**			

For terminal strips with more than 6 terminals, add **13c** to the No. 6-21 price for each additional terminal.



NO. 22 TERMINAL STRIPS

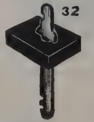
Terminal 1/16" Brass, Cadmium Plated

Similar to No. 21, except larger.

Screws: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1¼" wide, 3/16" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 8 B & S gauge wire (.128").

Code		Ea.	Code		Ea.
No. 2-22	**(2 Terminals)**	**$ .40**	**No. 5-22**	**(5 Terminals)**	**$ .88**
No. 3-22	**(3 Terminals)**	**.56**	**No. 6-22**	**(6 Terminals)**	**1.04**
No. 4-22	**(4 Terminals)**	**.72**			

For terminal strips with more than 6 terminals, add **16c** to the No. 6-22 price for each additional terminal.



No. 32 TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

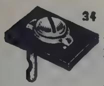
An ideal terminal strip (solder type) for medium heavy wiring. One or more wires may be connected to this terminal.

Insulation: XX Bakelite, ⅝" wide, ¼" thick. Terminals mounted on 9/16" centers. Mounting holes 9/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-32	**(2 Terminals)**	**$ .16**	**No. 5-32**	**(5 Terminals)**	**$ .37**
No. 3-32	**(3 Terminals)**	**.23**	**No. 6-32**	**(6 Terminals)**	**.44**
No. 4-32	**(4 Terminals)**	**.30**			

For terminal strips with more than 6 terminals add **7c** to the No. 6-32 price for each additional terminal.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE


34

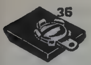
NO. 34 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

Very substantial and neat appearing terminal. Ample length solder terminal below panel, with screw connection above.
Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-34	**(2 Terminals)**	**$ .15**	**No. 5-34**	**(5 Terminals)**	**$ .27**
No. 3-34	**(3 Terminals)**	**.19**	**No. 6-34**	**(6 Terminals)**	**.31**
No. 4-34	**(4 Terminals)**	**.23**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-34 price for each additional terminal.


36

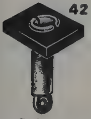
NO. 36 TERMINAL STRIPS

Terminal .031" Brass, Cadmium Plated

A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel.
Screw: 6-32 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 5/8" wide, 3/16" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-36	**(2 Terminals)**	**$ .10**	**No. 5-36**	**(5 Terminals)**	**$ .19**
No. 3-36	**(3 Terminals)**	**.13**	**No. 6-36**	**(6 Terminals)**	**.22**
No. 4-36	**(4 Terminals)**	**.16**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-36 price for each additional terminal.


42

NO. 42 TERMINAL STRIPS

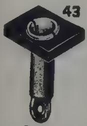
Terminal, Hard Brass, Cadmium Plated

Similar in construction to No. 53. Takes 1/8" prong. May be used with No. 99 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-42	**(2 Terminals)**	**$ .16**	**No. 5-42**	**(5 Terminals)**	**$ .25**
No. 3-42	**(3 Terminals)**	**.19**	**No. 6-42**	**(6 Terminals)**	**.28**
No. 4-42	**(4 Terminals)**	**.22**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-42 price for each additional terminal.


43

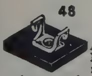
NO. 43 TERMINAL STRIPS

Terminal, Hard Brass, Cadmium Plated

Same as No. 42, except that it takes 3/32" prongs. May be used with No. 100 terminal strips.
Insulation: XP Bakelite, 5/8" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-43	**(2 Terminals)**	**$ .19**	**No. 5-43**	**(5 Terminals)**	**$ .31**
No. 3-43	**(3 Terminals)**	**.23**	**No. 6-43**	**(6 Terminals)**	**.35**
No. 4-43	**(4 Terminals)**	**.27**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-43 price for each additional terminal.


48

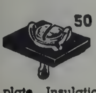
NO. 48 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

A low priced double solder terminal.
Insulation: XP Bakelite, 1/2" wide, 3/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-48	**(2 Terminals)**	**$ .06**	**No. 5-48**	**(5 Terminals)**	**$ .12**
No. 3-48	**(3 Terminals)**	**.08**	**No. 6-48**	**(6 Terminals)**	**.14**
No. 4-48	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-48 price for each additional terminal.


50

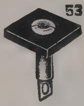
NO. 50 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

One of the most popular screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.
Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-50	**(2 Terminals)**	**$ .15**	**No. 5-50**	**(5 Terminals)**	**$ .27**
No. 3-50	**(3 Terminals)**	**.19**	**No. 6-50**	**(6 Terminals)**	**.31**
No. 4-50	**(4 Terminals)**	**.23**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-50 price for each additional terminal.


53

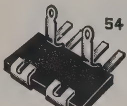
NO. 53 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

A reliable socket type contact for many uses. Takes 3/32" prongs. May be used with No. 98 terminal strips (same terminal spacing).
Insulation: XP Bakelite, 3/8" wide, 3/16" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-53	**(2 Terminals)**	**$ .14**	**No. 5-53**	**(5 Terminals)**	**$ .20**
No. 3-53	**(3 Terminals)**	**.16**	**No. 6-53**	**(6 Terminals)**	**.22**
No. 4-53	**(4 Terminals)**	**.18**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-53 price for each additional terminal.


54

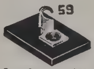
NO. 54 TERMINAL STRIPS

Terminal .032" Brass, Cadmium Plated

Spade terminal for cable harness. Convenient to use in connection with No. 6 terminal strips.
Insulation: XP Bakelite, 1/2" wide, 3/16" thick. Terminals mounted on 1/2" centers.

Code		Ea.	Code		Ea.
No. 2-54	**(2 Terminals)**	**$ .05**	**No. 5-54**	**(5 Terminals)**	**$ .11**
No. 3-54	**(3 Terminals)**	**.07**	**No. 6-54**	**(6 Terminals)**	**.13**
No. 4-54	**(4 Terminals)**	**.09**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-54 price for each additional terminal.


59

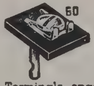
NO. 59 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

An inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection.
Insulation: XP Bakelite, 3/8" wide, 3/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-59	**(2 Terminals)**	**$ .06**	**No. 5-59**	**(5 Terminals)**	**$ .12**
No. 3-59	**(3 Terminals)**	**.08**	**No. 6-59**	**(6 Terminals)**	**.14**
No. 4-59	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-59 price for each additional terminal.


60

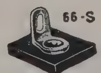
NO. 60 TERMINAL STRIPS

Terminal .050" Brass, Cadmium Plated

Screw terminal above panel—solder terminal below. Solder tab is notched.
Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-60	**(2 Terminals)**	**$ .13**	**No. 5-60**	**(5 Terminals)**	**$ .25**
No. 3-60	**(3 Terminals)**	**.17**	**No. 6-60**	**(6 Terminals)**	**.29**
No. 4-60	**(4 Terminals)**	**.21**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-60 price for each additional terminal.


66-S

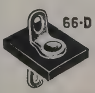
NO. 66-S TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

A heavy solder terminal with large oval hole for several wires.
Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-S	**(2 Terminals**	**$ .07**	**No. 5-66-S**	**(5 Terminals)**	**$ .13**
No. 3-66-S	**(3 Terminals)**	**.09**	**No. 6-66-S**	**(6 Terminals)**	**.15**
No. 4-66-S	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-66-S price for each additional terminal.


66-D

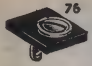
NO. 66-D TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for heavy work.
Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-D	**(2 Terminals)**	**$ .08**	**No. 5-66-D**	**(5 Terminals)**	**$ .17**
No. 3-66-D	**(3 Terminals)**	**.11**	**No. 6-66-D**	**(6 Terminals)**	**.20**
No. 4-66-D	**(4 Terminals)**	**.14**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-66-D price for each additional terminal.



76

NO. 76 TERMINAL STRIPS

Terminal .028" Brass, Cadmium Plated

Cup shaped top holds wire securely under screw. A compact and good appearing terminal.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 3/4" wide, 1/16" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-76	**(2 Terminals)**	**$ .11**	**No. 5-76**	**(5 Terminals)**	**$ .20**
No. 3-76	**(3 Terminals)**	**.14**	**No. 6-76**	**(6 Terminals)**	**.23**
Nº. 4-76	**(4 Terminals)**	**.17**			

For terminal strips with more than 6 terminals, add 3c to the No. 6-76 price for each additional terminal.

AG 76

AG-76

Standard Antenna-Ground strip using No. 76 terminals. Insulation: 3/16" Bakelite, 11/16" wide. Mounting centers 1 11/16". Ends rounded. Letters A and G are filled in white.

No. AG-76........................ Ea. $ .09

96

NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. 99 or No. 100). Furnished for No. 99 prongs (1/8") unless otherwise specified. Insulation: XP Bakelite, 5/8" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-96	**(2 Terminals)**	**$ .07**	**No. 5-96**	**(5 Terminals)**	**$ .13**
No. 3-96	**(3 Terminals)**	**.09**	**No. 6-96**	**(6 Terminals)**	**.15**
No. 4-96	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add 2c to the No. 6-96 price for each additional terminal.

98

NO. 98 TERMINAL STRIPS

Terminal 3/32" Round, Brass, Cadmium Plated

Standard tube base prong of 3/32" diameter. To be used with No. 53 terminal strips.

Insulation: XP Bakelite, 3/8" wide, 1/16" thick. Terminals mounted on 3/8" centers.

Code		Ea.	Code		Ea.
No. 2-98	**(2 Terminals)**	**$ .06**	**No. 5-98**	**(5 Terminals)**	**$ .12**
No. 3-98	**(3 Terminals)**	**.08**	**No. 6-98**	**(6 Terminals)**	**.14**
No. 4-98	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add 2c to the No. 6-98 price for each additional terminal.

99

NO. 99 TERMINAL STRIPS

Terminal 1/8" Round, Brass, Cadmium Plated

Similar to No. 98, except that it is 1/8" in diameter. To be used with No. 42 terminal strips, and also with No. 96 terminal strips.

Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 1/2" centers.

Code		Ea.	Code		Ea.
No. 2-99	**(2 Terminals)**	**$ .08**	**No. 5-99**	**(5 Terminals)**	**$ .17**
No. 3-99	**(3 Terminals)**	**.11**	**No. 6-99**	**(6 Terminals)**	**.20**
No. 4-99	**(4 Terminals)**	**.14**			

For terminal strips with more than 6 terminals, add 3c to the No. 6-99 Price for each additional terminal.

100

NO. 100 TERMINAL STRIPS

Terminal 5/32" Round, Brass, Cadmium Plated

Similar to No. 99, except 5/32" in diameter. To be used with No. 43 terminal strip, and No. 96 terminal strip.

Insulation: XP Bakelite, 5/8" wide, 3/32" thick. Terminals mounted on 5/8" centers.

Code		Ea.	Code		Ea.
No. 2-100	**(2 Terminals)**	**$ .12**	**No. 5-100**	**(5 Terminals)**	**$ .24**
No. 3-100	**(3 Terminals)**	**.16**	**No. 6-100**	**(6 Terminals)**	**.28**
No. 4-100	**(4 Terminals)**	**.20**			

For terminal strips with more than 6 terminals, add 4c to the No. 6-100 price for each additional terminal.

130

NO. 130 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

An inexpensive terminal strip with two screw terminals. Screws: 5-40 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/16" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-130	**(2 Terminals)**	**$ .12**	**No. 5-130**	**(5 Terminals)**	**$ .30**
No. 3-130	**(3 Terminals)**	**.18**	**No. 6-130**	**(6 Terminals)**	**.36**
No. 4-130	**(4 Terminals)**	**.24**			

For terminal strips with more than 6 terminals, add 6c to the No. 6-130 price for each additional terminal.

131

NO. 131 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 130, except larger.

Screws: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-131	**(2 Terminals)**	**$ .15**	**No. 5-131**	**(5 Terminals)**	**$ .36**
No. 3-131	**(3 Terminals)**	**.22**	**No. 6-131**	**(6 Terminals)**	**.43**
No. 4-131	**(4 Terminals)**	**.29**			

For terminal strips with more than 6 terminals, add 7c to the No. 6-131 price for each additional terminal.

132

NO. 132 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 131, except larger.

Screws 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1 1/8" wide, 1/8" thick. Terminals mounted on 3/4" centers. Mounting holes 3/4" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-132	**(2 Terminals)**	**$ .18**	**No. 5-132**	**(5 Terminals)**	**$ .42**
No. 3-132	**(3 Terminals)**	**.26**	**No. 6-132**	**(6 Terminals)**	**.50**
No. 4-132	**(4 Terminals)**	**.34**			

For terminal strips with more than 6 terminals, add 8c to the No. 6-132 price for each additional terminal.

143

No. 143 TERMINAL STRIPS

Terminal .040" Brass, Tin Plated

A strong two-way solder terminal. Solder tabs lie flat. Crimps securely around edges of panel.

Special Strips

These strips can be made up special, with terminals mounted on any centers, from 3/8" up.

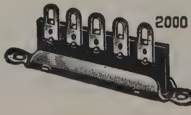
Standard Strips

Insulation: XP Bakelite, 3/8" wide, 3/32" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Terminals may be numbered or lettered in white, as illustrated. (See page 18 for imprinting cost.)

Code		Ea.	Code		Ea.
No. 2-143	**(2 Terminals)**	**$ .08**	**No. 5-143**	**(5 Terminals)**	**$ .14**
No. 3-143	**(3 Terminals)**	**.10**	**No. 6-143**	**(6 Terminals)**	**.16**
No. 4-143	**(4 Terminals)**	**.12**			

For terminal strips with more than 6 terminals, add 2c to the No. 6-143 price for each additional terminal.



2000

NO. 2000 TERMINAL STRIPS

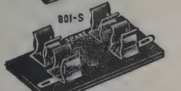
Terminals .019" Brass, Tin Plated

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.

Insulation: Bakelite. Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

Code		Mounting Hole Centers:	Ea.
No. 2002	**(2 Terminals)**	**1"**	**$ .05**
No. 2003	**(3 Terminals)**	**1—5/16"**	**.05**
No. 2004	**(4 Terminals)**	**1—5/8"**	**.06**
No. 2005	**(5 Terminals)**	**1—15/16"**	**.06**
No. 2006	**(6 Terminals)**	**2—1/4"**	**.07**
No. 2007	**(7 Terminals)**	**2—9/16"**	**.07**
No. 2008	**(8 Terminals)**	**2—7/8"**	**.08**
No. 2009	**(9 Terminals)**	**3—3/16"**	**.08**
No. 2010	**(10 Terminals)**	**3—1/2"**	**.09**
No. 2011	**(11 Terminals)**	**3—13/16"**	**.09**
No. 2012	**(12 Terminals)**	**4—1/8"**	**.10**
No. 2013	**(13 Terminals)**	**4—7/16"**	**.10**

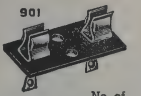
FUSE MOUNTS



No. 800 SERIES

The 800 series fuse mounts provide solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. An insulating strip of fibre, the same size as the bakelite panel, is furnished. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

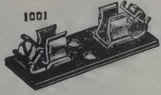
Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 801	1	....	¾"x2$\frac{1}{16}$"	⅜"	$ .11
No. 802	2	....	1⅛"x2$\frac{1}{16}$"	⅜"	.18
No. 803	3	....	1⅝"x2$\frac{1}{16}$"	⅞"	.24
No. 801-S	1	1	1⅛"x2$\frac{1}{16}$"	⅜"	.18
No. 802-S	2	1	1⅝"x2$\frac{1}{16}$"	⅞"	.24
No. 803-S	3	1	2⅛"x2$\frac{1}{16}$"	⅞"	.31



No. 900 SERIES

The 900 series fuse mounts provide solder tab on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

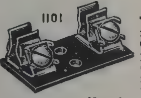
Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 901	1	....	¾"x1$\frac{9}{16}$"	⅜"	.10
No. 902	2	....	1⅛"x1$\frac{9}{16}$"	⅜"	.17
No. 903	3	....	1⅝"x1$\frac{9}{16}$"	⅞"	.23
No. 901-S	1	1	1⅛"x1$\frac{9}{16}$"	⅜"	.15
No. 902-S	2	1	1⅝"x1$\frac{9}{16}$"	⅞"	.22
No. 903-S	3	1	2⅛"x1$\frac{9}{16}$"	⅞"	.29



No. 1000 SERIES

The 1000 series fuse mounts provide screw terminals on the same side of panel as fuse clips. Clips are mounted so that screws face ends of panel. An insulating strip of fibre, the same size as the bakelite panel, is furnished. Panels with clips for spare fuse have the word "SPARE" imprinted on panel.

Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 1001	1	....	¾"x2$\frac{1}{16}$"	⅜"	$ .17
No. 1002	2	....	1⅛"x2$\frac{1}{16}$"	⅜"	.30
No. 1003	3	....	1⅝"x2$\frac{1}{16}$"	⅞"	.42
No. 1001-S	1	1	1⅛"x2$\frac{1}{16}$"	⅜"	.23
No. 1002-S	2	1	1⅝"x2$\frac{1}{16}$"	⅞"	.36
No. 1003-S	3	1	2⅛"x2$\frac{1}{16}$"	⅞"	.49

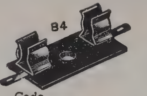


No. 1100 SERIES

The 1100 series fuse mounts provide screw terminals on the same side of panel as the fuse clips. Clips are mounted so the screws face side of panel. Mount No. 3-AG fuses. An insulating strip of fibre, the same size as bakelite panel, is furnished. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 1101	1	....	⅞"x1½"	⅜"	$ .17
No. 1102	2	....	1⅝"x1½"	⅞"	.30
No. 1101-S	1	1	1⅝"x1½"	⅞"	.23
No. 1102-S	2	1	2⅛"x1½"	⅞"	.36

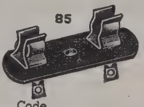
SPECIAL FUSE MOUNTS



No. 84

The No. 84 fuse mount provides solder tab on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Similar in design to the No. 801 except that bakelite panel is of special size. Mounting hole in center of panel.

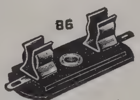
Code		Panel Size	Price Each
No. 84	Single Fuse	¾"x1⅜"	$ .09



No. 85

The No. 85 fuse mount provides solder tab on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Similar to No. 901 except that bakelite panel is of special size and shape. Mounting hole in exact center of panel.

Code		Panel Size	Price Each
No. 85	Single Fuse	¾"x1¾"	$ .10

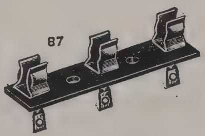


No. 86

The No. 86 fuse mount provides solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Bakelite strip is anchored to the terminal panel, enabling the fuse to be mounted direct on metal.

Code		Panel Size	Price Each
No. 86	Single Fuse	¾"x1¾"	$ .11

VOLTAGE REGULATOR TYPE



No. 87

The No. 87 fuse mount provides solder tabs on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Mounting holes are on ⅞" centers.

Code	Panel Size	Price Each
No. 87	¾"x2½"	$ .13

No. 88

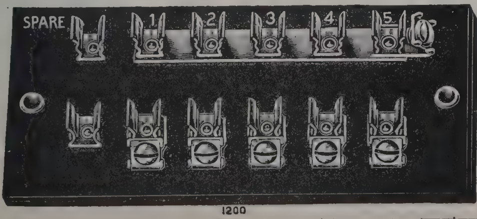
The No. 88 fuse mount provides solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Mounting holes are on ⅞" centers.

Code	Panel Size	Price Each
No. 88	⅞"x2½"	$ .14

No. 89

The No. 89 fuse mount provides screw terminals on the same side of panel as fuse clips. Screws are mounted so that they face the side of panel. Mounting holes are on ⅞" centers.

Code	Panel Size	Price Each
No. 89	⅞"x2½"	$ .23



No. 1200 SERIES MULTIPLE FUSE MOUNT PANELS

The No. 1200 series presents a very convenient fuse panel arrangement for multiple circuits. One side of all the fuse mounts is common, making it convenient for wiring. Screw terminals are provided on the same side of panel as fuse clips. Mounts No. 3-AG fuses. Each panel contains a pair of clips for mounting a spare fuse. The whole assembly has a bakelite insulating plate attached so that it can be mounted directly on metal.

	Fuse	Spare	Panel Size	Price Each
1201-S	1	1	2¼"x2"	$ .33
1202-S	2	1	2¼"x2½"	.50
1203-S	3	1	2¼"x3"	.67
1204-S	4	1	2¼"x3½"	.84
1205-S	5	1	2¼"x4"	1.01
1206-S	6	1	2¼"x4½"	1.18
1207-S	7	1	2¼"x5"	1.35
1208-S	8	1	2¼"x5½"	1.52
1209-S	9	1	2¼"x6"	1.69
1210-S	10	1	2¼"x6½"	1.86
1211-S	11	1	2¼"x7"	2.03
1212-S	12	1	2¼"x7½"	2.20
1213-S	13	1	2¼"x8"	2.37
1214-S	14	1	2¼"x8½"	2.54
1215-S	15	1	2¼"x9"	2.71

S.S.WHITE FLEXIBLE SHAFTS FOR RADIO AND ELECTRONIC APPLICATIONS

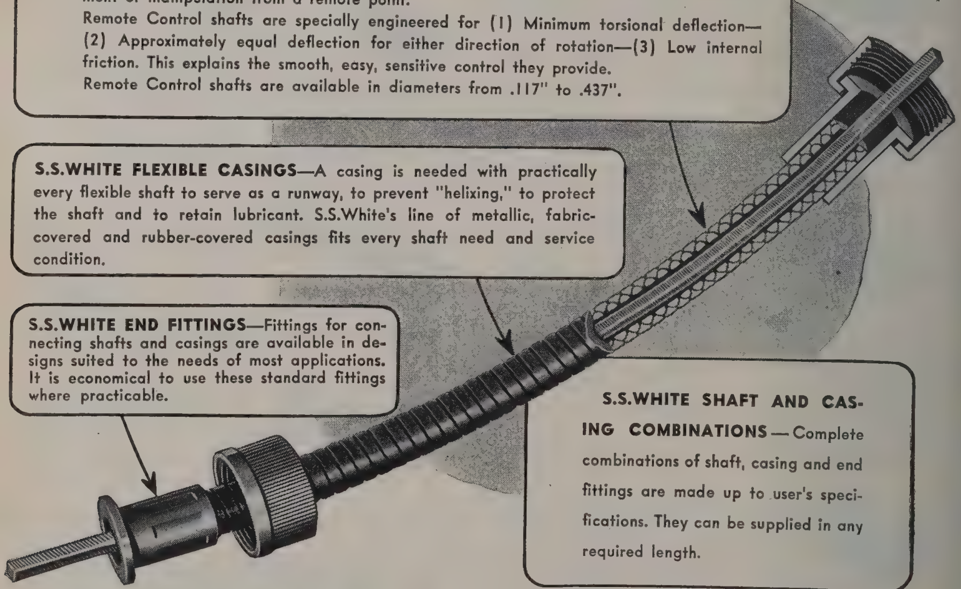
As basic mechanical elements for the transmission of power and for remote control, S.S.White flexible shafts are widely used in the Radio and Electronic fields. Applications take millions of feet annually. These include aircraft radio and direction finding equipment; automobile, broadcasting and home radios; radar; television, etc. Quality products in every sense of the word, S.S.White shafts have earned through the years, a reputation for efficient, dependable performance.

QUICK FACTS ABOUT S.S.WHITE FLEXIBLE SHAFTS

They are made in two classes as follows:

POWER DRIVE—For transmitting rotational power as in driving instruments and other mechanisms from small motors or other power sources. Power Drive shafts are available in diameters from .043" to .750" with a wide selection of physical characteristics.

REMOTE CONTROL—For control of radio and electronic elements requiring rotary adjustment or manipulation from a remote point.
Remote Control shafts are specially engineered for (1) Minimum torsional deflection—(2) Approximately equal deflection for either direction of rotation—(3) Low internal friction. This explains the smooth, easy, sensitive control they provide.
Remote Control shafts are available in diameters from .117" to .437".



S.S.WHITE FLEXIBLE CASINGS—A casing is needed with practically every flexible shaft to serve as a runway, to prevent "helixing," to protect the shaft and to retain lubricant. S.S.White's line of metallic, fabric-covered and rubber-covered casings fits every shaft need and service condition.

S.S.WHITE END FITTINGS—Fittings for connecting shafts and casings are available in designs suited to the needs of most applications. It is economical to use these standard fittings where practicable.

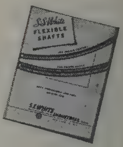
S.S.WHITE SHAFT AND CASING COMBINATIONS—Complete combinations of shaft, casing and end fittings are made up to user's specifications. They can be supplied in any required length.

ENGINEERING COOPERATION

S. S. White engineers have cooperated in working out hundreds of radio and electronic applications. This cooperation is available to all engineers and designers to answer any questions about flexible shafts and to help work out any problem involving the use of flexible shafts. No obligation is entailed and all information is held in strictest confidence.

BULLETIN FOR ENGINEERS

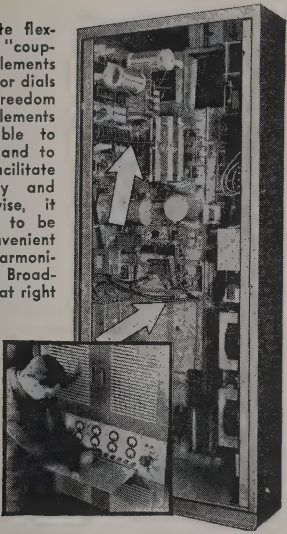
This bulletin gives the basic information and technical data about S.S.White power drive and remote control flexible shafts and their application. Copy mailed on request. Ask for **Bulletin 4501.**



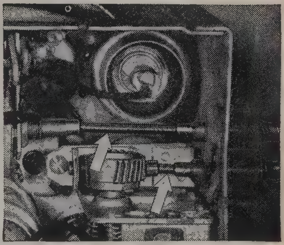
S.S.WHITE INDUSTRIAL DIVISION
THE S. S. WHITE DENTAL MFG. CO.
DEPT. G, 10 EAST 40TH STREET
NEW YORK 16, N. Y.

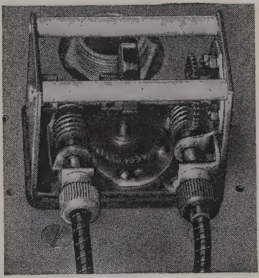
S.S.WHITE FLEXIBLE SHAFTS FOR RADIO AND ELECTRONIC APPLICATIONS

Use of S.S.White flexible shafts for "coupling" variable elements to control knobs or dials gives complete freedom in placing elements wherever desirable to conserve space and to simplify and facilitate wiring, assembly and servicing. Likewise, it permits controls to be placed for convenient operation and harmonious appearance. Broadcast transmitter at right is an example.



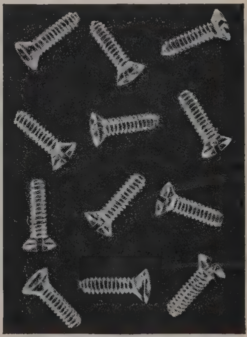
→ Use of short pieces of shafting to couple external control shafts to variable elements—as in the radio receiver at right—damps vibration and eliminates need for precise mounting and alignment—gives complete freedom in locating the controlled elements.





← Gearing is frequently used with flexible shafts to reduce load on the shaft in the case of power drives and to reduce deflection in the case of remote control shafts, particularly where long shafts are called for. At left is the simple geared connection of remote control shafts to an aircraft radio compass loop.

S.S.WHITE PLASTIC PRODUCTS



ASSEMBLY SCREWS—for use where non-metallic screws are desirable. Shown at right—No. 6-32 x 1/2" oval head plastic screws.

HEX. SOCKET HEAD CAP SCREWS—with or without nuts.

DUMMY THREADED PLUGS AND CAPS—for shipping, handling, storage.

BOX TRAYS—Transparent, stackable parts containers.

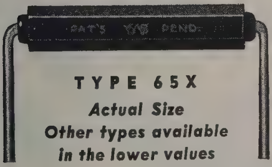
Bulletins on any of above products mailed on request.

CONTRACT PLASTICS MOLDING

S.S.White offers the most modern facilities plus an experienced organization for INJECTION and COMPRESSION molding and EXTRUDING. Inquiries are invited on specific requirements.

S.S.WHITE MOLDED RESISTORS—THE "*All-Weather*" RESISTORS

Noiseless in operation—Strong and Durable—Good performance in all climates.



TYPE 65X
Actual Size
Other types available in the lower values

STANDARD RANGE

1000 ohms to 10 megohms

HIGH VALUES

15 to 1,000,000 megohms

For full details write for **Bulletin 4505.**

NOISE TESTED

At slight additional cost, resistors in the Standard Range are supplied with each resistor noise tested to the following standard: "For the complete audio frequency range, resistor shall have less noise than corresponds to change of resistance of 1 part in 1,000,000."

S.S.WHITE INDUSTRIAL DIVISION
THE S. S. WHITE DENTAL MFG. CO.

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keep your eye on

KINGS

electronics

MICROPHONE PLUGS • JACKS • CONNECTORS

that will eliminate noise, shorts, and leakage in your Public Address systems.

M-140 Y connector—2 male and 1 female—for use where more than one mike or speaker from single circuit. ***

M-151 Female connector. Solid silver-plated contact. Coupling can be removed completely for soldering.

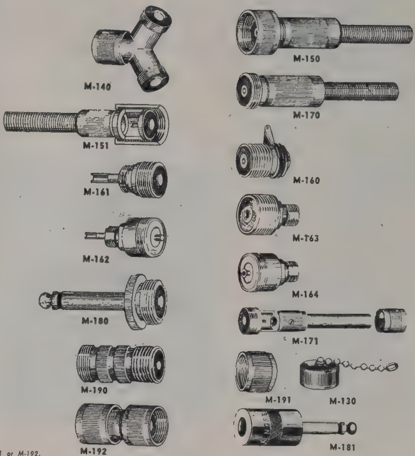
M-161 Chassis mounting, solid silver-plated contact. Milled flat, prevents turning in chassis.

M-162 Shorting male with solid silver-plated contact and milled flat to prevent turning in chassis. Circuit closes when female connector removed—eliminating open circuit grid howls.

M-180 Phono plug. Mates M-150 or M-151 for insertion in standard phono-jack.

M-190 Solid silver-plated contacts; double male. Mates M-151 or M-150.

M-192 Double Female with two coupling nuts. Ideal for extra cable connections. Mates all male connectors.



M-150 Standard solder contact. Mates with models M-170, M-161, M-160.

M-170 Mates with Model M-151 and M-150. Standard solder contact.

M-160 Chassis mounting — standard solder contact.

M-163 Standard chassis mount male solder contact with milled flat preventing turning in chassis.

M-164 Standard shorting male with eyelet and milled flat to prevent turning in chassis. Circuit closes when female connector removed—eliminating open circuit grid howls.

M-171 Male connector solid silver-plated contact mates with M-151, M-192, M-191, M-150 and all standard female connectors.

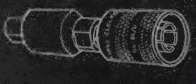
M-191 Double female coupling. Mates M-170, M-160, M-161.

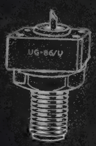
M-130 Cap and chain assembly. Eliminate dust and noise by keeping open chassis units sealed.

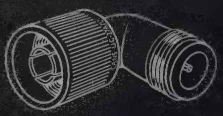
M-181 Stubby Phone plug with nickel plated brass shell for shielding purposes. Especially suitable for Public Address Systems, Portable Radios, Telephone work, etc. Special sure grip connecting lugs.

**** Any combination can be made when used in conjunction with M-191 or M-192.*

KINGS CO-AXIAL CABLE CONNECTORS



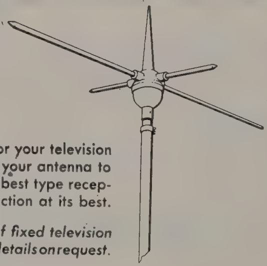




Kings is one of the largest manufacturers of co-axial connectors in the country. We carry most types in stock for immediate delivery, but we welcome your inquiries on any and all types.

A comprehensive chart listing our co-axial connectors is available on request. Write for your copy today.

KINGS REMOTE CONTROLLED TELEVISION ANTENNA

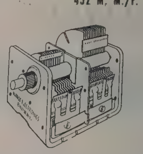


Now you can have pin-point selectivity for your television set. A flip of the switch at your set turns your antenna to the station you want. You're assured the best type reception to make your television receiver function at its best.

Kings manufactures three other models of fixed television and FM antennas. Catalogs and complete details on request.

KINGS VARIABLE CONDENSER

MODEL 200 452 M. M./F. D. CAPACITY



Kings engineering skill gives you this precision-made variable condenser. Prices and delivery available upon request. Write for details.

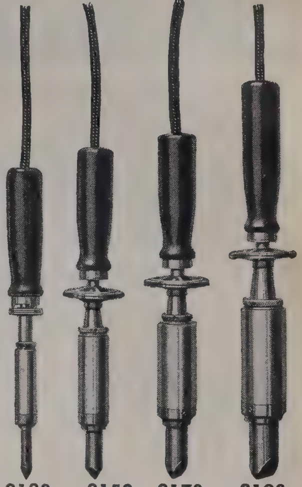
WHATEVER YOUR PROBLEM. . . *bring it to KINGS. Our engineering department is always at your service with complete details and data. Please feel free to consult with us at any time.*

KINGS ELECTRONICS · 372 CLASSON AVENUE · BROOKLYN 5, NEW YORK

manufacturers of MICROPHONE PLUGS AND JACKS · CO-AXIAL CONNECTORS
TELEVISION ANTENNA · VARIABLE CONDENSERS · WAVE GUIDES · WAVE TRAPS
RADAR ASSEMBLIES AND SPECIAL EQUIPMENT

American Beauty

ELECTRIC SOLDERING IRONS



Embodied in these Electric Soldering Irons are those features of construction and design that specialized experience — since 1894 — has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands are in use throughout the world in a wide variety of manufacturing plants; in service, maintenance and repair shops; Army and Navy Services; in telephone, telegraph and radio stations. Because of their proven efficiency and durability, they are preferred by those who measure the value of a tool by the service it renders.

RELATIVE SIZES AND SPECIFICATIONS

No. 3138—Primarily adapted for light work—radio, telephone, telegraph, ignition, factory and production work of a light nature; for telephone installation and switchboard work, etc.

No. 3158—For the same purposes as No. 3138 and for work of a heavier nature. Used by electric starter and ignition manufacturers for repair work and other purposes where more heat is needed.

No. 3178—For use on still heavier work; for light commutators and service and production work. A very useful iron for general purposes.

No. 3198—For heavy work of all kinds. Supplies a very large volume of heat at high temperature. Used by manufacturers in many different lines; for shop, service, production work, etc.

Each iron is equipped with a baffle plate, at the shank, to prevent free conduction of heat to handle.

Made in all standard voltages and for 32 volts. No. 3138 also made for 12 and 24 volts. All can be equipped with three-conductor cord, one wire grounded, at slight additional charge.

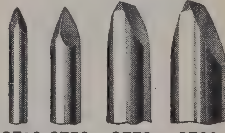
Separate heat-insulating stand supplied with each iron.

No. S-76—A special, light, compact iron designed for light work. It heats up quickly and consumes only 50 watts. Its construction is somewhat different from that of the standard irons, having a specially treated copper core, with light metal head, on which the tip screws with taper fit. An efficient and serviceable tool that will give satisfaction when used on the light work for which it is intended. Made in all standard voltages.

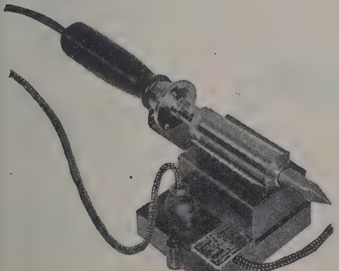
SPECIFICATIONS

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price	Net Price
3138	⅜″	100	16 oz.	12⅞″	⅞″	2 lbs.	$8.00	$5.36
3158	⅝″	200	28 oz.	13⅝″	1¼″	3 lbs.	9.60	6.41
3178	⅞″	300	42 oz.	14⅜″	1$\frac{9}{16}$″	4 lbs.	12.90	8.59
3198	1⅛″	550	60 oz.	15″	1¾″	5¾ lbs.	16.80	11.18
S-76	$\frac{7}{16}$″	50	6 oz.	11⅝″	⅝″	14 oz.	5.00	3.34

American Beauty COPPER TIPS



These copper tips are made of commercially pure, drawn bar, copper rod. Each tip is designed to fit into and to the full length of core of heating unit of the particular iron for which it is intended. Maximum area of contact between tip and heating unit is thus assured. Tips are of uniform diameter throughout their entire length and are not made with enlarged heads because this does not increase the capacity of a soldering iron. Tip is held in place in core of heating unit by a recessed set-screw. Removal for cleaning or replacement is therefore easy. Standard shaped tips with which the various models are equipped are shown in illustration but pyramidal, instead of chisel type, and vice versa can be supplied when so specified without additional charge. For No. 3138 a special, long, semi-chisel shaped tip can also be supplied for telephone and switchboard work.



American Beauty TEMPERATURE REGULATING STANDS

For use on (AC) Alternating Current Only

This is a thermostatically controlled device for the regulation of the temperature of an electric soldering iron while at rest. When placed on this stand, soldering iron is maintained at working temperature, ready for instant use or, if desired, at a lower temperature. Through an adjustment on bottom of the stand, thermostat may be set for the maintenance of any desired temperature—from very low, or warm, to full working temperature. Body of stand is of molded plastic. Soldering iron cradle proper is of metal. Stand is equipped with cord and attachment plug-cap for connection to current and with a receptacle for connection of the electric soldering iron. It is designed for use with electric soldering irons up to 660 watts capacity and on circuits up to 240 volts.

Cat. No.	Net Weight	List Price	Net Price
475	27 oz.	$5.50	$3.88

DRAKE RADIO IRONS

LISTED UNDER REEXAMINATION SERVICE OF UNDERWRITERS' LABORATORIES

Suggested for Maintenance Work and for the Radio Service Man

60 Watt Iron with ⅜" Tip. An excellent iron for light work. Porcelain element. Six ft. cord and small stand.

No. 315 .... List $1.38
Element........ List $0.53 Tip........ List $0.53

Shipping Weight 1 lb.

100 Watt Iron with ⅜" Tip. An ideal iron for those who require a hotter iron than our No. 315. Porcelain element. Six ft. cord and small stand.

No. 316 .... List $2.66
Element........ List $0.80 Tip........ List $0.80

Shipping Weight 1½ lbs.

80 Watt Iron with ⅜" Tip. Recommended for light radio work. Mica wound element. Six ft. cord and large stand.

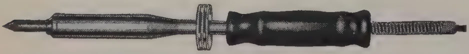
No. 225 .... List $3.73
Element........ List $2.13 Tip........ List $0.53

Shipping Weight 1½ lbs.

100 Watt Iron with ⅜" Tip. Recommended for general radio work. Mica wound element. Six ft. cord with large stand.

No. 325 .... List $4.42
Element........ List $2.66 Tip........ List $0.53

Shipping Weight 2 lbs.



125 Watt Iron with ⅜" Tip. An extra hot iron for the serviceman. Mica wound element. Six ft. cord and large stand.

No. 326 .... List $5.33
Element........ List $3.20 Tip........ List $0.53

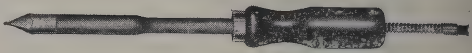
Shipping Weight 2 lbs.

200 Watt Iron with ⅝" Tip. Recommended for medium heavy work. Mica wound element. Six ft. cord and large stand.

No. 425 .... List $8.79
Element........ List $6.39 Tip........ List $0.85

Shipping Weight 2 lbs.

Suggested for Home Use and Light Repairs



60 Watt Iron with ⅝" Tip. An ideal iron for light soldering. Porcelain element. Six ft. cord and small stand.

No. 700 .... List $1.76
Element........ List $0.53 Tip........ List $0.53

Shipping Weight 1½ lbs.

100 Watt Iron with ⅞" Tip. Recommended for light medium work. Porcelain element. Six ft. cord and small stand.

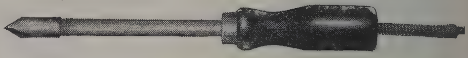
No. 701 .... List $2.34
Element........ List $0.80 Tip........ List $0.53

Shipping Weight 2 lbs.

150 Watt Iron with 1⅛" Tip. An ideal iron for garage and machine shops. Mica wound element Six ft. cord and small stand.

No. 703 .... List $5.86
Element........ List $2.13 Tip........ List $2.13

Shipping Weight 2 lbs.



600 Watt Iron with ⅝" Tip. An excellent iron for light work. Porcelain element. Six ft. cord and small stand.

No. 55 .... List $1.38
Element........ List $0.53 Tip........ List $0.53

Shipping Weight 1 lb.

100 Watt Iron with ⅞" Tip. An excellent iron for the Home. Porcelain element. Six ft. cord with small stand.

No. 804 .... List $1.60
Element........ List $0.80 Tip........ List $0.53

Shipping Weight 1 lb.

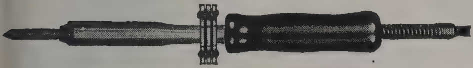
"MAGIC CUP" STAND

The most practical soldering stand ever devised. A twist of the wrist and all oxide disappears.

No. 12 .... List $0.50 **Net Price $0.38**

DRAKE Industrial IRONS

INDUSTRIAL IRONS



60 Watt Iron with ¼" Tip. An extra small iron for midget sets. Only 9" long.

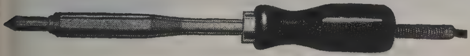
No. 400 ....List **$4.79**
Element............List **$3.20** Tip............List **$0.43**
Shipping Weight 2 lbs.

100 Watt Iron with ⅜" Tip. Only 10 inches over all. Ideal for close work on radio sets.

No. 600-10 ....List **$6.92**
Element............List **$4.26** Tip............List **$0.53**
Shipping Weight 2 lbs.

140 Watt Iron with ⅜" Tip. An extra hot iron for high speed work on production lines.

No. 600 Special ....List **$7.46**
Element............List **$4.26** Tip............List **$0.53**
Shipping Weight 2 lbs.



80 Watt Iron with ⅜" Tip. Recommended for fine instruments, light telephone and other light soldering.

No. 450 ....List **$4.79**
Element............List **$3.20** Tip............List **$0.53**
Shipping Weight 2 lbs.

100 Watt Iron with ⅜" Tip. The standard 100 watt iron. Ideal for switchboards and radio sets.

No. 600 ....List **$6.39**
Element............List **$3.73** Tip............List **$0.53**
Shipping Weight 2 lbs.

200 Watt Iron with ⅝" Tip. For general factory work such as art glass, medium tin work.

No. 800 ....List **$8.52**
Element............List **$6.39** Tip............List **$0.85**
Shipping Weight 3 lbs.

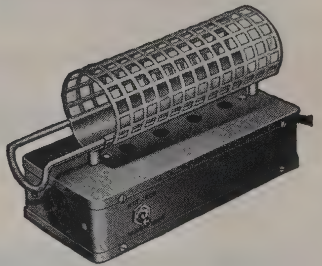
300 Watt Iron with ⅞" Tip. Recommended for tinsmiths, auto radiators, small branding irons.

No. 1100 ....List **$11.72**
Element............List **$8.52** Tip............List **$1.07**
Shipping Weight 4 lbs.

The elements of all Industrial Irons are wound on high grade amber mica with Nichrome No. 5.

No. 12 "Magic Cup" stand is furnished with all irons having tips ⅜" or less. All other irons are furnished with No. 10 stand.

THE DRAKE HEAT CONTROL

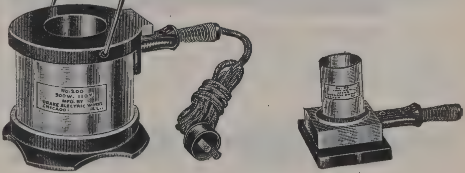


is the only control on the market that allows constant temperature regulation at all times. No thermostats to stick. A flip of the switch and the iron is ready for use in a few moments. Variable resistor allows individual temperature control to meet the requirements for each operation.

This control should be used wherever it is necessary to keep an iron ready for instant use, such as test benches, laboratories, etc. 100-watt irons only.

No. 300 (without Hood)..................**List Price $4.26**
N..300H (with Hood)..................**List Price $4.79**
Shipping weight 3 lbs.

Drake Solder Pots For Production Line



Model No. 200—300 Watt Unit

An ideal electric solder pot for production use. Used in factory production of tinned wire ends, terminal tinning and countless other volume tinning applications. Holds 2 lbs. of bar solder in 2½" diameter 2" deep cast iron well. Complete with detachable Underwriters' Approved cord and plug, and bale type carrying handle. Genuine nichrome element. Shipping weight 6 lbs.

No. 200. List Price..............................**$6.39**

Model No. 100—150 Watt Unit

Designed for light tinning. Ideal for occasional jobs. Suited especially for tinning ends of stranded wires to prevent fraying. Can also be used for soldering cord tips to cables. One piece cast iron construction holds heat longer. Size of pot 1½" diameter 1" deep. Holds 1 lb. of bar solder. Complete with Underwriters' Approved cord and detachable plug. Shipping weight 3 lbs.

No. 100. List Price..............................**$4.79**

All Drake Irons are listed as standard with the Underwriters Laboratories and the Canadian Power Commission.

ESICO

INDUSTRIAL
ELECTRIC SOLDERING IRONS

Reg. U S

GREEN LABEL
ELECTRIC SOLDERING IRONS

Pat. Off

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES

GENERAL INFORMATION FOR PLUG TIP IRONS
Esico prestige assures the fine quality of these soldering irons. For use on both A.C. and D.C. current. Wound in voltages ranging from 105 to 240 volts. Tips are plug type, held by a set screw. Elements and other parts are easily replaced. Rugged and durable, with a one-piece heavy gauge steel case, mounted element and positive grip handle. Equipped with a 6 ft. cord and attachment plug. Metal stand supplied with every tool.

No. 54A — 65 WATTS

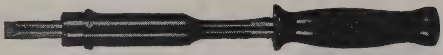
Tip ⅜″ in Diameter
Iron Complete $5.00, Extra Tip 25¢, Element $2.25
Equal to copper of ½ lb. Length overall 10″. Weight without cord, 8 oz. For light work, such as soldering fine wires, radio factory use, tool kits. Suitable where a light, short tool is required.

No. 96A — 110 WATTS

Tip ⅜″ in Diameter
Iron Complete $5·50, Extra Tip 32¢, Element $2.75
Equal to copper of ¾ lb. Length overall, 12″. Weight without cord, 10 oz. For electrical and radio factories, telephone and switchboard repair, fuses, tool kits, light manufacturing, delicate instruments, radio and electrical laboratories.

No. 126A — 130 WATTS

Tip ½″ in Diameter
Iron Complete $7.75, Extra Tip 65¢, Element $3.50
Equal to copper of 1 lb. Length overall, 12½″. Weight without cord, 16 oz. For light tin work, automobile repairs and general factory soldering. Very handy because of its shortness.



No. 206A — 200 WATTS

Tip ½″ in Diameter
Iron Complete $8.75, Extra Tip 70¢, Element $3.75
Equal to copper of 1½ lbs. Length overall, 14″. Weight without cord, 24 oz. For medium tin work, automobile repairs, patterns, factory work, small branders.

No. 355A — 310 WATTS

Tip ⅞″ in Diameter
Iron Complete $10.25, Extra Tip $1.25, Element $5.00
Equal to copper of 3 lbs. Length overall, 14½″. Weight without cord, 41 oz. For heavy sheet metal work, tinsmiths, automobile radiators, refrigerators, branding.

No. 505A — 500 WATTS

Tip 1⅛″ in Diameter
Iron Complete $12.25, Extra Tip $1.75, Element $6.00
Equal to copper of 5 lbs. Length overall, 14½″. Weight without card, 54 oz. For heavy soldering, large tanks or cans, roofs, large area objects, large branders.

General Information: Exceptionally fine tools. Packed in green label boxes to differentiate from Esico Industrial Irons. One-piece blued steel cases and richly-dark mahogany handles. Replaceable forged copper tips. Wound in voltages ranging from 32 to 250 volts. Can be used on both A.C. and D.C. current. (Nick Nacks 105-120 volts only.)

The Esico Irons Listed Below Are Ideal for the Radio Service and Repair Man

"NICK NACK" — 55 WATTS

Cat. No. 15
No. 15 Tip 7/16″ Diameter. Weight 6 oz. Length 11¾″
LIST PRICES
Iron Complete $1.95, Extra Tip 35¢, Element 75¢

"MIDGET" — 65 WATTS

Cat. No. 16P—Plug Tip
No. 16P ⅜″ Diameter. Weight 7 oz. Length 11¼″
LIST PRICES
Iron Complete $2.95, Extra Tip 35¢ Element $1.35

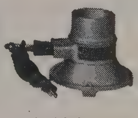
"JUNIOR" — 100 WATTS

Cat. No. 17P—Plug Tip
No. 17P Tip ⅜″ Diameter. Weight 9 oz. Length 12¼″
LIST PRICES
Iron Complete $3.95, Extra Tip 35¢, Element $1.95

"TROPHY" — 150 WATTS

Cat. No. 18P—Plug Tip
No. 18P Tip ½″ Diameter. Weight 18 oz. Length 12½″
LIST PRICES
Iron Complete $4.95, Extra Tip 55¢, Element $2.50

ESICO SOLDER POTS

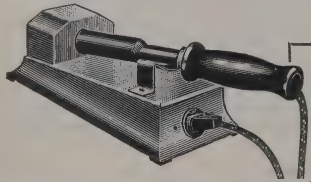


Model No. 36

Model No. 12—Size 1½″ dia. x 1½″ deep; capacity ¾ lbs.; wattage 200; overall height 4½″; shipping weight 3¾ lbs.
Net List Price $4.50
Replacements: Cord Set, 75¢; Element, $1.50

Model No. 36 (illustrated)—Size 2½″ dia. x 1¾″ deep; capacity 2¼ lbs.; wattage 250; overall height 4¾″; shipping weight 4 lbs.
Net List Price $5·50
Replacements: Cord Set, 75¢; Element, $1.50

Model No. 60—Size 3½″ dia. x 1⅛″ deep; capacity 3¾ lbs.; wattage 325; overall height 4¾″; shipping weight 5¼ lbs.
Net List Price $6.50
Replacements: Cord Set, 75¢; Element, $1.50



ESICO THERMOSTATIC CONTROL STAND

Temperature: Iron can be maintained at any desired temperature while in stand. Tip temperature is controlled. When removed from the control, full current is instantly applied to the iron. **Save:** Cost of electric current. **Prolong:** Element and tip life. Permits the use of high wattage elements in small irons as they cannot overheat.

Positively impossible for Iron to Overheat or to Burn Off Its Tin!

Cat. No. 5—Irons up to 1″ Diameter Tip. Cat. No. 6—Irons 1″ to 1⅝″ Diameter Tip.
List Price $6·50

ELECTRIC SOLDERING IRON CO. Inc., Deep River, Connecticut

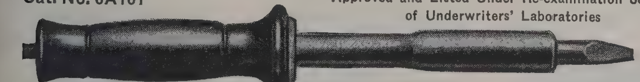
CALROD SOLDERING IRONS

FOR EVERY RADIO REQUIREMENT

- **HIGH-SPEED SOLDERING.** You can solder as fast and continuously as the nature of the work will allow.
- **UNIFORM PERFORMANCE.** Operating characteristics remain constant day after day. No appreciable decrease in efficiency even after months of service.
- **LONG LIFE AND LOW MAINTENANCE.** Long life is assured and over-all costs are kept low because sturdy construction eliminates need of frequent repairs.
- **EASY, LOW-COST REPAIR.** Assembling and disassembling are easy.
- **THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR.** Irons can be repaired on the job without special tools or skill.

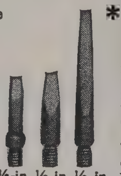
Cat. No. 6A161

Approved and Listed Under Re-examination Service of Underwriters' Laboratories



Watts	Volts		Tip diam.
75	115	Calorized tip ....$8.70* IRONCLAD tip 9.30*	See note below*

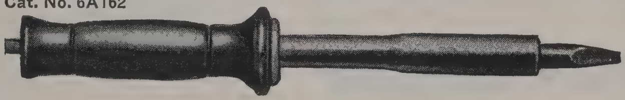
*Cat. No. 6A161 and Cat. No. 6A162 can be supplied with either a ⅜- or ½-inch diameter tip at prices given. The long ½-inch diameter tip projects 3⅜ inches from the shell. Price of iron with long calorized tip—$9.20; with long IRONCLAD tip—$9.90.



For light, intermittent soldering such as radio assembly and repair and installation, switchboard, ignition, wiring devices, meters and instruments, or very light high-speed soldering of similar products.

WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.
Equal to old-style copper—1¼-lb.

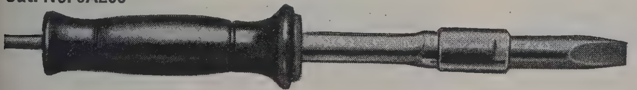
Cat. No. 6A162



Watts	Volts		Tip diam.
100	115	Calorized tip ....$8.70* IRONCLAD tip 9.30*	See note above*

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices, ignition. Excellent for service and repair men.
WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.
Equal to old-style copper—1¾ lb.

Cat. No. 6A200

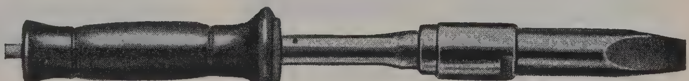


Watts	Volts		Tip. diam.
100	115	Calorized tip ....$ 9.80 IRONCLAD tip 11.10	¾ inch

For light, high-speed soldering, such as assembly of radios and switchboards, medium intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for shop and farm.

WEIGHTS: Less cord, 16 oz. With cord, 21 oz. Shipping, 27 oz. Equal to old-style copper—2-lb.

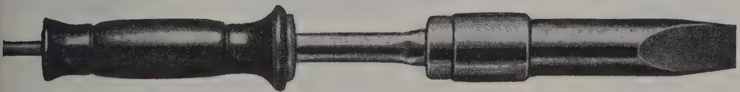
Cat. No. 6A201



Watts	Volts		Tip. diam.
200	115	Calorized tip ....$12.30 IRONCLAD tip 13.70	1 inch

For medium, high-speed soldering of automobile and airplane assembly, electric equipment, light tanks and containers of copper and steel. Excellent general-purpose iron for manufacturing plant.
WEIGHTS: less cord, 24 oz. With cord, 29 oz. Shipping, 34 oz.
Equal to old-style copper—3-lb.

Cat. No. 6A202



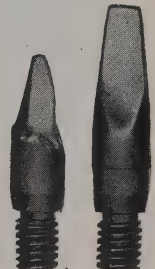
Watts	Volts		Tip. diam.
300	115	Calorized tip ....$14.90 IRONCLAD tip 16.30	1¼ inch

For heavy work such as light commutators, large-diameter pipe, medium-gage copper or steel tank and container material, roofing, heavy tinware.
WEIGHTS: Less cord, 37 oz. With cord, 42 oz. Shipping, 48 oz.
Equal to old-style copper—4-lb.

ASK ABOUT IRONCLAD TIPS

IRONCLAD TIPS MEAN

- No Filing
- Lower Upkeep Cost
- Less Maintenance
- Longer Life



Effect of solder (250 C for 363.5 hours) on plain copper (left) and Ironclad copper (right) soldering tips.

Note—230-volt irons available on request. Same prices apply. Above prices include supporting stand.

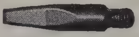
ASK YOUR DISTRIBUTOR FOR A COPY OF BULLETIN GEA-4519.

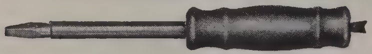
HEXACON

ELECTRIC SOLDERING IRONS

GENERAL INFORMATION—Equipped with 6 ft. (10,000 cycle) approved heater cord (covered with twine braid for extra long wear) and rubber plug. European type plugs 25c extra list. Metal stand furnished with each iron. Heating elements made of best grade nickel-chromium resistance wire, insulated with finest mica obtainable. Elements in the plug tip irons are replaceable by the user and in the screw tip irons replaceable at the factory. Tips in all irons are replaceable; made of hard drawn pure copper. Case is made from solid hexagon steel (except No. 50 and P-30), affording it great mechanical strength, preventing denting. Terminal easily accessible and constructed to relieve cord strain. Smooth, cool, comfortable handle—readily replaceable. Voltage range: 32 to 250. Standard voltages 110/120, 121/130, 220/250. All other voltages $1.00 extra list.

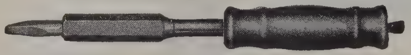
SCREW TIP IRONS



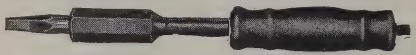


No. 50—For light soldering on radio, telephone and electrical apparatus. 50 Watts. Tip diam., 7/16". Ship. wt., 1 lb. Equal to ½-lb. old style copper........each **$4.50**

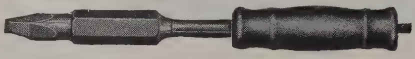
No. 60—Medium light soldering on telephone, radio, apparatus and linemen's kits. 60 Watts. Tip diam., ½". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper........each **$6.25**



No. 85—A high speed tool for telephone, radio and home use. 90 Watts. Tip diam., ½". Ship, wt., 1¼ lb. Equal to 1½-lb. old style copper........each **$7.00**

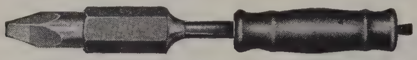


No. 120—Light tinware, toys, typewriter, light auto, etc. A high speed iron. 120 Watts. Tip diam., ⅝". Ship. wt., 1⅜ lb. Equal to 2-lb. old style copper........each **$8.00**

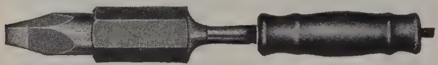


No. 130—Same as No. 120 except has larger tip and 10 more watts capacity. 130 Watts. Tip diam., ⅞". Ship. wt., 1⅝ lb. Equal to 2-lb. old style copper........each **$8.75**

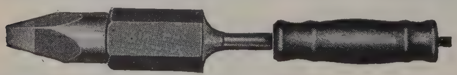
No. 170—Medium tinware, small cans, auto repairs, pipes, gutters, toys, small motors. 175 Watts. Tip diam., 1". Ship. wt., 2¼ lb. Equal to 2½-lb. old style copper........each **$10.00**



No. 225—Medium tinware, cans, auto repairs, metal patterns, light roofing, small branders. 250 Watts. Tip diam., 1⅛". Ship wt., 2⅝ lb. Equal to 3-lb. old style copper........each **$11.00**



No. 350—Heavy tinware, large cans, autos, roofing, refrigerators, ship and airplane. 350 Watts. Tip diam., 1⅜". Ship wt., 3⅜ lb. Equal to 4-lb. old style copper........each **$13.00**

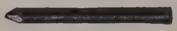


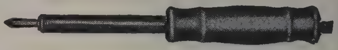
No. 500—Auto repair, sinks, roofs, cans, armatures, large branders, tinsmiths, etc. 500 Watts. Tip diam., 1⅝". Ship. wt., 4 lb. Equal to 5-lb. old style copper........each **$15.00**

No. 700—For extra heavy soldering and large branders. 700 Watts. Tip diam., 1¾". Ship. wt., 5 lbs. Equal to 7-lb. old style copper. each **$27.50**

OPERATE ON A.C. OR D.C., ANY CYCLE

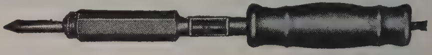
PLUG TIP IRONS





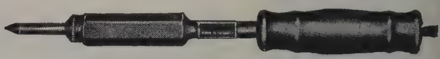
No. P-30—For extremely light soldering on finest wire and delicate instruments. 40 Watts. Tip diam., ¼". Ship. wt., ⅝ lb. Equal to ¼-lb. old style copper........each **$4.50**

No. P-70—For light soldering on radio and telephone apparatus and electrical instruments. 80 Watts. Tip diam., ⅜". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper........each **$6.00**



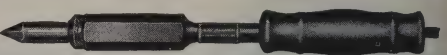
No. P-100—A high speed tool for telephone switchboards, electrical instruments, etc. 100 Watts. Tip diam., ⅜". Ship. wt., 1¼ lb. Equal to 1½-lb. old style copper........each **$7.00**

No. P-125—For light tinware, toys, typewriter type bars, small cans, auto, etc. 130 Watts. Tip diam., ⅝". Ship. wt., 1½ lb. Equal to 2-lb. old style copper........each **$8.50**



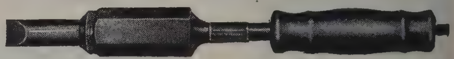
No. P-150—Extra high speed iron for radios, electrical apparatus and where a light iron with small diameter is required. 150 Watts. Tip diam., ⅜". Ship. wt., 1¾ lb. Equal to 2-lb. old style copper each **$7.75**

No. P-151—Same as No. 150, except where a larger tip is desired. 175 Watts. Tip diam., ½". Ship. wt., 1¾ lb. Equal to 2½-lb. old style copper........each **$8.25**

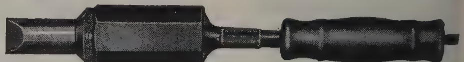


No. P-200—For medium tinware, cans, auto repairs, light roofing, sheet metal, etc. 200 Watts. Tip diam., ⅝". Ship wt., 2⅛ lb. Equal to 2¾-lb. old style copper........each **$9.50**

No. P-250—Same as No. P-200, except where greater speed is required for manufacturing. 250 Watts. Tip diam., ⅝". Ship. wt., 2¼ lb. Equal to 3-lb. old style copper........each **$10.75**



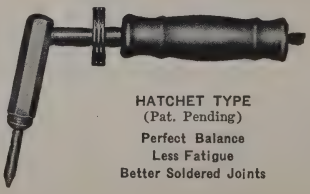
No. P-300—For heavy tinware, large cans, auto, roofing, refrigerator work, etc. 300 Watts. Tip diam., ⅞". Ship. wt., 2⅞ lb. Equal to 4-lb. old style copper........each **$12.50**



No. P-550—For auto radiators, copper sinks, roofs, heavy armatures, large branders, etc. 550 Watts. Tip diam., 1⅛". Ship. wt., 4⅛ lb. Equal to 5-lb. old style copper........each **$15.00**

SPECIFY VOLTAGE WHEN ORDERING

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Price
70H	80	⅜"	1⅜ lbs.	$ 8.00
100H	100	⅜"	1½ lbs.	9.00
150H	150	⅜"	2 lbs.	9.75
151H	175	½"	2 lbs.	10.25
200H	200	⅝"	2⅜ lbs.	11.50



HATCHET TYPE
(Pat. Pending)
Perfect Balance
Less Fatigue
Better Soldered Joints

HATCHET TYPE

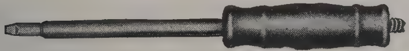
For same use as Plug Tip irons of equal wattage, shown above. Replaceable elements and all other features of Plug Tip Irons.

SOLDER MASTER
ELECTRIC SOLDERING IRONS

GENERAL INFORMATION—Replaceable elements. All except No. 55 are wound on metal core, with best grade of Madagascar mica for insulation. No. 55 has brass sheathed cartridge element. Best grade Nickel-chrome resistance wire used in all elements. Replaceable hard drawn copper tips, accurately made, tinned ready for use. All one piece swaged cases used, finished in gun metal. Bakelite terminal block used to relieve cord strain. Equipped with 6 ft. Underwriters' Approved heater cord, rubber plug and cord spring. European type plug 25c extra list. Stand for resting iron furnished. Voltage range: 32 to 250. **Standard voltages 110/120, 121/130, 220/250.** All other voltages $1.00 extra list. No. 55 furnished in standard voltages only.

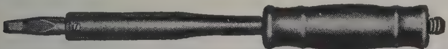
OPERATE ON A.C. OR D.C., ANY CYCLE
SPECIFY VOLTAGE WHEN ORDERING

SCREW TIP IRONS

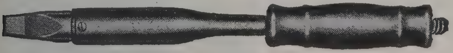


No. 55—For light soldering, radio apparatus, etc. 55 Watts. Tip diam., 7/16″. Ship. wt., 12 oz. Equal to ½-lb. copper........each **$1.80**

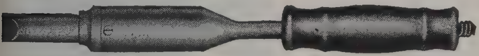
No. 76—For light work, electrical instruments, etc. 75 Watts. Tip diam., ½″. Ship. wt., 16 oz. Equal to 1-lb. copper..........each **$3.25**



No. 100—Same as No 76 except used where more speed is required and heavier work is done. For home use, 90 Watts. Tip diam., ½″. Ship. wt., 16 oz. Equal to 1¼-lbs. copper........................each **$3.75**



No. 150—Ideal size for garage and repair shop. For home use. 170 Watts. Tip diam., ⅞″. Ship. wt., 24 oz. Equal to 1¾-lbs. copper each **$6.00**



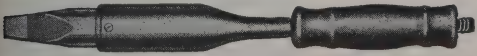
No. 300—For heavy sheet metal, auto radiators, etc. 275 Watts. Tip diam., 1⅛″. Ship. wt., 38 oz. Equal to 3-lbs. copper..each **$9.00**

PLUG TIP IRONS

No. 71—For light work, radio repairs, etc. 75 Watts. Tip diam., ⅜″. Ship. wt., 16 oz. Equal to 1-lb. copper......................each **$3.25**

No. 101—For same work as No. 71, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip diam., ⅜″. Ship. wt., 18 oz. Equal to 1¼″-lbs. copper..............each **$3.75**

No. 201—For same work as No. 150, except where plug tip is desired. 200 Watts. Tip diam., ⅝″. Ship. wt., 34 oz. Equal to 2½-lbs. copper ....each **$7.00**



No. 301—For same work as No. 300, except where plug tip is desired. 300 Watts. Tip diam., ⅞″. Ship. wt., 46 oz. Equal to 4-lbs. copper ....each **$9.00**

SOLDER MASTER DISPLAYS

INCREASE YOUR SALES WITH THESE SILENT SALESMEN

IRONS SECURELY MOUNTED, BUT READILY REMOVABLE FOR SALE

INDIVIDUALLY PACKED IN CARTONS, READY FOR SHIPMENT

CATALOG NUMBER & WATTAGE SHOWN ON FRONT OF DISPLAY

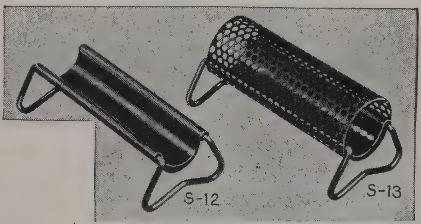
Solder Master

No. 5 Display
Size 12″ x 16½″

COMBINED SCREW TIP AND PLUG TIP DISPLAYS

No.	Size	Ship. Wt.	List Price
1—Nine Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300, 71, 101, 201, 301....	15″ x 17½″	20 lbs.	**$46.80**
2—Seven Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300, 71, 101....................	15″ x 17½″	17 lbs.	**30.80**
ALL SCREW TIP DISPLAYS			
3—Five Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300	15″ x 17½″	15 lbs.	**23.80**
5—Three Iron Cardboard Display with Nos. 55, 76, 100..............	12″ x 16″	4 lbs.	**8.80**
ALL PLUG TIP DISPLAYS			
4—Five Iron Metal Scroll Type Display with Nos. 55, 71, 101, 201, 301	15″ x 17½″	15 lbs.	**24.80**
6—Three Iron Cardboard Display with Nos. 55, 71, 101..............	12″ x 16″	4 lbs.	**8.80**

STANDS



Price $0.60 **Price $1.25**

Cat. No.	Tip Only	Complete Iron with Bent Tip
76	$0.70	$3.45
100	.70	3.95
71	.70	3.45
101	.70	3.95
201	1.50	7.50
301	2.50	9.75

BENT TIP

Bent Tip cannot be furnished for Nos. 55, 150 and 300.

TIP ADAPTER
No. 150
Permits use of No. 100 tip in No. 150 iron, **$.75**

Ungar Electric Tools, Inc.

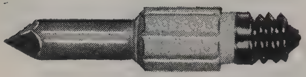
Formerly Harry A. Ungar, Inc.

LOS ANGELES 54, CALIF.

Manufacturers of

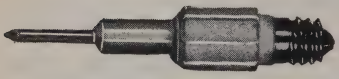
Ungar Electric Soldering Pencil

Designed for delicate precision work on intricate, hard-to-reach soldering jobs.



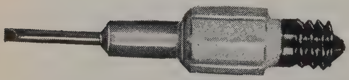
No. 536—Pyramid Tip . . . made from Tellurium.

List $1.00



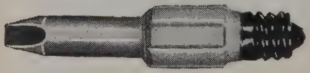
No. 537—Tip . . . made from Elkaloy A. Tip ⅛″ diameter.

List $1.00



No. 538—Chisel Tip . . . made from Elkaloy A. Tip ⅛″ diameter.

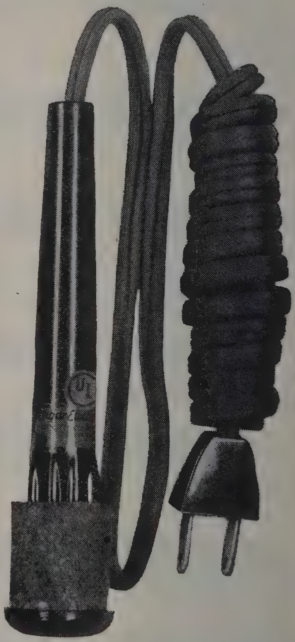
List $1.00



No. 539—Chisel Tip . . . made from Tellurium.

List $1.00

Ruggedly built. Takes plenty punishment, yet handles like a fountain pen. Weighs only 3.6 ounces. Perfectly balanced. Heats in 90 seconds, draws only 20 watts. Overall length, 7 inches.



No. 776—Handle Cord Set . . . Plastic, 6-ft cord. For all tips.

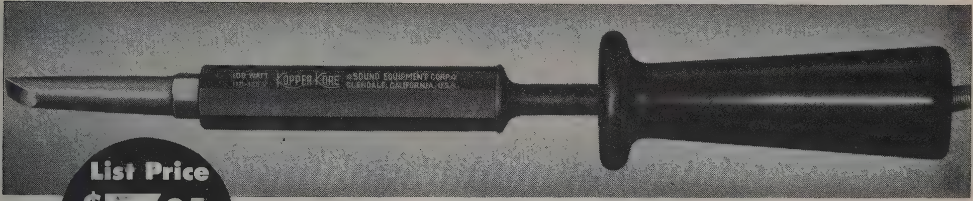
List $1.00

(Discounts: 1 to 11—20%; 12 or more—35%)

Plus-Value! For a Modern Soldering Tool Made From Corrosion-Resistant Copper Alloy...Specify KOPPERKORE!

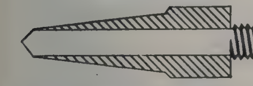
KOPPERKORE

NEW 100-WATT ELECTRIC SOLDERING IRON



List Price $7.25 With #1 Tip

TAPERED, ADDS HEAT RESERVOIR

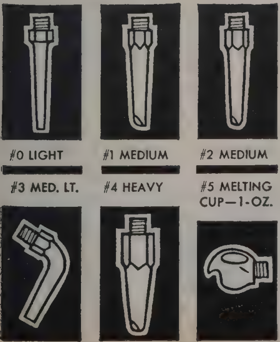


HEAVY-THREADED for MAXIMUM HEAT TRANSFER WITHIN CORE ALL TIP STYLES INTERCHANGE

A solid core of corrosion-resistant copper alloy distinguishes KOPPERKORE . . . a handsome, versatile soldering tool . . . the perfect industrial type, light weight (13½ oz.), well balanced, durable. Rigid specifications govern the quality of materials used in KOPPERKORE . . . damage-proof steel case with gun-metal finish, element is fine nichrome heater wire wound on tellurium copper alloy, mica and glass insulated (easily replaced by user). The handle is cool and comfortable, molded of long-lasting Bakelite. 6-foot length of flexible high quality heater cord joined to pull-proof connector and spring protected (Underwriter Laboratories approved) is standard equipment. KOPPERKORE'S ample heat reservoir maintains heat level of maximum efficiency without building up excessive temperatures. 100 watts power for use on 110/120 volt AC or DC. Ideal for use by manufacturers, maintenance men and repair shops. Intended for light work on radio, telephone and day-long production lines. 100 Watt—13½ oz.—13" long 110/120 volt AC-DC any cycle.

List Price . . . *Iron with #1 Tip and Rest Stand*__ **$7.25**

SIX INTERCHANGEABLE TIP STYLES FIT A KOPPERKORE



KOPPERKORE, junior companion to the now famous Kwikheat Thermostatic Iron, has the same choice of six tip styles for adapting it to a wide variety of soldering jobs. KOPPERKORE tips are of forged tellurium copper alloy (corrosion-resistant) with heavy threaded ends for best heat transference from within the core of the same material. Tapered shape is most desirable . . . adds an extra heat reservoir.

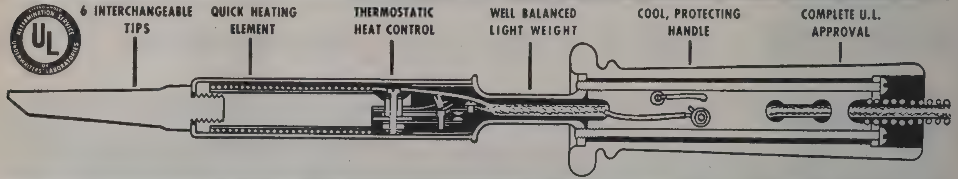
Choice of Six Tip Styles____each, $1.25
5-pc. TIP SET (0-2-3-4-5), Special $5.50

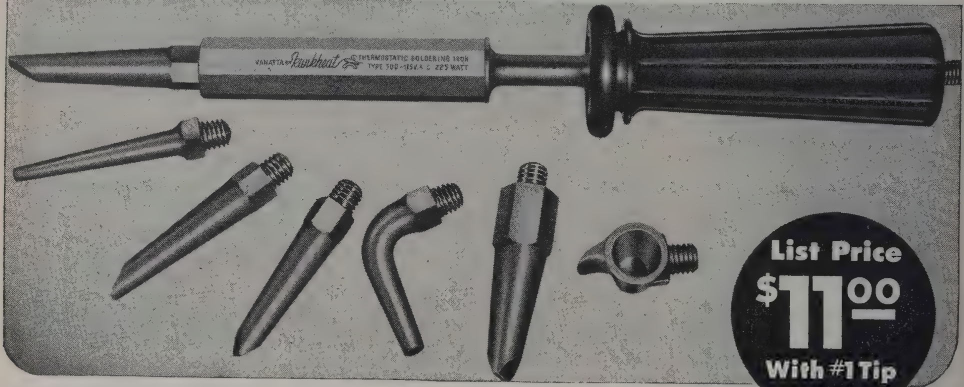
EVERY KOPPERKORE SOLDERING IRON CARRIES A GUARANTEE OF SATISFACTORY PERFORMANCE

COPR. 1946, S. E. C.

VANATTA KWIKHEAT THERMOSTATIC SOLDERING IRON

★ HOT IN 90 SECONDS ★ 225 WATTS ★ 110/120 V. A. C. ★


UL
6 INTERCHANGEABLE TIPS
QUICK HEATING ELEMENT
THERMOSTATIC HEAT CONTROL
WELL BALANCED LIGHT WEIGHT
COOL, PROTECTING HANDLE
COMPLETE U.L. APPROVAL


VANATTA Kwikheat THERMOSTATIC SOLDERING IRON TYPE 300-115V.A.C. 225 WATT

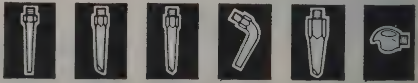
List Price $11.00 With #1 Tip

THE KWIKHEAT Thermostatic Soldering Iron is superior in every respect. It is the *only* soldering iron containing a built-in thermostat—enabling it to heat up, ready to use only 90 seconds after plugging in! Fully guaranteed! Kwikheat's dependable, patented thermostat maintains the perfect temperature for best soldering—prevents overheating—prolongs the life of the iron and tips . . . reduces time and cost of tip maintenance. Although heavy-powered (225 watts) Kwikheat is light weight . . . a well-balanced 13½ oz. The cool, protecting, tough plastic handle is designed for comfort. Six interchangeable tip styles, in effect, make the Kwikheat Iron equivalent to several soldering irons of different wattage. Screw-in tapered tips assure best heat conductivity. Ideal for radio work. **List $11.00.**

SPECIFICATIONS:

- ★ Type #300—225 Watts 100/125 V.A.C.
- ★ Weight of iron with #1 tip—13½ oz.
- ★ Length of iron with #1 tip—13¼ inches.
- ★ Length of cord—6 ft. (spring-protected)
- ★ Core made of tellurium copper alloy.
- ★ Tips forged of copper alloy—Melting pot, aluminum, holds 1 oz. of solder, ea. 1.25
- ★ List price of iron fitted with #1 tip—$11.
- ★ Set of five tips (No's. 0-2-3-4-5)—$5.50.

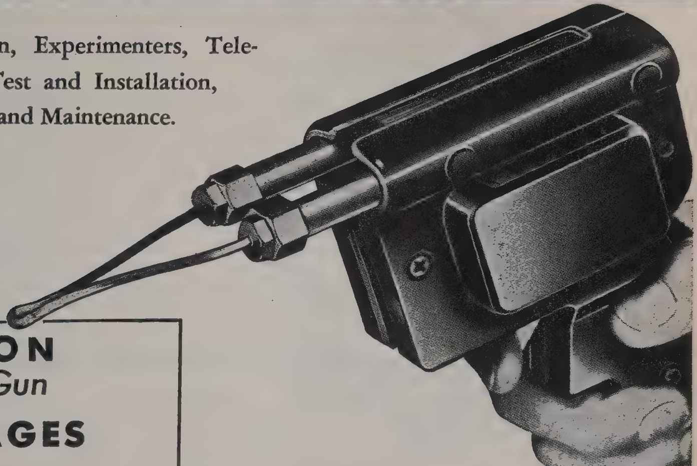
SIX INTERCHANGEABLE TIP STYLES Each $1.25



#0 LIGHT · #1 MEDIUM · #2 MEDIUM · #3 MED. LT. · #4 HEAVY · #5 1-OZ. POT

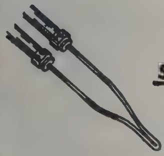
New TRANSFORMER TYPE SOLDERING GUN

For Radio Service Men, Experimenters, Telephone and Telegraph Test and Installation, Electronic Development and Maintenance.



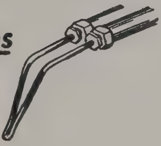
SPEED IRON
Soldering Gun
ADVANTAGES

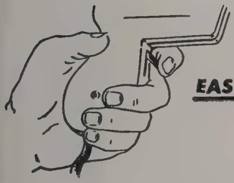
HEATS IN 5 SECONDS



SEE WHERE YOU WORK

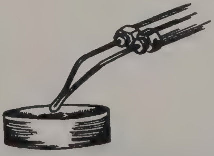
GET INTO TIGHT CORNERS





EASY TO HOLD

EASY TO TIN



ADJUST TIP TO JOB • CAN'T OVERHEAT

NEW SOLDERING PRINCIPLE

SAVES TIME Always ready to use—heats up in 5 seconds • Can't overheat—no redressing and retinning • Work in close quarters—small tip can be formed to fit job.

SAVES MONEY No wasted power • Intermittent heat prevents tip burning • More working time—less waiting time with fast heating • Nothing to burn out or wear out—air cooled transformer and impact resisting case—low cost tip replacement.

SPECIFICATIONS

For AC Only	115 volts 60 cycles
Standard Package	24
Rating	100 watts
Shipping Weight Standard Package	65 lbs.

Tips supplied with each Speed Iron—2 extra
Price $12.95 net Extra tips .05c each

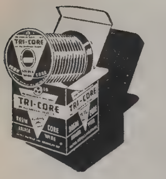
WELLER MFG. CO.
808 PACKER STREET, EASTON, PA.

ALPHA SOLDERS

FOR RADIO AND ELECTRICAL WORK • 363 HUDSON AVE., BROOKLYN 1, N. Y.

ROSIN CORE SOLDER ★ TRI-CORE SOLDER ★ ACID CORE SOLDER

TRI-CORE ROSIN FILLED SOLDER WIRE



The unique, improved solder for Radio, Electrical and Automotive work. Bigger volume, better profits for dealers.

Faster, more uniform fluxing: Because the cores are located close to the surface, heat penetrates rapidly to the flux. Result—a continuous, free flow of high-grade, non-corrosive pure rosin flux goes on the work before the solder melts.

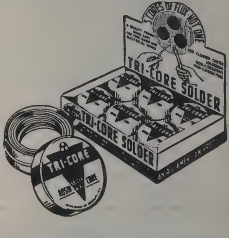
Continuity of flux: TRI-CORE'S arrangement of three independently filled cores eliminates the risk of empty flux sections in the core.

More Economical: Because TRI-CORE'S solder walls are thinner, the solder melts faster—giving the results expected of a higher tin content alloy.

TRI-CORE . . . The Modern Solder . . . is especially recommended for Radio, Electrical, Telephone, Telegraph, Ignition applications, including HF and UHF circuits, Terminals, Coil and socket lugs, Relays, Condensers and similar components.

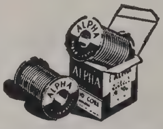
Manufactured of Virgin tin and lead, TRI-CORE solder mixtures are certified to meet ASTM (Class A) specifications.

Grade 40/60, Diam. .081. Stocked all gauges — 1/4" and heavier, down to .020" and finer. Available in 1 lb., 5 lb., and 20 lb. spools. Quick Selling Counter Display Carton Offers 12 Handy Size Spools.



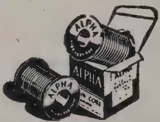
ALPHA
ACID CORE SOLDER

Quick acting Alpha Solder makes a secure, tight bond. Alpha gives you a permanent bond, avoids waste, and completes more soldering jobs per spool. Pure Virgin metals and a correct flux assures uniform, superior soldering results.



ALPHA
ROSIN CORE SOLDER

High-grade, non-corrosive plasticized rosin is the reason for this Alpha product being widely favored on Electrical, Automotive electrical, Radio, Radar, and similar jobs. It makes cleaner, stronger joints without toxic or offensive odors.



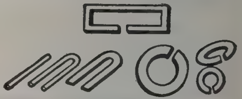
ALPHA
SOLID SOLDER WIRE

Alpha manufacturing methods insure a homogeneous solder wire that is perfectly smooth and accurate in gauge through its entire length. Its smooth flow gives you a solid, permanent joint. Available in any specified composition and size.

ALPHA
SOLID SOLDER WIRE

ALPHA PREFORMS

Include washers, cut shapes, drops and pellets, solder foil and other special forms used extensively in repetitive manual and automatic soldering processes. Increased production, savings of materials and labor, plus accurate control, can be effected where shapes cut to the particular application are employed.



STANDARD ALLOYS

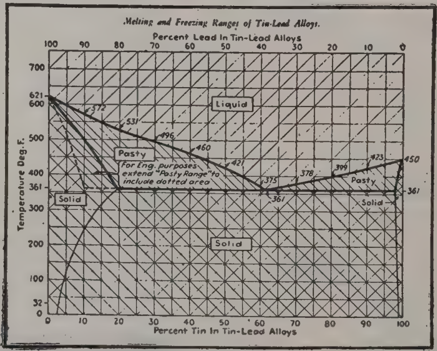
TRI-CORE and ALPHA SOLDERS 40/60. Also available in 25/75—30/70—35/65 45/55—50/50—55/45 60/40.

ALPHA SOLID SOLDER WIRE: All alloy ratios available to order.

STANDARD DIAMETERS

TRI-CORE: .081.
ALPHA: (Rosin) .093
(Acid) .125
ALPHA SOLID: .125.

Also available on special order in the following diameters: .093, .081, .072, .062, .050, .045, .040, .032.



Melting and Freezing Ranges of Tin-Lead Alloys.

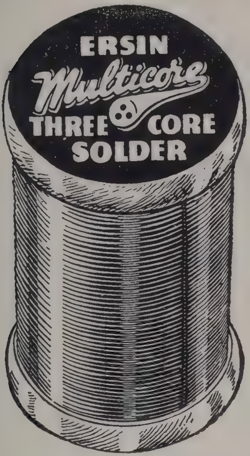
ALPHA
Serves You Right

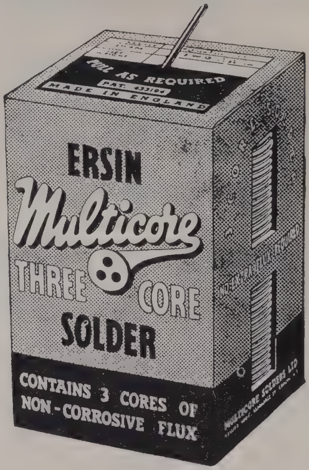
Our specialized soldering knowledge and skills are teamed with efficient, modern facilities for castings, stamping and the economical conversion of lead, tin and related alloys into any shape and form, and for any purpose. We can offer you invaluable help in developing new items and hurdling technical obstacles.

ALPHA METALS Incorporated

363 HUDSON AVENUE, BROOKLYN 1, N. Y.

ERSIN MULTICORE SOLDER





ERSIN MULTICORE

The Solder containing 3 cores of extra active non-corrosive flux giving high speed soldering.

Our claim is a simple one: We believe that ERSIN MULTICORE is the finest cored solder in the World!

Ersin Multicore is a solder in the form of wire containing three cores of non-corrosive Ersin Flux. Only by using a solder with three cores is it possible to guarantee flux will always be present—that there will be no dry or high-resistance joints!

Three cores of flux provide thinner solder walls than are found in single core solder. **Very rapid melting** is obtained. The three thin cores guarantee that the flux will not run out: so there is always flux present for the next joint. Ersin Multicore Solder is **easy to use**—and provides just that extra rapidity which guarantees precision soldering and economy of operation.

Speedy high-precision soldering can easily be done with a **lighter** soldering iron—and with **less heat.** Even highly oxidized components can be soldered satisfactorily.

In Ersin Flux the protective qualities of rosin are **preserved.** Joints made with Ersin Multicore **will not corrode** even after prolonged exposure to any degree of humidity.

Every reel of Ersin Multicore is **clearly marked** both as to Gauge and Alloy, showing the actual content of Tin and Lead. You know what you are getting when you buy Ersin Multicore Solder! Multicore costs a fraction more initially, but is most economical in the long run.

Try it today!

Ersin Multicore Solder is available in these Tin/Lead alloys: 40/60, 45/55, 60/40 and in standard wire gauge from 10 to 22. (14, 16 and 18 s.w.g. are most popular).

Ersin Multicore is the answer for those who seek the finest Cored Solder in the World!

ERSIN MULTICORE

The Solder containing 3 cores of extra active non-corrosive flux giving high speed soldering.

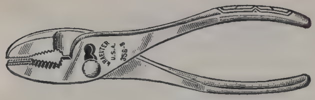
BRITISH INDUSTRIES CORP.

315 Broadway - New York 7, N. Y.

KRAEUTER & COMPANY, INC.
NEWARK, NEW JERSEY, U.S.A.

KRAEUTER

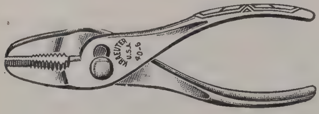
The choice of skilled mechanics



"GRIPTITE" COMBINATION PLIERS

The finest quality combination pliers. Designed for heavy duty. Slightly tapered nose, sharp deep milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The 8" and 10" sizes have three slip joint adjustments which give a wide range of parallel grips.

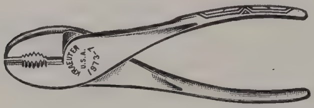
No.	Length	Finish	Wt. per doz.	Price Each
356	5½ in.	Full Nickel	3½ lbs.	$1.25
356	6 in.	Full Nickel	5¼ lbs.	1.35
356	8 in.	Full Nickel	8¾ lbs.	1.65
356	10 in.	Full Nickel	14 lbs.	2.25



THIN NOSE COMBINATION PLIERS

The tapered jaws and thin nose of these pliers enable the mechanic to grip objects difficult to reach in tight, narrow working spaces. Knurled handles, milled gripping teeth and wire cutters.

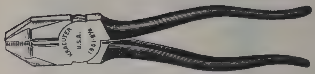
No.	Length	Finish	Wt. per doz.	Price Each
40	5 in.	Nickel Plated	2¼ lbs.	$
40	6 in.	Nickel Plated	4¼ lbs.	1.10



MECHANICS' SIDE CUTTING PLIERS

Gripping pliers with side cutters and solid joint. Tapered nose, milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The cutters are very handy for light wire work.

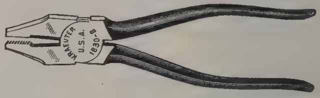
No.	Length	Finish	Wt. per doz.	Price Each
1973	5½ in.	Full Nickel	3½ lbs.	$2.00
1973	7 in.	Full nickel	7¼ lbs.	2.50



LINEMEN'S SIDE CUTTING PLIERS

Designed for heavy work to meet the requirements of linemen. Drop forged from selected plier steel, skilfully hardened and tempered. Powerful wire cutters, a well balanced head and deep milled gripping jaw surface for holding and bending wire.

No.	Length	Finish	Wt. per doz.	Price Each
1801	6 in.	Blue Temper	5¼ lbs.	$2.10
1801	7 in.	Blue Temper	7½ lbs.	2.40
1801	8½ in.	Blue Temper	11¼ lbs.	3.00

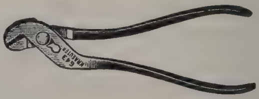


ELECTRICIANS' SIDE CUTTING PLIERS

Used extensively in electric wiring of fixtures, appliances and other general repair work.

Very popular with mechanics on production work where electric wiring is required in the finished product.

No.	Length	Finish	Wt. per doz.	Price Each
1830	4 in.	Blue Temper	1½ lbs.	$1.50
1830	5 in.	Blue Temper	2¼ lbs	1.60
1830	6½ in.	Blue Temper	4¾ lbs.	1.75
1830	7 in.	Blue Temper	6¾ lbs.	1.95
1830	8 in.	Blue Temper	8¼ lbs.	2.25



IGNITION PLIERS

Very narrow head, serrated gripping teeth and well shaped handle grips. Three slip joint positions. Generally used on distributor, generator, magneto and carburetor work.

No.	Length	Finish	Wt. per doz.	Price Each
643	5 in.	Blue Temper	1 lb.	$1.35

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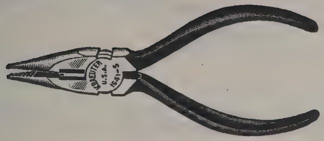
KRAEUTER & COMPANY, INC. NEWARK, NEW JERSEY, U.S.A.

KRAEUTER

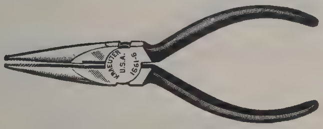
The choice of skilled mechanics



SHORT CHAIN NEEDLE NOSE PLIERS

Short tapered jaws for bending and looping wire. The short nose gives these pliers extra leverage and gripping strength. Used for wiring switches and other open electric work.

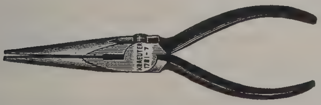
No.	Length	Finish	Wt. per doz.	Price Each
1641	5 in.	Blue Temper	2¾ lbs.	$1.85
1643	Same without Cutter		2¾ lbs.	1.50



LONG CHAIN NEEDLE NOSE PLIERS

Long tapered jaws and needle nose. Used extensively in all industries . . . from switchboard, electric fixture and appliance wiring . . . to motor ignition, aviation and general manufacturing work.

No.	Length	Finish	Wt. per doz.	Price Each
1661	6 in.	Blue Temper	3½ lbs.	$1.95
1671	Same without Cutter		3½ lbs.	1.60

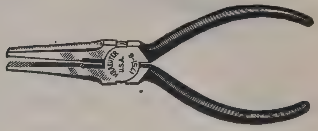


EXTRA LONG CHAIN NOSE PLIERS

Extra long tapered jaws with narrow pointed nose. Used extensively in automotive . . . electric . . . aviation and general production and repair work.

Length of jaw 2¾ in.

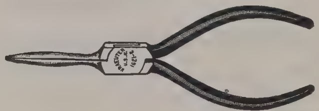
No.	Length	Finish	Wt. per doz.	Price Each
1781	7 in.	Blue Temper	3¾ lbs.	$2.35
1771	Same without Cutter		3¾ lbs.	2.15



LONG FLAT NOSE PLIERS

Adaptable to many uses where a tool with long flat sturdy jaws is required. Jaws are scored to give a good gripping and holding surface.

No.	Length	Finish	Wt. per doz.	Price Each
1751	6 in.	Blue Temper	3 lbs.	$2.15
1741	Same without Cutter		3 lbs.	1.90

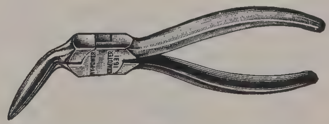


LONG NEEDLE OR SNIPE NOSE PLIERS

Especially designed for difficult and awkward jobs where no other tool will serve. The long slender jaws make it adaptable to many uses. A very popular plier for fine work.

$2\frac{3}{32}$ in. Jaw

No.	Length	Finish	Wt. per doz.	Price Each
1621	6 in.	Blue Temper	2¼ lbs.	$2.00



CURVED NEEDLE OR SNIPE NOSE PLIERS

To reach that place down in under or around an obstruction. Very useful where greater visibility is required in holding small objects at an angle.

No.	Length	Finish	Wt. per doz.	Price Each
1631	5½ in.	Blue Temper	2¼ lbs.	$2.25

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KRAEUTER & COMPANY, INC.
NEWARK, NEW JERSEY, U.S.A.

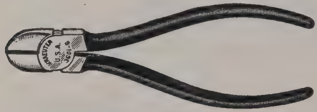
KRAEUTER

The choice of skilled mechanics

DIAGONAL "OBLIQUE" CUTTING PLIERS

Made especially for close cutting. Used extensively in electrical work, radio manufacturing, telephone and automotive ignition work.

No.	Size	Finish	Wt. per doz.	Price Each
4501	4½ in.	Blue Temper	1½ lbs.	$1.60
	5 in.	" "	2¾ lbs.	1.75
	5½ in.	" "	3¼ lbs.	1.90
	6 in.	" "	3¾ lbs.	2.00



SHORT NOSE DIAGONAL CUTTING PLIERS

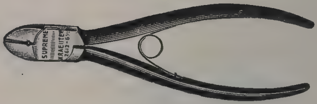
An excellent cotter pin tool. Specially designed with short nose. Very popular with aviation and automotive mechanics.

No.	Size	Finish	Wt. per doz.	Price Each
3601	6	Blue Temper	4½ lbs.	$2.50

"HIGH POWER" DIAGONAL CUTTING PLIERS

This type diagonal plier has the joint very close to the end of the cutter to give added leverage which makes cutting easy. A well balanced tool adaptable to the work in many trades.

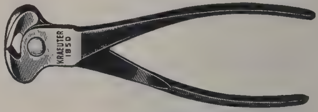
No.	Length	Finish	Wt. per doz.	Price Each
4610	7 in	Blue Temper	5¾ lbs.	$2.10



WIRE STRIPPING DIAGONAL CUTTING PLIERS

Narrow head and notched cutters for stripping fine wire .062 diameter. The spring in the handle makes this a very fast cutting tool. Used by manufacturers of electric fixtures, appliances, radio and radio taubes.

No.	Length	Finish	Wt. per doz.	Price Each
2612	6 in.	Blue Temper	3 lbs.	$2.75



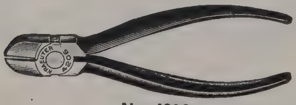
No. 1850

END CUTTING NIPPERS

A strong, easy-cutting single joint nipper. The jaw is compact and the rivet lies close to the edge, affording maximum leverage. A quick-action tool, forged of high-grade tool steel with sharp, enduring cutters.

No.	Length	Finish	Wt. per doz.	Price Each
1850	5 in.	Full Polished	4½ lbs.	$1.85
1850	6 in.	Full Polished	6 lbs.	2.00
1850	7 in.	Full Polished	8 lbs.	2.25
1850	8 in.	Full Polished	10½ lbs.	2.50

NOTE: These pages contain only a partial listing of KRAEUTER Tools. Ask for complete catalog describing the entire extensive KRAEUTER line.
All prices subject to change without notice.



No. 4206

DIAGONAL HARD WIRE CUTTERS

This tool was designed for cutting hardened wire. Will cut up to $\frac{1}{16}$" diameter. Also suitable for general use.

No.	Length	Finish	Wt. per doz.	Price Each
4206	6 in.	Blue Temper	4½ lbs.	$2.50

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KRAEUTER & COMPANY, INC.
NEWARK, NEW JERSEY, U.S.A.

KRAEUTER

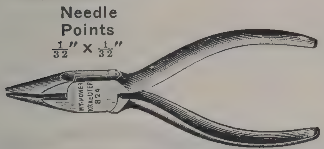
The choice of skilled mechanics

Professional Line

SPECIAL NEEDLE POINT PLIERS

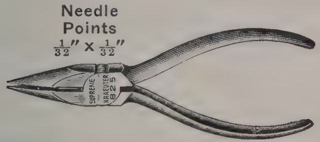
Designed for light fine professional work. The special needle points of these pliers make them invaluable where delicate adjustments have to be made.

(NOSE OF THESE PLIERS NOT GUARANTEED)


Needle Points
1/32" x 1/32"
MY-POWER KRAEUTER 824

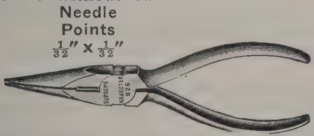
SHORT NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
824	4½ in.	Full Polished	1½ lbs.	$2.25
834	Same without cutter			1.95


Needle Points
1/32" x 1/32"
SUPREME KRAEUTER 825

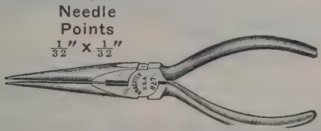
MEDIUM NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
825	5 in.	Full Polished	2¼ lbs.	$2.35
835	Same without cutter			2.10


Needle Points
1/32" x 1/32"
SUPREME KRAEUTER 826

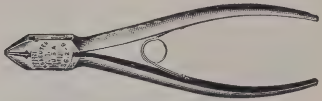
LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
826	6 in.	Full Polished	3 lbs.	$2.45
836	Same without cutter			2.25


Needle Points
1/32" x 1/32"
KRAEUTER U.S.A. 827

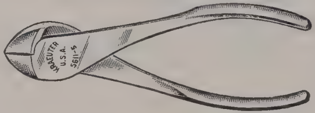
EXTRA LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
827	7 in.	Full Polished	3¾ lbs.	$2.85
837	Same without cutter		3¾ lbs.	2.65


KRAEUTER U.S.A. 5612-6

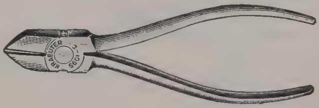
NEEDLE POINT DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
5612	6½ in.	Full Polished (With Stripping Notch)	3 lbs.	$3.25


KRAEUTER U.S.A. 5611-5

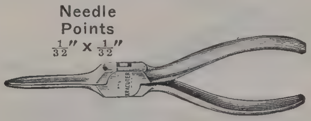
OVAL HEAD DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
5611	5 in	Full Polished	2 ¼ lbs.	$2.75


KRAEUTER U.S.A. 5601-4

NEEDLE POINT DIAGONAL CUTTING PLIERS

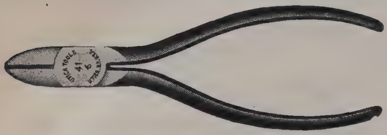
No.	Length	Finish	Wt. per.doz.	Price Each
5601	4½ in.	Full Polished	2 lbs.	$2.25
5601	5 in.	Full Polished	2¾ lbs.	2.50
5601	5½ in.	Full Polished	3¼ lbs.	2.70
5601	6 in.	Full Polished	3¾ lbs.	2.90


Needle Points
1/32" x 1/32"
KRAEUTER

NEEDLE POINT SNIPE NOSE PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
842	6 in.	Full Polished	2¼ lbs.	$2.50

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS . . . . . SEND FOR CATALOG

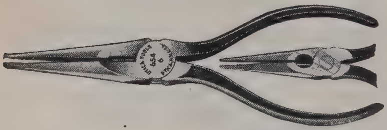


No. 41 • Electricians' Diagonal Pliers—

Hardened and tempered in oil. Special narrow nose for radio and electrical work.

No. 41 .... 5 inches and 6 inches

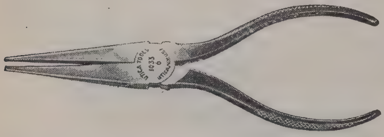
Can be furnished with insulation stripper.



No. 654 • Utica Long Needle Nose Side Cutting Plier

This is a long, fine, spring-tempered nose side cutting plier, drop forged and with hand-honed cutting knives.

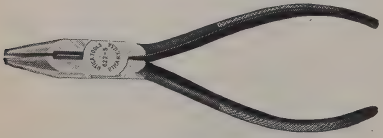
Utica Finish Size ....6 inches



No. 1033 • Utica Long Chain Needle Nose Plier

This is a long needle nose type of plier without a side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.

Utica Finish Size ....6 inches

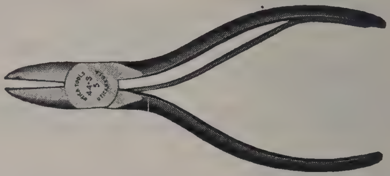


No. 622 • Utica Short Chain Nose Mechanic's Plier

This plier is a Short Chain Nose Side Cutting Plier, hand-honed cutting knives. It makes an all around Electrical Mechanic's plier.

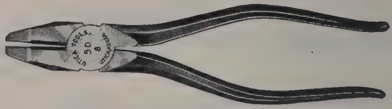
Utica Finish Size .... 5 inches

No. 44S—Special Diagonal Pliers with Spring



A slim nose cutting plier designed especially for radio and electrical work. Extra fine hand honed edges permit nearly flush cuts.

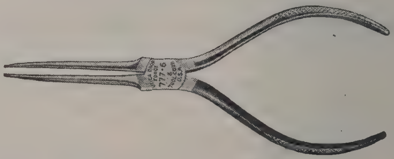
Utica Finish Size .... 5 inches



No. 50 • Utica Standard Side Cutting Plier

An ideal tool for electrical work. Drop forged and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting plier.

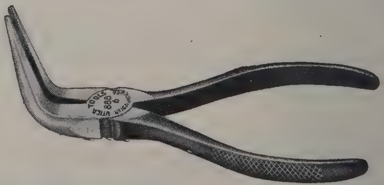
Utica Finish Size .... 5, 6, 7, 8 inches



No. 777 • Utica Long Needle Nose Plier

This plier has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

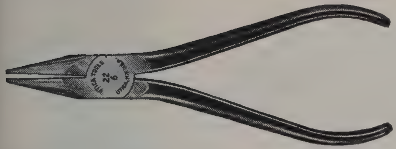
Utica Finish Size ....6 inches



No. 888 • Curved Needle Nose Pliers—

This is a long curved spring-tempered Needle Nose Pleir for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

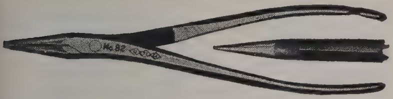
Utica Finish Size ....6 inches



No. 22 • Utica Chain Nose Plier

This is a Short Chain Nose Plier forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

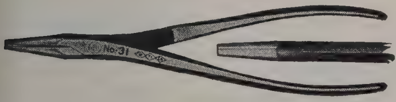
Utica Finish Size ....4, 4½, 5, 6 inches



No. 82 • Utica Chain Nose Wiring Plier

This is a special Radio Repair man's plier, new in design, having a chain nose for those who prefer this type of construction.

Utica Finish Size .... 8 inches



No. 31 • Utica Duck Bill Wiring Pliers

This is the standard type of plier used by all Typewriter Repairmen as well as Assemblers. Forged from high grade steel.

Utica Finish Size .... 8 inches

No. 91 • Thin Adjustable 22½° Angle Wrenches, Alloy Steel

Both the handle and jaw are drop forged from a high grade **Alloy Steel**, hardened and tempered in oil. Will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.

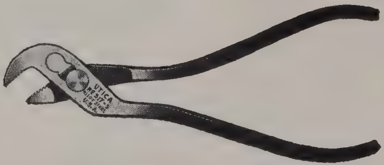
It will give better service and last longer than any other wrench.

Size .... 4, 6, 8, 10, 12 inch

No. 895
Utica Radio Plier

This is a General Radio Repair Man's Plier. It has a center cutter and flat scored nose for looping and bending.

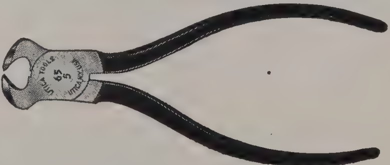
Utica Finish Size ....6 inches



No. 517 Utica Ignition Plier

This ignition Plier with its unique design will fit all ignition units, spring tempered. A great little tool for the hard to get at adjustments.

No. 517 .... 5 inches



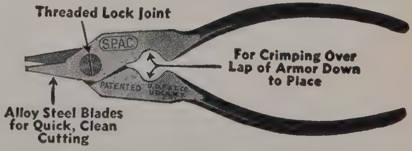
No. 65 • Utica Jeweler's End Cutting Nipper

This Nipper is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nipper, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool.

Utica Finish Size .... 5 inches

No. 100BX • Utica-Smith Pocket Armor Cutters

No. 100BX—Utica-Smith Pocket Armor Cutters 7"
Alloy Steel


Threaded Lock Joint
S.P.A.C.
For Crimping Over Lap of Armor Down to Place
PATENTED
Alloy Steel Blades for Quick, Clean Cutting

The easiest, quickest tool made for cutting armored cable. Fully illustrated instructions packed with each tool.

Utica Finish Size .... 7 inches

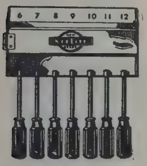
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

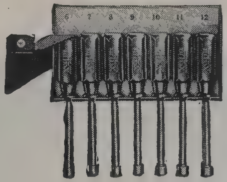
Quality XCELITE Tools

XceLite NUT DRIVERS



READY FOR QUICK WORK

Here's how to arrange Xcelite Nut Drivers—up side down—in the holder for maximum convenience and efficiency.



DELUXE SET IN HANDY HOLDER . . .

Handles of Different colors to Indicate Size. (Pat. App'd For).

● A great set of tools—and a great time-saver. Each nut driver has a different colored handle to show at a glance its size—no fumbling—no squinting to read printed sizes. Handles are made of special plastic which is shatter-proof, shock-proof, fire proof. Shafts and sockets of high carbon steel, case hardened by special process insuring extreme depth of case. Sockets are precision formed, deep enough to handle two nuts.

Attractive, green finished, metal tool holder (Pat. App'd For) has two screw holes for attaching, and lock bar which covers the nut holders (and the attachment screws) and has eyelets for padlock. Over-all size of tool holder and nut drivers, 7½" x 7¼" x 1¼". List, complete set with holder..$6.50

Color of Handles	Number	Nut Size	List Price
Black..............	6	3/16"	$0.80
Brown..............	7	7/32"	.80
Red..............	8	¼"	.80
Orange..............	9	9/32"	.80
Yellow..............	10	5/16"	.80
Green..............	11	11/32"	.80
Blue..............	12	⅜"	.80

No. 10 DISPLAY — This Display consists of 10 screwdrivers with 5/32" blades in assorted lengths of 3", 4" and 5" all mounted on a very attractive metal display.

List Price, Complete $6.35

List Price, ea. S.D. .. .60

No. 12 DISPLAY — Radio and Ignition Screwdrivers come complete with Pocket Klips assorted with 2", 3" and 4" blades in the popular ⅛" diameter size. Packed 12 on an attractive metal display.

List Price, Complete..$3.95

List Price, ea. S.D..... .30

No. 332 Display—Same as No. 12 except diameter of blades is 3/32". Fits screws on knobs of midget sets; also for fine instrument work. List Price, Complete....$3.95 List Price, ea. S.D......30

No. 24 DISPLAY—The popular XceLite pocket screwdriver (another original XceLite introduction) has a ⅛" diameter chrome plated blade 2" in length. Comes 24 on an attractive metal display.

List Price, Complete ....$7.60 List Price, ea. S.D. $0.30

PHILLIPS SCREWDRIVERS

XceLite Handles — Alloy Steel Blades

Cat. No.	Description Blade	No. in Box	Weight per box	List Price
X-101	3/16" diam., 3" length	10	1¼ lb.	$0.95
X-102	¼" diam., 4" length	10	2 lb.	1.35
X-103	5/16" diam., 6" length	10	3½ lb.	1.85
X-104	⅜" diam., 8" length	10	5 lb.	2.05
SSX-101	3/16" diam., Stubby	10	⅞ lb.	.90
SSX-102	¼" diam., Stubby	10	2 lb.	1.00

PHILLIPS SCREWDRIVERS — Wooden Handles

P 101	3/16" diam., 3" length	10	⅞ lb.	$0.70
P-102	¼" diam., 4" length	10	2 lb.	.70
P-103	5/16" diam., 6" length	10	3¼ lb.	.85
P-104	⅜" diam., 8" length	10	6¼ lb.	1.10
SP-101	3/16" diam., Stubby	10	½ lb.	.70
SP-102	¼" diam., Stubby	10	2 lb.	.70

XCELITE SHOCKLESS SCREWDRIVERS

Complete Xcelite Screwdriver Prist Lists

Square Blades

Number	Size Blade	List	Weight Box of 10	
S-183	⅛"x 3"	$ .45	½ lb.	
S-184	⅛"x 4"	.45	½ lb.	
S-185	⅛"x 5"	.45	½ lb.	
†SH-183	⅛"x 3"	.60	½ lb	
†SH-184	⅛"x 4"	.60	½ lb.	
†SH-185	⅛"x 5"	.60	½ lb.	
S-3163	3/16"x 3"	.75	1¾ lb.	
S-3164	3/16"x 4"	.80	1¾ lb.	
S-3166	3/16"x 6"	.90	2 lb.	
S-3168	3/16"x 8"	.95	2 lb.	
S-31610	3/16"x10"	1.05	2¼ lb.	
S-142	¼"x 2"	.90	1¾ lb.	
S-144	¼"x 4"	.95	2 lb.	
S-146	¼"x 6"	1.00	2½ lb.	
S-148	¼"x 8"	1.10	3 lb.	
S-5162	5/16"x 2"	.95	2 lb.	
S-5166	5/16"x 6"	1.20	3¾ lb.	
S-5168	5/16"x 8"	1.30	4¼ lb.	
S-51610	5/16"x10"	1.40	4¾ lb.	
S388	⅜"x 8"	1.75	6 lb.	
S-3812	⅜"x12"	2.45	4¾ lb.	5 in box
S-7166	7/16"x 6"	2.05	3¾ lb.	
S-71612	7/16"x12"	2.55	5¼ lb.	
S-71618	7/16"x18"	2.80	6¾ lb.	

Stubbies

S-3161	3/16"x 1"	.55	¾ lb.
S-141	¼"x 1"	.65	1¼ lb.
S-5161	5/16"x 1"	.65	¼ lb.

Large double-grip handles.

†Screwholding type used on SH-12 Display.

Round Blades

Number	Size Blade	List	Weight Box of 10	
*R-3322	3/32"x 2"	$ .30	½ lb.	4 ea. on 332 Display
*R-3323	3/32"x 3"	.30	½ lb.	
*R-3324	3/32"x 4"	.30	½ lb.	4 ea. used on #12 Display
**R-181	⅛"x 2"	.30	½ lb.	
*R-183	⅛"x 3"	.30	½ lb.	
*R-184½	⅛"x 4"	.30	½ lb.	
††R-184	⅛"x 4"	.50	½ lb.	
††R-186	⅛"x 6"	.55	¾ lb.	
††R-188	⅛"x 8"	.60	1 lb.	
††R-1810	⅛"x10"	.65	1 lb.	
R-5323	5/32"x 3"	.60	1 lb.	
R-5324	5/32"x 4"	.60	1 lb.	3 ea. on #10 Display
R-5325	5/32"x 5"	.60	1 lb.	
R-5328	5/32"x 8"	.70	1¼ lb.	
R-3163	3/16"x 3"	.70	1½ lb.	
R-3164	3/16"x 4"	.75	1½ lb.	
R-3166	3/16"x 6"	.85	1¾ lb.	
R-3168	3/16"x 8"	.90	1¾ lb.	
R-31610	3/16"x10"	1.00	2 lb.	
R-144	¼"x 4"	.90	2 lb.	
R-146	¼"x 6"	.95	2¼ lb.	
R-148	¼"x 8"	1.05	2½ lb.	
R-5166	5/16"x 6"	1.15	3½ lb.	
R-5168	5/16"x 8"	1.25	4 lb.	

**24 of this number used on #24 display.

*These numbers have ½" dia. handles.

††These numbers have ⅝" dia. handles. For insulated blades any size in round list add 25 cents to list price.

There's an XceLite Screwdriver ' sized" to fit every job.

Note: We have standardized our packages on the decimal system instead of in dozen, in accordance with Government practice. All screwdrivers and nut drivers will be packed ten in a box, except where otherwise noted (excptions are large sizes or slow moving items). Weights given above are correct to the nearest quarter-pound limit.

Quality XCELITE *Tools*

XCELITE NUT DRIVERS

(Fire Resistant Handles)

Deep hex. sockets capable of handling two nuts are truly formed and entirely free from burrs—tempered and finished, handles of genuine amber XceLite are shockproof, breakproof and comfortable. Can be furnished with fully insulated shank if desired. Display stand holds 7 popular sizes either 6″ or 9″ long overall. Can also be furnished with 5 wrenches.

Nut Size	No. and Length	List Price	No. and Length	List Price
3/16″	No. 6—6″	$0.75	No. A 6—9″	$0.85
7/32″	No. 7—6″	.75	No. A 7—9″	.85
1/4″	No. 8—6″	.75	No. A 8—9″	.85
9/32″	No. 9—6″	.75	No. A 9—9″	.85
5/16″	No. 10—6″	.75	No. A10—9″	.85
11/32″	No. 11—6″	.75	No. A11—9″	.85
3/8″	No. 12—6″	.75	No. A12—9″	.85
7/16″	No. 14—6½″	.95	No. A14—9″	1.00
1/2″	No. 16—6½″	.95	No. A16—9″	1.00

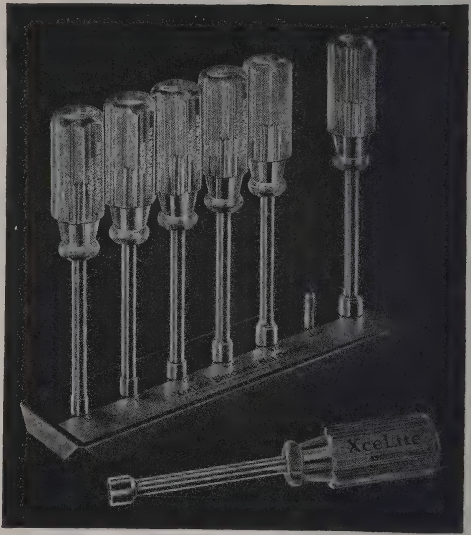
Average weight 2 lbs. per dozen

NOTE

For insulated shankes on No. 6 thru 16................$0.20 list extra
For insulated shanks on A6 thru A16...................25 list extra

NUT DRIVER DISPLAYS

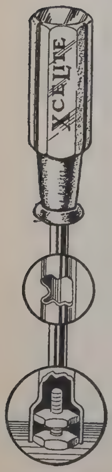
No.		List Price
15	—Nut Driver Display complete with 5 wrenches Nos. 6, 8, 10, 11, 12	$4.05
17	—Nut Driver Display complete with 7 wrenches No. 6 to No. 12	5.60
15	—Display Rack only (holds 5 wrenches)	.30
17	—Display Rack only (holds 7 wrenches)	.35



No. 17—Nut Driver Display

HOLLOW SHAFT NUT DRIVERS

(Fire Resistant Handles)



This unique, time-saving tool was especially designed for general electrical and radio work. In radio, it is primarily useful in installing and removing volume control and other panel equipment. The nut is readily lightened or loosened without damage to the panel. On telephone or power switchboards, the Hollow Shaft Nut Driver is especially useful where nuts must be installed or removed over long protruding bolts or studs — made with or without insulated shafts. The former for use with high voltage work. Shafts insulated for protection up to 1000 volts; handles to 5000 volts.

Nut Size	Depth of Hole	No. and Length Overall	Weight per Box	List	Insulated List
5/16″	2¼″	HS-10 6″	1 lbs.	$0.90	$1.15
11/32″	2¼″	HS-11 6″	1 lbs.	.90	1.15
⅜″	5″	HS-12 6″	1 lbs.	1.15	1.40
7/16″	5″	HS-14 6″	1¼ lbs.	1.20	1.45
½″	5″	HS-16 6″	1½ lbs.	1.25	1.50
9/16″	5″	HS-18 6″	1⅜ lbs.	1.30	1.55
⅝″	5″	HS-20 7″	1⅞ lbs.	1.50	1.75

STUBBY NUT DRIVERS

These tools have all the features of the regular XCELITE Nut Drivers, plus the advantage of a short shank for working in close or difficult quarters where a powerful grip is required. The Stubby Nut Driver is a mighty practical tool for installing car radios, working around carburetors, fuel pumps, shock absorbers, etc. Made in ¼″, 5/16″, and ⅜″ sizes, with extra-deep hexagon sockets to handle two nuts at once.

Sockets are truly formed and free of burrs. They are tempered and fully finished. Handles are genuine shockproof XceLite.

Handle, 1¼″ diameter

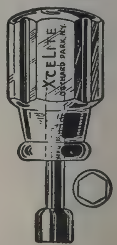
Overall Length 3¼″

Shaft, 1¼″ hollow

Weight per doz., 1½ lbs.

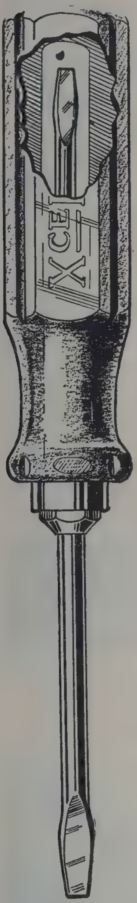
List Price

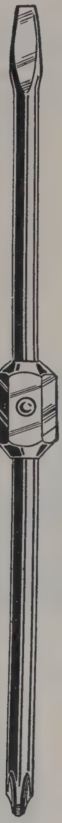
$0.70

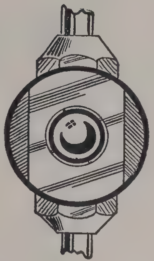


SUBJECT TO CHANGE WITHOUT NOTICE

Quality XCELITE Tools

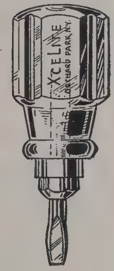






BALL FASTENER

STUBBY TYPE



XCELITE "*Combination Detachable*" SCREWDRIVER

Here's convenience — and saving — combined in a mighty unique and useful tool. The XCELITE Combination Detachable Screwdriver has a genuine XceLite Shockless Handle, hollow to receive the dual-blade screwdriver units listed below. With this practical XceLite handle and, for example, a No. 2 Phillips blade on one end and a ¼″ XceLite blade on the other, you have **two** screwdrivers for just about the price of one! What's more, you can buy blades of other sizes to fit the same handle. Note the unique ball fastener on the blade. This holds the screwdriver unit securely in place—yet readily slips out when desired.

BLADE COMBINATIONS

(Order by Number

No. 1—No. 1 Phillips and $\frac{3}{16}$″ XceLite
No. 2—No. 2 Phillips and ¼″ XceLite
No. 3—No. 3 Phillips and $\frac{5}{16}$″ XceLite

STUBBY TYPE (overall length 3″)

No. S-1 Stubby—No. 1 Phillips and ⅛″ XceLite
No. S-2 Stubby—No. 2 Phillips and ¼″ XceLite

PRICES

	Regular List	Stubby List
Complete	1.60	$1.30
Extra Handles	.75	.65
Extra Blades	.90	.65

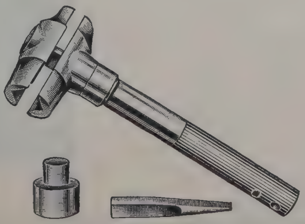
6" XCEL Adjustable SOCKET WRENCH (with Attachments)

A whole set of tools in one! Fits any size nut, hexagon or square, round or odd shaped, from ⅛″ to 1″.

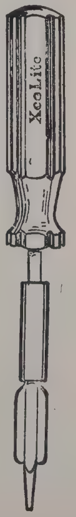
List Price,

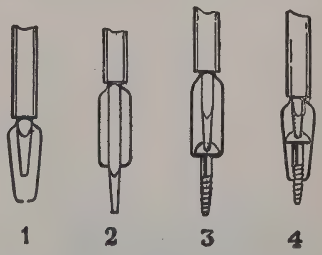
Individually boxed, packed 6 to a self-selling display carton.

Weight, 6 lbs.



SCREW-HOLDING SCREWDRIVER





The XceLite Screw-Holding Screw Driver is a tool for which electricians, radio men and mechanics everywhere have long searched. It is a genuine XceLite product with a unique attachment that instantly and rigidly holds and starts **any** screw, even one without a head. Spring holder remains in place either above, below or exactly at the driver point. Grasps the screw at the head or ⅜″ below giving three point suspension for greater rigidity. Can also be used for removing screws. Comes in ⅛″ square blade, 3″, 4″ and 5″. Packed 12 assorted lengths on metal display.

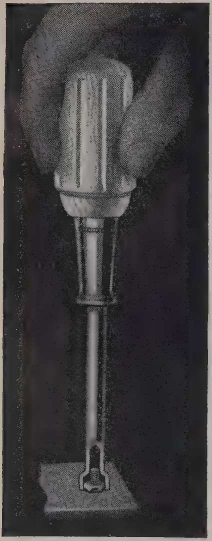
	List
Display, complete	**$7.60**
Refills each	**.60**

WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.

THE ORIGINAL SPINTITE
(TRADE MARK REGISTERED)
WRENCHES

REGULAR SPINTITES

THE ORIGINAL SPINTITE WRENCH



Works like a screwdriver—features cold forged sockets, drilled shanks, special tool steel, hardened and tempered ferrules and shanks are bright plated and the hardwood handles have natural rubbed finish.

Number	Size	Length	Nut Size	List Price
3406	3/16	6″	2 & 3	$0.65
3407	7/32	6″		.65
3408	¼	6″	4	.65
3409	9/32	6″		.65
3410	5/16	6″	5 & 6	.65
3411	11/32	6″	8	.65
3412	⅜	6″	10	.65
3414	7/16	7⅛″	12 & ¼	.90
3416	½	7⅛″		.90
3418	9/16	7⅛″	5/16	1.60
3420	⅝	7⅛″	⅜	1.60

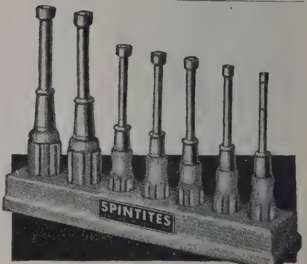
T-73 SET

Set of popular sizes in wood stand.

CONTENTS:

3406	3412
3408	3414
3410	3416
3411	Wood Stand

List Price $5.75



DELUXE SPINTITES

For the mechanic who appreciates fine tools we offer these shining Spintites with transparent shockproof handles.

Number	Size	Length	Nut Size	List Price
3906	3/16	6″	2 & 3	$0.90
3907	7/32	6″		.90
3908	¼	6″	4	.90
3909	9/32	6″		.90
3910	5/16	6″	5 & 6	.90
3911	11/32	6″	8	.90
3912	⅜	6″	10	.90
3914	7/16	7⅛″	12 & ¼	1.10
3916	½	7⅛″		1.10
3918	9/16	7⅛″	5/16	1.90
3920		7⅛″	⅜	1.90

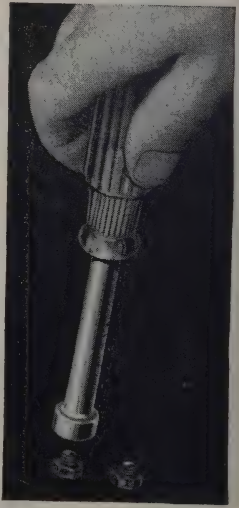
T-8 SET

Just right for a place on the mechanic's bench. Seven popular sizes.

CONTENTS:

3906	3912
3908	3914
3910	3916
3911	Wood Stand

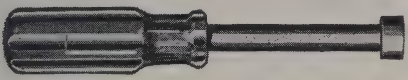
List Price $7.15



ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

THE ORIGINAL SPINTITE
(TRADE MARK REGISTERED)
WRENCHES

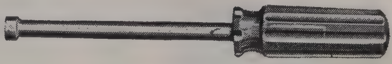
WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.



SUPER DELUXE SPINTITES

For panel or switchboard work where long protruding shafts or studs are encountered, these deep drilled and deep sockets are required. Beautifully plated and finished.

Number	Size	Length	Drill Depth	List Price
3006	3/16	6″	2¼″	$1.00
3007	7/32	6″	2¼″	1.00
3008	¼	6″	2¼″	1.00
3009	9/32	6″	2¼″	1.00
3010	5/16	6″	2¼″	1.00
3011	11/32	6″	2¼″	1.00
3012	⅜	6⅝″	5⅛″	1.00
3014	7/16	6⅝″	5⅛″	1.20
3016	½	6⅝″	5⅛″	1.20
3018	9/16	6⅝″	5⅛″	1.20



JUMBO SPINTITES

A rugged special Spintite for use on all types of hardened or self tapping cap screws. Shanks and sockets are made of alloy tool steel with a very high degree of hardness. Plastic grip is oversize for greater leverage. Depth of broach is less than thickness of screw heads to prevent marring panels.

Number	Size	Length	Handle Size	List Price
3058	¼	8½″	1⅛″	$2.75
3059	9/32	8½″	1⅛″	2.75
3062	⅜	8½″	1⅛″	2.75
3066	½	8½″	1⅛″	4.25
3068	9/16	8½″	1⅛″	4.25

WALDEN WORCESTER SCREWDRIVERS

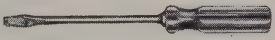
SQUARE SHANK SCREWDRIVER
Plastic Handle

Number	Size	List Price
SS4	4 x ¼	$1.20
SS6	6 x 5/16	1.65
SS8	8 x ⅜	2.05
SS12	12 x ⅜	2.45

CROSSPOINT SCREWDRIVER
Wood Handle

Number	Size	List Price
SC3	3 x 9/64	$0.75
SC4	4 x ¼	.75
SC6	6 x 5/16	.95
SC8	8 x ⅜	1.30

ROUND SHANK SCREWDRIVER
Plastic Handle



Number	Size	List Price
SM2	2¼ x ⅛	$0.40
SR3	3 x 3/16	.90
SR4	4 x ¼	1.20
SR6	6 x 5/16	1.55
SR6A	6 x 3/16	1.15
SR8	8 x ⅜	2.00
SR12	12 x ⅜	2.30

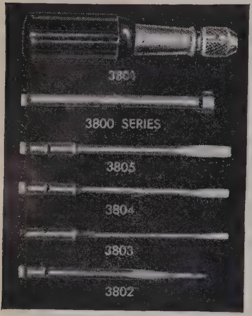
STUBBY SCREWDRIVER
Plastic Handle

Number	Size	List Price
SS2	1½ x ¼	$0.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

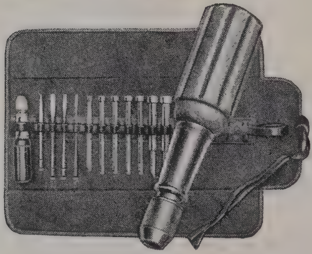
WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.

THE ORIGINAL SPINTITE
(TRADE MARK REGISTERED)
WRENCHES



CHUCK TYPE SPINTITES

Number	Description	Size	Length	Nut Size	List Price
3801	Universal Handle				$1.40
3802	Ream Awl	1/16 to 3/16	4⅝		.65
3803	Screwdriver	⅛ x 4	4⅝		.65
3804	Screwdriver	3/16 x 4	4⅝		.65
3805	Screwdriver	¼ x 4	4⅝		.65
3806	Spintite Shank	3/16	4 7/16	2 & 3	.45
3808	Spintite Shank	¼	4⅝	4	.45
3810	Spintite Shank	5/16	4⅝	5 & 6	.45
3811	Spintite Shank	11/32	4⅝	8	.45
3812	Spintite Shank	⅜	4⅝	10	.45
3814	Spintite Shank	7/16	4¾	12 & ¼	.65
3816	Spintite Shank	½	4¾		.65
3850	Screwdriver, Cross Point	No. 2	4⅝		.90
3852	Four way Neutralizing Tool	5	5		1.20



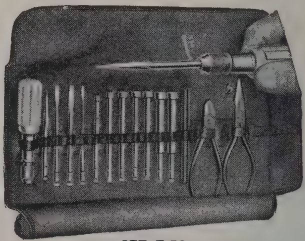
SET T-51

CONTENTS

3801	3805	3811
3802	3806	3812
3803	3808	3814
3804	3810	3816

in Leatherette Roll

List Price $8.50



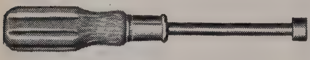
SET T-52

CONTENTS

3801	3805	3811
3802	3806	3812
3804	3810	3816

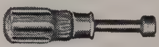
6" Long Nose Pliers
6" Cutting Pliers

List Price $14.00



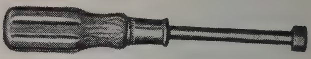
SQUARE SPINTITES

No.	Size	List	No.	Size	List
3505	5/32	$0.90	3511	11/32	$1.10
3506	3/16	.90	3512	⅜	1.10
3507	7/32	.90	3513	13/32	1.35
3508	¼	.90	3514	7/16	1.35
3509	9/32	.90	3516	½	1.65
3510	5/16	.90	3520	⅝	1.65



STUBBY SPINTITES

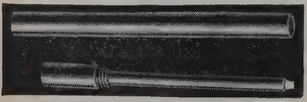
No.	Size	List	No.	Size	List
4406	3/16	$0.65	4411	11/32	$0.65
4407	7/32	.65	4412	⅜	.65
4408	¼	.65	4414	7/16	.90
4409	9/32	.65	4416	½	.90
4410	5/16	.65			



KNURLED SPINTITES

Tapered knurls to take care of variations in size.

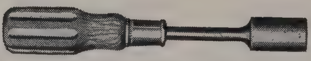
Number	Diameter	List Price
3710	5/16	$1.35
3711	11/32	1.45
3712	⅜	1.65



FOUR-IN-ONE NEUTRALIZING AND ALIGNING TOOL

Made entirely of shock-proof plastic this tool has wrenches on each end, key slot, and screwdriver tip.

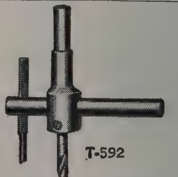
3850 .... List Price $1.20



SPECIAL SPINTITE FOR BAT TYPE SWITCHES

Deep cavity accommodates bat handle, fine knurl is tapered to adjust for variations in knurled rings.

6337 .... List Price $2.50



PANEL CUTTERS

	List Price
T-564—For Bit Brace	$4.80
T-592—For Drill Chuck	3.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

V A C O

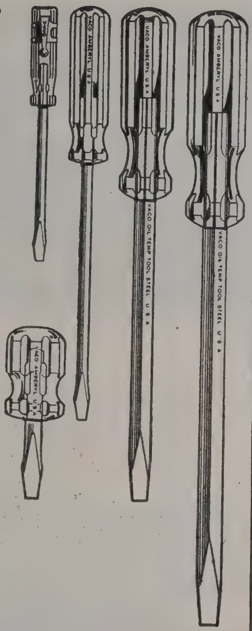
AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

DEEP GROOVE SURE GRIP HANDLES — ALLOY STEEL BLADES — FULLY GUARANTEED

AMBERYL "*Lifetime*" TOOL STEEL SCREW DRIVERS

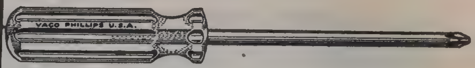
The finest tool steel blades, heat treated to give long hard service—FULLY GUARANTEED.

Stock No.	Blade Size	Style	List each	Dealer each
A116–	2″–.0925x2	Pocket Clip		
A116–	3″–.0925x3	Pocket Clip		
A116–	4″–.0925x4	Pocket Clip		
A130–	2″– ⅛x2	Pocket Clip		
A130–	3″– ⅛x2	Pocket Clip		
A130–	4″– ⅛x3	Pocket Clip		
A132–	1¼″– ¼x1¼	Stub		
A216R–	4″– ⅛x4	Narrow Bit		
A216R–	6″– ⅛x6	Narrow Bit		
A216R–	8″– ⅛x6	Narrow Bit		
A216R–	10″– ⅛x10	Narrow Bit		
A316R–	3″–3/16x3	Round Blade		
A316R–	4″–3/16x4	Round Blade		
A316R–	5″–3/16x5	Round Blade		
A316R–	6″–3/16x6	Round Blade		
A316R–	8″–3/16x8	Round Blade		
A316S–	4″–3/16x4	Square "		
A316S–	6″–3/16x6	Square "		
A316S–	8″–3/16x8	Square "		
A416R–	4″– ¼x4	Round Blade		
A416R–	5″– ¼x5	Round Blade		
A416R–	6″– ¼x6	Round Blade		
A416R–	8″– ¼x8	Round Blade		
A416S–	4″– ¼x4	Square "		
A416S–	6″– ¼x6	Square "		
A416S–	8″– ¼x8	Square "		
A516R–	6″–5/16x6	Round Blade		
A516R–	8″–5/16x8	Round Blade		
A516R–	10″–5/16x10	Round Blade		
A516S–	6″–5/16x6	Square "		
A516S–	8″–5/16x8	Square "		
A516S–	10″–5/16x10	Square "		


VACO AMBERYL U.S.A.
VACO OIL TEMP TOOL STEEL U.S.A.

AMBERYL PHILLIPS—HIGH CARBON STEEL BLADE

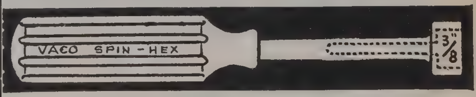
The increasing use of Phillips self-centering screws in radio assembly make a full kit of Vaco Phillips screw drivers a necessity.


VACO PHILLIPS U.S.A.

Stock No.	Size Blade (″)	Point No.	Overall Length (″)	List Each	Dealer Each
P10	5/32x3	1	5½	$.80	$.53
P20	¼x4¾	2	8½	.95	.63
P30	5/16x6	3	10	1.25	.83
P40	⅜x8	4	12	1.70	1.13
P50	¼x1½ Stub	2	3	.90	.60
P60	5/32x1¼ Stub	1	3	.85	.57
P111	5/32x1¼ Pocket Clip	1	3½	.70	.47
P122	5/32x3¼ Pocket Clip	1	5½	.75	.50

AMBERYL SPIN - HEX NUT DRIVERS

Deep drilled shafts—Thin wall Hex. Flat faced for close work.


VACO SPIN - HEX
3/8"

Stock No.	Size (″)	Overall Length (″)	List Each	Dealer Each
S6	3/16	6		
S8	¼	6		
S9	9/32	6		
S10	5/16	6		
S11	11/[illegible]	6		
S12	⅜	6		
S14	7/16	6		
S16	½	6		

VOLUME CONTROL SIZES—*Hollow Shaft Throughout*

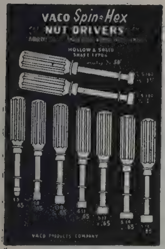
Stock No.	Size (″)	Overall Length (″)	List Each	Dealer Each
S160	½	7		
S180	9/16	7		

FOR 3/32" SQUARE SET SCREWS

Stock No.	Size (″)	Overall Length (″)	List Each	Dealer Each
S3	3/32 Square	6	.75	.50

VACO CARDED DISPLAY UNITS

No. S90
SPIN-HEX NUT DRIVER DISPLAY UNIT

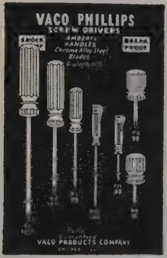

VACO Spin-Hex
NUT DRIVERS
HOLLOW & SOLID SHAFT TYPES
VACO PRODUCTS COMPANY

Contains One Each
SPIN-HEX
3/16″, ¼″, 5/16″, 11/32″, ⅜″, 7/16″, ½″
and one each Volume Control 7/16″ and ½″

Heavy easel back board keeps each size in its place.

List each ....
Dealer each ....

No. PC260
PHILLIPS CARBON STEEL DISPLAY UNIT

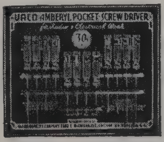

VACO PHILLIPS
SCREW DRIVERS
AMBERYL HANDLES
Chrome Alloy Steel Blades
SHOCK
BREAK PROOF
Fully Guaranteed
VACO PRODUCTS COMPANY
CHICAGO

Contains One Each
PHILLIPS High Carbon
Nos. P10, P20, P30, P50, P60, P111, P122

Display these to your customers. Also keep one unit on your bench.

List each ....
Dealer each ....

No. A1116
EXTRA THIN BLADE POCKET CLIP SCREW DRIVERS


VACO AMBERYL POCKET SCREW DRIVER
30

Contains One Dozen
Assorted Lengths

No. 116 Radio Pocket Clip Screw Drivers. Blade Dia. .0925. Bit Width .0825.

Extra long Amberyl Handle clipped at top, very popular and useful. Contains 4 each 2″, 3″ and 4″ lengths on display board.

List per unit of 12...
Dealer per unit of 12..

No. A238
1/8" SQUARE BLADE HEX VACOLITE HANDLE, POCKET CLIP SCREW DRIVER

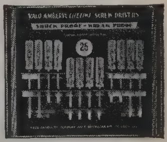
VACOLITE
SHOCK and BREAK PROOF
Pocket Clip
SCREW DRIVERS
GUARANTEED
VACO PRODUCTS COMPANY

Contains One Dozen

2″ square blade Shock and Break Proof hexagon Vacolite handle with pocket clip. A tough strong rust proofed blade. A very popular driver—low in price but high in quality.

List per card..............
Dealer per card............

No. A138
1/8" ROUND BLADE NARROW BIT AMERYL HANDLE POCKET SCREW DRIVER


VACO AMBERYL Lifetime SCREW DRIVERS
SHOCK PROOF - BREAK PROOF
25

Contains One Dozen
Assorted Lengths

⅛″ blade, narrow cabinet point. Board holds 4 each: 2″, 3″ and 4″ lengths. ½″ grooved handle, Shock and Break Proof, Rust Proofed Blades.

List per card........
Dealer per card.......

VACO

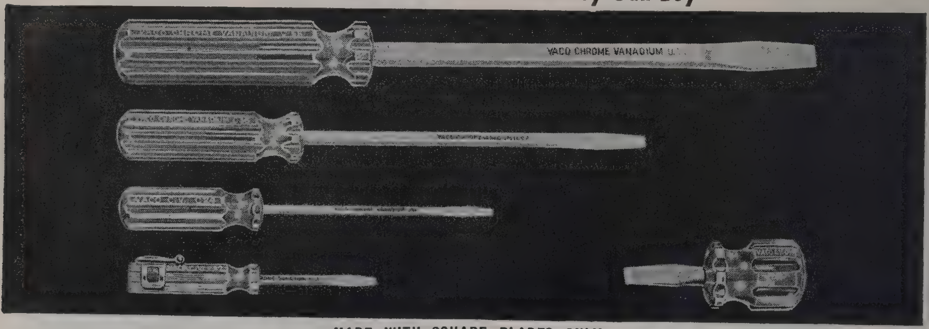
AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

DEEP GROOVE SURE GRIP HANDLES — ALLOY STEEL BLADES — FULLY GUARANTEED

VACO HAND FORGED—CHROME VANADIUM STEEL SCREW DRIVERS

AMBERYL HANDLES, Long Tapered Hand Shaped Bits

"The Finest Screw Driver Money Can Buy"


VACO CHROME VANADIUM U.

MADE WITH SQUARE BLADES ONLY

THIN BLADE RADIO STOCK SIZES

Stock No.	Size of Blade (″)		List each	Dealer each
C22	⅛x2	Pocket Clip		
C23	⅛x3	Regular Style		
C24	⅛x4	Regular Style		
C26	⅛x6	Regular Style		
C33	3/16x3	Regular Style		
C34	3/16x4	Regular Style		
C35	3/16x5	Regular Style		
C36	3/16x6	Regular Style		
C38	3/16x8	Regular Style		
C41	¼x1¼	Stubby		
C44	¼x4	Regular Style		
C46	¼x6	Regular Style		
C48	¼x8	Regular Style		

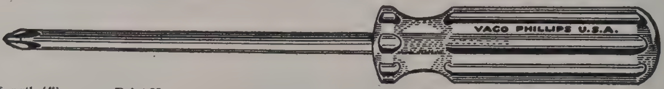
HEAVY DUTY LARGE SIZES

Stock No.	Size of Blade (″)		List each	Dealer each
C410	¼x10	Regular Style		
C54	5/16x4	Regular Style		
C55	5/16x5	Regular Style		
C56	5/16x6	Regular Style		
C58	5/16x8	Regular Style		
C510	5/16x10	Regular Style		
C66	⅜x6	Regular Style		
C68	⅜x8	Regular Style		
C610	⅜x10	Regular Style		
C614	⅜x14	Regular Style		

VACO PHILLIPS CHROME ALLOY SCREW DRIVERS

Cadmium Plated, Rust Proofed Blades

Built for Long Hard Service—Highest Quality—Longest Life


VACO PHILLIPS U.S.A.

Stock No.	Size and Length (″)	Point No.	Overall Length	Takes Screws Numbers	List each	Dealer each
P1	5/32x3	1	5½″	4 and smaller		
P2	¼x4¾	2	8½″	5 to 9		
P3	5/16x6	3	10″	10 to 16		
P4	⅜x8	4	12″	18 and larger		
P5	¼x1¼ Stub	2	3¼″	5 to 9		
P6	5/32x1¼ Stub	1	3¼″	4 and smaller		
P11	5/32x1¾ Pocket Clip		3½″	4 and smaller		
P12	5/32x3¼ Pocket Clip	1	5½″	4 and smaller		

VACO PHILLIPS OFFSET CHROME ALLOY SCREW DRIVER

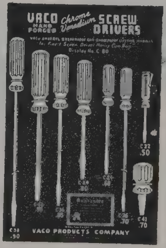
Combination No. 1 Point One End
No. 2 Point Other End

VACO PHILLIPS
OFFSET
SCREW DRIVER
50¢
VACO PRODUCTS CO U.S.A
OIL TEMPERED ALLOY STEEL
COMBINATION FIT for No. 2 & No. 3 SIZES
PHILLIPS SCREWS
VACO PRODUCTS COMPANY, CHICAGO, U.S.A.

No. P120 Offset Phillips should be in every tool kit. Very handy for those hard to get at places. Length 4¼″. Bit length 1″. No. 1 and No. 2 points.

List, Each ....
Dealer, Each................

No. C80 CHROME VANADIUM RADIO SIZES


VACO HAND FORGED Chrome Vanadium SCREW DRIVERS
VACO PRODUCTS COMPANY

This attractive display unit contains 8 popular radio sizes — one each, C45, C38, C36, C34, C24, C26, C22, C41.

List, Each ......
Dealer, Each ....

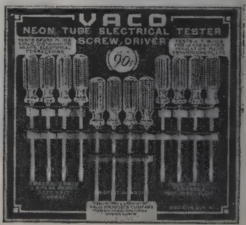
No. PC16 CHROME ALLOY PHILLIPS DISPLAY UNIT

VACO PHILLIPS
SCREW DRIVERS
SHOCK
BREAK PROOF
AMBERYL HANDLES
Fully Guaranteed
VACO PRODUCTS COMPANY
CHICAGO

Contains one each P1, P2, P3, P5, P6, P11, P12. Chrome alloy Amberyl Phillips. Handy for both bench use and display.

List, Each ......
Dealer, Each ....

No. AN12 NEON ELECTRICAL TESTING SCREW DRIVER DISPLAY


VACO
NEON TUBE ELECTRICAL TESTER
SCREW DRIVER
90¢

Contains — One dozen No. AN4, 3/16 x 4″, neon tube testers. Handles colored red in center, shows a bright red flash when leaks are encountered.

List, per Card......
Dealer, per Card....

VACO

AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

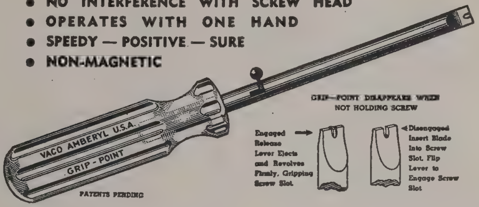
DEEP GROOVE SURE GRIP HANDLES—ALLOY STEEL BLADES—FULLY GUARANTEED

VACO GRIP-POINT SCREW HOLDING SCREW DRIVERS

"The Perfect Screw Holding Screw Driver"

- HOLDS SCREW SECURELY TO DRIVER
- NO DROPPED OR LOST SCREWS
- HOLDS SCREW UNTIL FULLY SET

- NO INTERFERENCE WITH SCREW HEAD
- OPERATES WITH ONE HAND
- SPEEDY — POSITIVE — SURE
- NON-MAGNETIC


VACO AMBERYL U.S.A.
GRIP-POINT
PATENTS PENDING
GRIP—POINT DISAPPEARS WHEN NOT HOLDING SCREW
Engaged Release Lever Ejects and Revolves Firmly, Gripping Screw Slot
Disengaged Insert Blade Into Screw Slot, Flip Lever to Engage Screw Slot

- NO INTERFERENCE WITH SCREW HEAD
- OPERATES WITH ONE HAND
- NON MAGNETIC

Stock No.		Sizes	Overall Length	Weight Doz.	List Each	Dealer Each
No. G2	$\frac{3}{16}$″x4¼″	Takes Screws 1 to 6	7¼″	2 lbs.		
No. G3	¼″x4¼″	Takes Screws 4 to 14	8″	2¼ lbs.		
No. G4	$\frac{5}{16}$″x4¼″	Takes Screws 8 to 20	8¼″	2½ lbs.		

VACO RUBBER COVERED BLADE ALL INSULATED SCREW DRIVERS

Long slim blades coated all but the tip with rubber by a new plating process. Handles are shock and break proof amberyl.

Prices are for Each One

VR241 — ⅛″x4″
List, . Dealer,

VR261 — ⅛″x6″
List, . Dealer,

VR281 — ⅛″x8″
List, . Dealer,

VR361 — $\frac{3}{16}$″x6″
List, . Dealer,

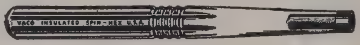
VR381 — $\frac{3}{16}$″x8″
List, . Dealer,

VACO
INSULATED
RADIO & ELECTRICAL
SCREW DRIVERS
SHOCK · PROOF
BREAK · PROOF
VACO
PRODUCTS CO. CHICAGO

DISPLAY UNIT
No. VR1200

CONTAINS ONE DOZEN ASSORTED

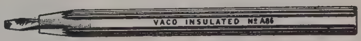
VACO ALL AMBERYL, COMPLETELY INSULATED ¼" SPIN-HEX NUT DRIVER


VACO INSULATED SPIN-HEX U.S.A.

No. S40

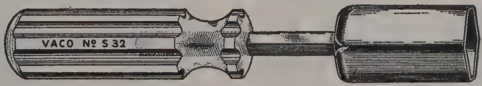
Radio Servicemen will welcome this solid amberyl all insulated nut driver in the popular ¼″ size.
List, ea. . . . . Dealer, ea.

No. A86 All AMBERYL SCREW DRIVER


VACO INSULATED No A86

A full six inches of solid amberyl all insulated radio screw driver. ⅛″x1″ bit. Pocket clip attached. Handy, useful, safe.
List, ea. . . . . Dealer, ea.

AMBERYL HANDLE ELECTROLYTIC NUT WRENCH



The quick way to service PAL nuts used on electrolytic condensers. Deep sockets to clear leads.

TWO SIZES

No. S32 for $\frac{31}{32}$″ nuts, list, ea, . Dealer, ea.
No. S36 for 1$\frac{5}{32}$″ nuts, list, ea. . Dealer, ea.

No. 89
½" UTILITY DRILL
with snap-action chuck

$29.95

LIST PRICE

No. 89-J equipped with 33B Jacobs Chuck, as illustraded $34.95

Net weight of tool 9½ pounds. Packed in standard package of 3, shipping weight 32 pounds.

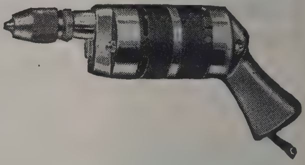
The last word in ½″ capacity drills. Note these advanced features:— Specially wound high torque SpeedWay drill motor, streamlined air cooled die cast housing, natural grip direct thrust breast plate handle, removable side handle for close quarter drilling, self-aligning oilless bronze bearings, 500 rpm operating speed, smooth sliding thumb switch, permanently beautiful two-tone finish. While not a heavy duty production tool, this powerful drill will give exceptional service for every type of intermittent drilling at its rated capacity.

SpeedWay . . . for over 35 years, a famous name for *Quality Tools*

No. 69
¼" DRILL

$11.80

LIST PRICE



Here is a light duty ¼″ drill which will prove to its owner to be the handiest and most valuable tool in his kit. Designed to give maximum torque through three steps of precision cut gears, the 69 drill makes straight drilling easier because of its balanced design, permits use of either carbon steel or high speed steel bits because of its correct operating speed. Equipped with self-aligning porous bronze bearings; correctly located, long life thumb switch; die-cast gear case and pistol grip handle, this tool proves that quality can be purchased at a low price.

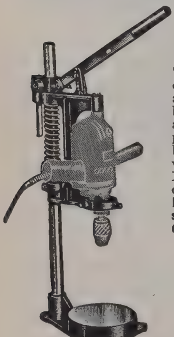
SPECIFICATIONS

- Free speed 1000 r.p.m.
- Normal load speed 600 R.P.M.
- ¼″ capacity snap release chuck.
- 6 ft. flexible lead cord and plug.
- High-torque SpeedWay motor 110-120 volts AC-DC.

Net weight of tool 2¼ lbs. Packed in standard package of 8, shipping weight 25 lbs.

No. 209 DRILL STAND

$12.95 LIST PRICE

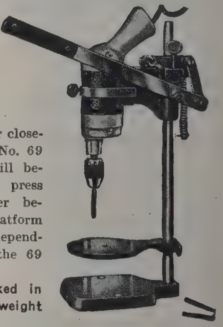


The 209 Drill Stand is lever operated, sturdily built with machined and ground base, and has ears for bolting to bench. The drill bracket is cast in one piece, is line bored and holds the drill rigidly and accurately perpendicular in all positions. Drill and bracket can be instantly adjusted for height with two thumb nuts. With this bracket a No. 89 Drill makes a convenient and accurate drill press.
Net weight of stand 20 lbs. Packed in standard package of 3, shipping weight 63 lbs.

COMBINATION STAND
No. 229

$5.25

LIST PRICE



Invaluable for accurate alignment or close-limit bench work. Takes either the No. 69 Drill or the No. 129 Grinder. Drill becomes an accurate lever fed drill press with adjustable platform; Grinder becomes a lever fed router or with platform reversed, a platform shaper. This dependable stand increases the value of the 69 drill or 129 grinder by 50%.
Net weight of stand 8 lbs. Packed in standard package of 5, shipping weight 43 lbs.

No. 129
HAND GRINDER

$8.25

LIST PRICE

Its very high speed (20,000 r.p.m.) gets efficient work out of small stones and cutting burrs. Fits the hand in practical working positions. Equipped with both ⅛″ and $\frac{3}{32}$″ collets to take all standard accessories mounted on shanks of this size. Motor is air cooled 110-120 volts AC-DC and is more powerful than most hand grinders. Comes complete with thumb switch, rubber cord and plug.
Net weight of grinder 1¼ lbs. Packed in standard package of 10, shipping weight 17 lbs.

No. 250
COMBINATION KIT

$21.25

LIST PRICE

Every home, shop, studio and laboratory should have this remarkable Kit. Consisting of the SpeedWay 69 drill, the SpeedWay 129 grinder and 5 accessories, all in a fitted steel carrying case, this compact kit affords an efficient tool for each job. The case, which is finished in matching blue crackle enamel, measures 8″ x 10″ x 4″, has a hinged top, fastener and carrying handle. Here is an outfit everyone is eager to own and everyone can easily afford.
Net weight of kit 7 lbs. Packed in standard package of 4, shipping weight 31 lbs.

For Craftsman, Mechanic or Handyman

Completely self-contained portable electric bench grinder is safe, handy and powerful. This unit is powered by a new and rugged SpeedWay motor, a distinct post-war development, which pours out 50 watts. Will do hundreds of grinding jobs from cutter bit to pocket knife . . . and do them well. Comes equipped with 2 grinding wheels (1 coarse, 1 fine), adjustable tool rests, carrying handle, toggle switch, and rubber covered cord and unbreakable plug. Encased in streamlined cast housing and has rubber feet that prevent marring of finely finished surfaces.

No. 117—PORTABLE BENCH GRINDER

$14.95

LIST PRICE

Available in 110-120 volts 60 cycle AC only; net weight of grinder 13 lbs. Packed in standard package of 6, shipping weight 87 lbs.

REGISTERED TOOLS
GREENLEE
FOR THE CRAFTSMAN

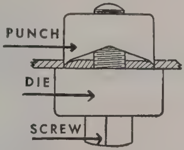
RADIO CHASSIS PUNCHES

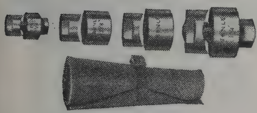
KNOCKOUT PUNCHES AND CUTTERS

GREENLEE
1¼"

No. 730 RADIO CHASSIS PUNCH

Quickly cuts clean, accurate holes in radio chassis for sockets, plugs, and other receptacles. Operates simply with ordinary wrench for drive power. Just insert the punch in a ⅜-inch or 13/32-inch drilled hole and turn the drive nut. No reaming or filing—hole is smooth, perfect. Each size tool consists of the punch for cutting the metal, the die for supporting the metal, and the cap screw for providing the drive action. All parts are of high-grade tool steel carefully heat-treated and ground for clearance. Individually packed in a tube container and furnished complete with operating instructions. Odd-size holes for meters can be made with other punches and cutters listed at right.



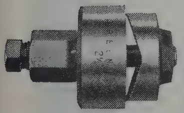


No. 735 KNOCKOUT PUNCH SET

For fast, easy cutting of holes in metal up to ⅛-inch or 10-gauge thickness. Insert in small opening and drive with an ordinary wrench. Speeds radio set work, cuts cleanly, no reaming and filing. Set includes four punches for making ⅞, 1 3/32, 1 11/32, 1 11/16 inch holes. Packed in leather case.

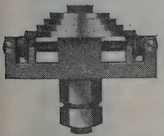
No. 737 KNOCKOUT PUNCH SET

Similar to the No. 735 set, but consists of two punches . . . for cutting holes 1 15/16 and 2⅜ inch diameter. Packed in leather case.



Nos. 738 and 739 KNOCKOUTS PUNCHES

For cutting holes 2⅞ inch diameter (No. 738) and 3½ inch diameter (No. 739) in metal up to ⅛ inch or 10 gauge thickness. Similar in design and operation to that of smaller GREENLEE Knockout Punches. Packed and sold individually.



No. 740 KNOCKOUT CUTTER

Excellent tool for making meter openings and other large holes needed in radio work. Quickly cuts holes 1 15/16, 2⅜, 2⅞, 3½-diameter. Operation is simple . . . driven with ordinary wrench. Special discs can be furnished for cutting odd-size holes from 1 15/16 to 3½-inch diameter. Packed in leather case.

	Price	Wt. (lbs.)
No. 740 Knockout Cutter	$15.00	4½

No. 730 List PRICE AND WEIGHT EACH

WEIGHT IN POUNDS

	Price	Weight
⅝" Complete	$2.15	¼
AV1742 Punch	1.25	1/16
AV1743 Die	.65	1/16
AV1675 ¼" Screw	.25	
¾" Complete	2.15	¼
AV113 Punch	1.25	1/16
AV114 Die	.65	1/16
⅞" Complete	2.15	⅜
AV121 Punch	1.25	⅛
AV122 Die	.65	1/16
AV322 Screw for ¾" & ⅞" Punches	.25	1/16
1" Complete	2.35	⅜
AV87 Punch	1.35	⅛
AV88 Die	.75	¼
1 1/16" Complete	2.50	⅝
AV1763 Punch	1.45	¼
AV1764 Die	.80	¼
1⅛" Complete	2.50	⅝
AV91 Punch	1.45	¼
AV92 Die	.80	¼
1 5/32" Complete	2.50	⅝
AV83 Punch	1.45	¼
AV84 Die	.80	¼
1 3/16" Complete	2.50	⅝
AV115 Punch	1.45	¼
AV116 Die	.80	¼
1¼" Complete	2.50	¾
AV117 Punch	1.45	¼
AV118 Die	.80	⅜
1⅜" Complete	2.85	⅞
AV119 Punch	1.65	⅜
AV120 Die	.95	⅜
1½" Complete	3.20	1
AV89 Punch	1.90	⅜
AV90 Die	1.05	½
AV112 Screw for 1" to 1½" inclusive	.25	1/16
2¼" Complete	6.20	2¼
AV437 Punch	3.20	⅞
AV438 Die	2.50	1
AV304 Screw for 2¼" Punch	.50	½

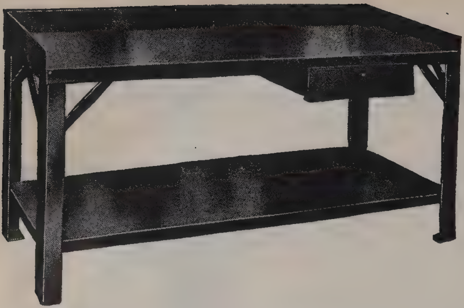
No. 735, 737, 738, 739 LIST PRICE AND WEIGHT EACH

WEIGHT IN POUNDS

	Price	Weight
No. 735 Knockout Punch Set	$10.00	2¾
No. 737 Knockout Punch Set	10.00	4¼
No. 738 Knockout Punch	14.00	5¾
No. 739 Knockout Punch	19.00	7¼

Extra Parts

No. 735 Knockout Punch Set	
No. AV121—⅞" Punch	1.25
No. AV122—⅞" Die	.65
No. AV123—1 3/32" Punch	1.45
No. AV124—1 3/32" Die	.80
No. AV125—1 11/32" Punch	1.65
No. AV126—1 11/32" Die	.95
No. AV127—1 11/16" Punch	1.90
No. AV128—1 11/16" Die	1.05
No. AV322—⅜" x 1½" Cap Screw	.25
No. AV249—¾" x 2⅛" Cap Screw	.35
No. 737 Knockout Punch Set	
No. AV439—1 15/16" Punch	2.30
No. AV440—1 15/16" Die	2.00
No. AV441—2⅜" Punch	3.20
No. AV442—2⅜" Die	2.50
No. AV304—¾" x 2¾" Cap Screw	.50
No. 738 Knockout Punch	
No. AV1429—2⅞" Punch	5.40
No. AV1430—2⅞" Die	5.00
No. AV1433—Drive Nut	1.35
No. AV1434—Drive Screw	2.75
No. 739 Knockout Punch	
No. AV1431—3½" Punch	8.00
No. AV1432—3½" Die	7.50
No. AV1433—Drive Nut	1.35
No. AV1434—Drive Screw	2.75



Equipto 12 GAUGE STEEL WORK BENCHES

IN 2 CONVENIENT LENGTHS—42", 6'

EXCLUSIVE FEATURE

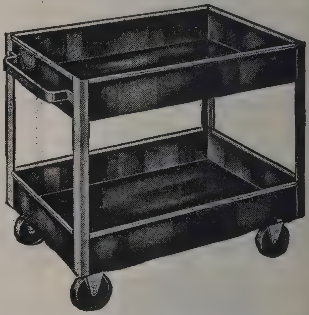
All four flanges of bench top are formed for increased rigidity. (Not just the front and back). Sturdy, good-looking Equipto Steel Work Benches are a big asset to any shop—from the dual stand-point of business-like appearance and top-notch efficiency. Finish Olive Green Baked Enamel. Shipped F. O. B. Aurora, Ill.

Height 34", Depth 28" On All Benches

No. C-857-42—42" long, complete as shown with all extras, Shipping Weight 145 lbs. ....List Price **$35.10**

No. C-857-6—Six ft. long, complete as shown with all extras, Shipping Weight 210 lbs. ....List Price **$43.00**

Equipto NO. 1170 FULL SIZE STOCK CARTS

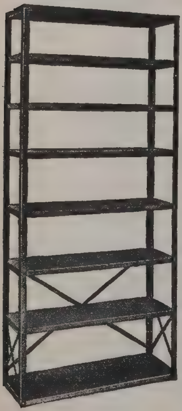


Size—36" long, 32" high, 24" wide. Top and bottom trays 6" deep. Top tray may be inverted making a flat top. Features—Heavy-gauge steel construction. Large 5-in. wheels stationary in front, swivel in rear. Olive green finish. Shipped K. D. to save on freight. Classified as 2nd class freight.

No. 1170—STOCK CART ....List Price **$29.80**

Shipping Weight 30 Lbs. F.O.B. Aurora, Illinois.

Equipto STEEL SHELVING UNITS



OPEN TYPE

No. 871-8
7' x 1' x 3'

An Economical, All Purpose SHELVING UNIT for loads up to 150 lbs. per shelf or 1,200 lbs. for the 8 shelf unit. Uprights are of High Carbon 11 Gauge Steel, with 4 uprights on each unit. All shelves are adjustable on 1½" centers.

K. D., F.O.B. Aurora, Ill.

List Price **$11.80**

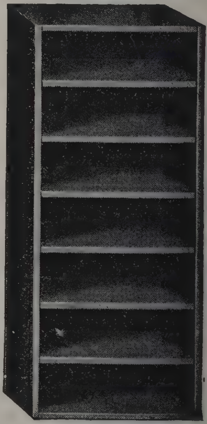
CLOSED TYPE

No. 565-B
7' x 1' x 3'

Same unit as 871-8 shown at left except backs and sides are added. Shelf adjustment and capacity of shelves are identical with No. 871-8.

K. D., F.O.B. Aurora, Ill.

List Price **$18.57**



Designed and Manufactured by Equipto **AURORA, ILLINOIS**

OUR 35th YEAR

Equipto

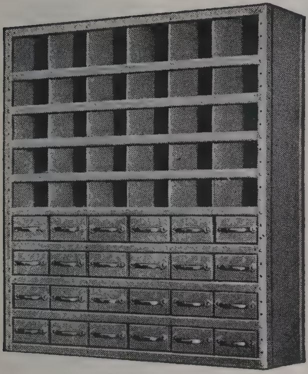
No. 11 STEEL DRAWER UNIT WITH FRAME

18 SUBDIVIDED DRAWERS WITH 72 ADJUSTABLE COMPARTMENTS

No. 11—A remarkably useful assembly. Width 34 inches; heigh $13\frac{3}{4}$ inches; depth 12 inches. Size of drawer $5\frac{3}{8}$ inches wide, $3\frac{1}{8}$ inches high, $11\frac{7}{8}$ inches deep. Each of the 18 boxes comes equipped with 3 adjustable and removable cross dividers making 4 compartments per drawer. This makes a total of 72 adjustable compartments. Shipping weight 70 lbs. Complete in Olive Green baked enamel. List Price F. O. B. Aurora, Ill. **$21.47**

Equipto

NO. 1164 DRAWERS AND BINS



Size, 3' wide, 1' deep, $3\frac{1}{2}$' high. A combination of drawers and bins. 24 drawers each 3" high and $5\frac{3}{8}$" wide. Each drawer has 4 adjustable compartments. Also 24 bin openings $4\frac{1}{2}$" high x 6" wide and 6 openings 6" x 6". Every drawer compartment and bin opening has a label holder. These units may be put one on top of another, used end to end and back to back. Shipping Weight 180 lbs. F. O. B. Aurora, Ill.

List Price, Set Up **$44.08**

NO. 1164 AD STEEL DRAWERS

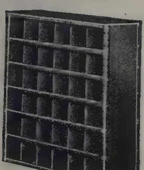
216 Adjustable Compartments

Unit No. 1164AD is a very handy drawer assembly with 11 gauge high carbon angle iron frame. These units are frequently double decked making a unit 7'3" high. Also ideal for use alongside benches or assembly tables, and as partitions or counters between departments. Drawer size $11\frac{7}{8}$" x $5\frac{3}{8}$" x $3\frac{1}{8}$" high with 3 adjustable dividers in each drawer. Finish Olive Green, Shipped Set Up.

List Price, Set Up **$68.08**

Equipto

No. 1198 PIGEON HOLE UNIT

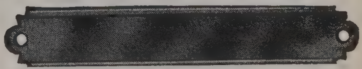


Has 54 openings adjustable on 1" centers. There are 48 openings $4\frac{1}{2}$" high x 6" wide, and 6 openings 6" high x 6" wide. The overall size of this unit is 3' wide x $3\frac{1}{2}$' high x 12" deep. These units may be put one on top of the other and used end to end and back to back.

Shelf flanges turn up 1" to form bin front and to hold the label holder. Shipped F.O.B. Aurora, Illinois. Shipping weight 148 lbs.

List Price, Set Up **$30.05**

NO. S-16 LABEL HOLDER



Label Holder will take up to 1" high label, giving it a pleasant outward curve. All Prices F.O.B. Aurora, Illinois.

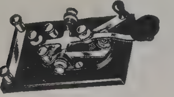
S-34 is 34" long x 13/16" wide.
List Price, per 100 ....**$10.73**

S-16 is $3\frac{1}{2}$" long x 13/16" wide.
List Price, per 100 ....**$6.44**

***Designed and Manufactured by* Equipto AURORA, ILLINOIS** OUR 35th YEAR

AMERICAN RADIO HARDWARE CO., INC.

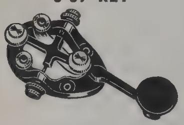
STANDARD KEY with BASE
(SC. Key J-38)



For amateur use in code practice and code training classes. Mounted on a triple X bakelite base, ⅛″ thick, 4¾″ long, and 3″ wide. Where necessary binding posts and contacts are insulated with a high grade bakelite washer. Fully adjustable, well balanced operating lever. All tension and adjusting screws are knurled. Polished nickel silver shorting spring for positive contact. The contacts are of high grade tungsten securely fastened to eliminate any chance of coming loose in operation.

No.	Type	Price
519	Key with Bakelite Base	$5.00
467	Key Less Bakelite Base	3.50

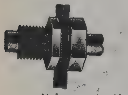
J-37 KEY



A sending key with molded phenolic base. Key lever is heavy phosphor bronze. Spring steel lever spring. All hardware finely machined brass. With stands voltage breakdown between contacts of 1000 volts raw A.C. and insulation of 1000 megohms.

No. 520....................Price $5.00

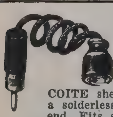
PANEL BEARING ASSEMBLY



Useful in facilitating the panel control of condensers, switches, potentiometers, etc. Flexible coupling can be attached to assembly shafts. Each shaft is grooved and "C" washers are placed on each end to prevent shaft from moving in and out of the bearing

No.	Type	Price Each
1625	6″ long	$0.50
1624	3″ long	.40
1613	12″ long	.60
1612	Bearing only	.20

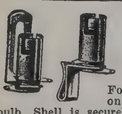
INSULATED GRID CAPS



Consist of a sturdy cadmium plated, brass clip fastened within an ARHCOITE shell. 12″ wire, with a solderless phone tip on one end. Fits standard glass tube cap.

No.	Type	Price Each
418	Glass tube cap	$0.30

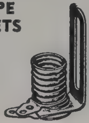
BAYONET TYPE DIAL SOCKETS



For use with bayonet type pilot bulb. Shell is securely eyeleted to the bracket proper. Center contact permits constant and positive pressure on bulb contact. Slotted or clip-on type bracket.

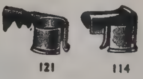
No.	Type	Price per C
1538	Straight UP bracket	$12.00
1539	Straight DOWN bracket	12.00
1540	UP clip-on bracket	12.00
1541	DOWN clip-on bracket	12.00

BRACKET TYPE LIGHT SOCKETS



Socket can be used on practically all sets. Bracket is adjustable over a wide range, to set properly on any dial. Socket available for miniature base or Candelabra base bulb. UP or DOWN type. Adjustment hole is ⅞″ long and 7/16″ wide. Overall height is 1¼″.

No.	Type	Price per C
36	Min. Base UP Bracket	$12.00
37	Min. Base DOWN Bracket	12.00
272	Can. Base UP Bracket	12.00
273	Can. Base DOWN Bracket	12.00

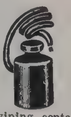


NEW METAL TUBE GRID CAPS

Spring steel in two models—one without a hole and one with a hole in the tail of the cap. Fits all standard miniature grid caps. Will take wire up to ⅛″ diameter.

No.	Type	Price per M
114	Glass Tube Caps	$5.50
121	Metal Tube Caps	5.00

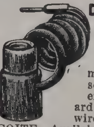
INSULATED GLASS TUBE GRID CAPS



Designed to accommodate the standard glass tube grid cap. Spring brass clip assures permanent wiping contact. 12″ wire, shielded or plain. Standard colors.

No.	Type	Price Each
139	12″ plain wire	$0.18
140	12″ shielded wire	.25

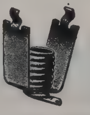
DUAL GRID CAP



Standard glass tube cap or small metal tube grid cap. Cadmium plated brass clips, securely eyeleted together. 15″ wire and standard phone tip or cap less wire. Cap made of ARHCOITE. Available in various colors.

No.	Type	Price Each
412	With 15″ wire	$0.35
413	Less wire	.30

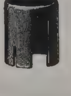
CLIP-IN SOCKETS



A radically new design, constructed so that it may be clipped into a dial directly. This facilitates maintaining and changing of bulbs. Requires a mounting slot ¾″ long and ½″ wide. Made of cadmium plated tempered steel to assure a permanent grip.

No.	Type	Price per C
1759	Screw shell type, 2 lugs	$12.00
1760	Bayonet type, 2 lugs	12.00
1806	Candelabra type, 2 lugs	15.00

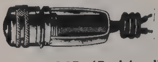
GRID CAP SHIELD



Fits firmly over the grid cap completely shielding the tube. Cadmium plated or black finish.

No.	Type	Price Each
92	Cadmium plated	$0.15
94	Black	.20

PANEL INDICATOR

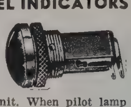


DIM-E-ROID (Registered)

Suitable for use on instrument boards, signal systems, or any other apparatus, where it is required to adjust the intensity of the indicator light. Rough handling or usage will not affect the manual adjustment. Complete with a special designed clip bracket that won't jar loose or come apart; cannot be removed without unmounting the lamp. Bayonet base shell, which is insulated with a rice paper shell and two 12″ leads of Underwriters' Approved wire—mounts in ⅝″ diameter hole—projects ⅝″ from front of mounted surface—¾″ diameter—1¾″ overall. Red or green lens.

No. 1920..................Price $4.00

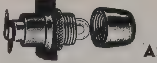
GIANT PANEL INDICATORS



Each pilot light indicator can be individually marked, by writing in the desired copy on the card disc supplied with each unit. When pilot lamp is illuminated, the writing is able to be seen three feet away. Bayonet or miniature type screw shell sockets. Mounts in ¾″ hole in panels up to ⅜″ thickness. Indicator is 1″ in diameter and extends 1⅜″ behind panel. Green, red, blue and crystal.

No.	Type	Price Each
1872	Bayonet	$1.00
1873	Miniature screw shell	1.00

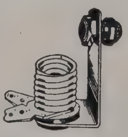
NEW PANEL LIGHT ASSEMBLY



Pilot light is accessible from front of panel. Assembly mounts in a single hole ⅝″ in diameter extends behind the panel for a distance of ½″, and projects from the front panel distance of ⅝″ and may be used on panels up to ⅜″ in thickness. Red, green or amber caps.

No.	Type	Price Each
1870	Miniature screw socket	$0.60
1871	Bayonet base socket	.60

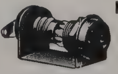
PANEL INDICATOR BRACKET



For use on all types of test equipment, receivers, or transmitters, or wherever an indicator lamp is used. The indicator mounts in a single hole 7/16″ in diameter and can be used on panels up to 5/16″ in thickness. Red, blue, white, green or amber glass jewels.

No.	Type	Price Each
39	Miniature socket	$0.45
93	Candelabra socket	.60
95	Bayonet socket	.45

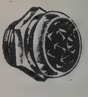
HORIZONTAL PANEL INDICATOR ASSEMBLY



This departure in design of panel indicators has many outstanding features. The bulb fits into the jewel so the maximum light is concentrated thru the jewel. Red, green, amber, blue and white jewels.

No. 88...............Price Each $0.85

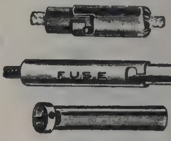
GLASS JEWELS



Threaded shank or nut for force fit into the panel. Jewel is ½″ in diameter and mounts in a 7/16″ hole. Red, green, amber, white and blue.

No.	Type	Price Each
1545	Threaded	$0.20
1546	Force	.18

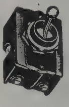
ANTENNA AND FUSE CONNECTORS



Made for automobile quick connections either on the antenna or ground line as well as for the standard three AG automobile fuses.

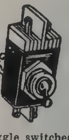
No.	Type	Price per C
221	Antenna connector	$10.00
222	Fuse retainer	15.00
231	Reinforced ring, Ant.	17.00
232	Reinforced ring, Fuse	20.00

HEAVY DUTY POWER SWITCHES



Made by H & H, for use in motors, transmitters, amplifiers, and other circuits where heavy current is carried. Three types with neutral off in center position. Rated at 10 amps. 125 volts. 2″ long, 1″ high, 1¼″ wide, mounting sleeve diameter ⅝″.

No.	Type	Price Each
1041	D.P.D.T.	$5.00
1042	T.P.D.T.	7.50
1043	4.P.D.T.	11.00



TOGGLE SWITCHES

Toggle switches by Hart and Hegeman. Capacity 1 amp. 250 volts—3 amps. 125 volts. Nickel plated.

No.	Type	Shaft Length	Price Each
1020	S.P.S.T.	15/32″	$0.50
1021	S.P.S.T.	1″	.55
1022	S.P.D.T.	15/32″	.70
1023	S.P.D.T.	1″	.75
1024	D.P.S.T.	15/32″	.95
1025	D.P.S.T.	1″	1.00
1026	D.P.D.T.	15/32″	1.10
1027	D.P.D.T.	1″	1.20
1028	On and Off Name Plate		.05

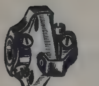
BAT HANDLE TOGGLE SWITCHES

Same as above with Bat shaped handle. Shaft length 15/32″. Nickel plated.

No.	Type	Price Each
1029	S.P.S.T.	$0.50
1030	S.P.D.T.	.70
1031	D.P.S.T.	.95
1032	D.P.D.T.	1.10

RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS

ARHCO AMERICAN RADIO HARDWARE CO., INC.

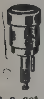


FLEXIBLE COUPLING

Flexible coupling with a square ceramic insulation 5/32″ thick. Couples standard ¼″ shafts without necessity of close alignment. Springs of tough phosphor bronze, all other hardware brass. Overall length approximately ⅞″, 1-3/16″ square.
No. 1922..................Price $0.75

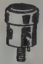
ROUND TYPE COUPLING

Similar to No. 1922 except ceramic is 1″ diameter round, and 5/32″ thick. Bushings of brass, spring of phosphor bronze. Overall length ¾″.
No. 1921..................Price $0.55



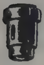
LONG PIN BINDING POST

¾″ high without the threaded portion. Alongside the threaded portion, there is a small pin forced in the post so that it can be assembled in a set position on any type of apparatus. Stem is 9/16″ long threaded 6/32″. Overall length 1-5/16″. 1/16″ soldering tip, polished or dull nickel finish. Also available with the following engraved heads: + —.
No. 1756—Blank.....Price Each $0.60



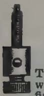
SHORT PIN BINDING POST

¾″ high without threaded portion. Alongside of the threaded portion is a small pin forced into the post so that it can be assembled in a set position on any type of apparatus. Stem is threaded 6/32″ x ¼″ long. Overall length 1″. Can also be furnished with the threaded portion in various lengths. Also available with the following engraved heads: + —.
No. 1755—Blank.....Price Each $0.55



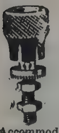
SPECIAL BINDING POST

¾″ overall. For use in any chassis where long screws, insulating washers, lugs or any combination of parts may be needed for mounting to Binding Post. Also available with following engraved heads: + —.
No. 1812...........Price Each $0.40



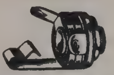
HEAVY DUTY ALL METAL BINDING POST

This binding post is all brass with a highly polished nickel finish, overall length 1½″. The diameter of the body and cap ½″. The stem of the post is ¾″ long threaded 10-32. The knurled cap has a receptacle on top which can be used to accommodate standard banana plugs. Hole in body is .136″ diameter to accommodate wire or phone tips. Stem is provided with a tip for soldering.
No. 1751............ Price Each $0.60



COMBINATION INSULATED BINDING POSTS PLUG AND TIP JACK TYPE

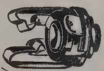
Accommodates standard banana plugs through the top of post, a standard phone tip through side or, as more ordinarily used, with a wire through side. Suitable for test equipment and laboratory instruments. Standard colors.
No. 143.............Price Each $0.25



SINGLE JACK

(SC. Type JK-34A)

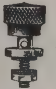
Made of special brass, heavy nickel plated. Will accommodate phone plugs Signal Corps type PL-55, PL-155 and all standard 2-circuit phone plugs.
No. 1798............Price Each $0.60



DOUBLE JACK

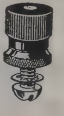
(SC. Type JK-33A)

Made of brass, heavy nickel plated and can be used with plugs Signal Corps No. PL-68, PL-168 and all standard 3-circuit plugs.
No. 1799............Price Each $0.75



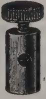
NON-SEPARABLE HEAD POSTS

Brass nickel plated insert and brass nickel plated washer. The body of the post is drilled for the insertion of a phone tip or a solderless plug. Equipped with a solder insulating washer and a 6/32 nut for mounting. ½″ high and has a ½″ insulated head in red, black, blue, green, yellow, purple and white.
No. 154..............Price Each $0.22



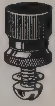
ALL METAL BINDING POST

For high amperage work or for test equipment where low resistance connections are imperative. Nickel plated brass. Approximately 1″ high.
No. 32 Price per C $25.00



METAL BINDING POSTS

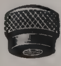
Nickel plated brass, supplied with a knurled 6/32″ screw to hold the wire or phone tip in place.
No. 1910 Price per C $10.00



INSULATED BINDING POST

With a ½″ or a ⅜″ diameter head. Identification is made possible by the bright colored head.

No.	Dia.	Price Each
146	½″	$0.15
147	⅜″	.15

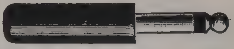


BINDING POST HEADS

For use in noise eliminators, vibrators, etc. The heads are knurled and have a threaded portion which eliminates need for a brass insert. The head is completely insulated. Standard colors. .

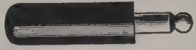
No.	Dia. of Head	Thread	Price per C
1817	⅜″	6/32	$6.00
1818	½″	8/32	8.00
1819	⅝″	10/32	9.00

PL-55 PLUG



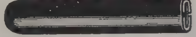
PL-55 is standard telephone plug made in novel manner by molding internal insulation. A tenite shell serves as insulated handle. Ample accommodations for cordage serving on rear end. Distance from shoulder to center of ball contact is 1″. Overall length of plug 2-13/16″, handle 2⅝″ long. Withstands breakdown of 1000 volts.
No. 1782...........Price Each $1.35

PL-54 PLUG



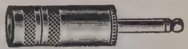
PL-54 is shorter, made to mate with JK-26 jack. Overall length 2-7/16″. Otherwise has same features as PL-55.
No. 1781...........Price Each $1.35

JK-26 MATE OF PL-54



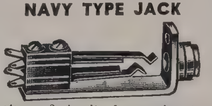
Overall length 2⅞″. Diameter of insulated shell ½″. Three-leaf reinforced spring of spring temper phosphor bronze, mounted on a sturdy brass body. Bakelite sheet insulation 1/16″ thick. Two tinned lugs. Withstands 1000 volts A.C. breakdown across terminals.
No. 1783............Price Each $1.25

NAVY TYPE PLUG

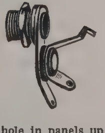


Standard two-circuit telephone plug, heavy duty type, all brass except for insulation Terminals made to accommodate either phone tips or wire. Barrel has insulating sleeve. Rubber retaining ring in cap at rear end holds cable firmly. Overall length approximately 3″. Barrel diameter 11/16″. Length of barrel 1⅞″. Plug withstands voltage breakdown of 500 volts A.C. between terminals. Fits into standard ¼″ diameter jacks of long-frame two-circuit type.
No. 1784............Price Each $1.45

NAVY TYPE JACK



A sturdy 2-circuit, four spring type, long-frame, telephone jack. Brass frame, ⅛″ thick, ½″ wide. Heavily insulated between contacts and between frame and contacts. Mounts in a panel with ⅝″ diameter hole. Three brass washers of different thicknesses 1/32″, 3/32″ and 5/32″ allow mounting on panels of various thicknesses. Contact springs have tinned lug ends for soldering
No 1785............Price Each $0.70



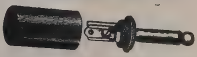
MIDGET PHONE JACKS

J-670—Open circuit jack midget type. Sturdy phosphor bronze spring. Heavily insulated 1/16″ thick bakelite. Mounts in ⅜″ hole in panels up to ¼″ thick. Ground connection through lug forms part of the frame. All parts but spring and insulation of brass.
No. 1795............Price Each $0.40

DOUBLE JACKS

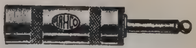
J-671—Same features as 1795 except it is 3-circuit microphone jack.
No. 1796............Price Each $0.50

PHONE PLUG



For use with all standard size jacks; bakelite shell, available in a variety of solid colors. Will accommodate two phone cord tips or lugs which are held securely in place with two binding head screws.
No. 128.............Price Each $0.50

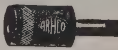
SHIELDED PHONE PLUG



Designed for use with all standard size jacks. Brass finished with a heavy chrome plating. The barrel contains an insulating tube to prevent any possible loose strands of wire from shorting against the barrel. Accommodates two phone cord tips or lugs which are held securely in place with two binding head screws.

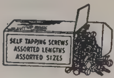
No.	Price Each
218—Shielded phone plug	$0.85

JUNIOR SHIELDED PHONE PLUG



Barrel contains an insulating tube which prevents any possibility of loose strands of wire shorting. Accommodates two phone cord tips or lugs which are held securely in place with two binding head screws. Overall length 2⅛″. Fits all standard size jacks.

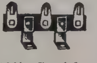
No.	Type	Price Each
219	Phone plug	$0.60
1791	Barrel only	.30



SELF-TAPPING SCREW ASSORTMENT

Parker Kalon self-tapping screw assortment of most popular sizes. Genuine replacements for ALL standard brand receivers.
No. 1078............Price Each $0.65

BRACKET TYPE LUG STRIPS

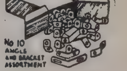


No.	Type	Price per C
1620	3 lug	$15.00
1621	4 lug	16.50
1622	5 lug	20.00
1623	6 lug	25.00
1841	Special mounting bracket	2.00
1839	Mounting bracket and lug combination	2.25

Available with No. 1841 Bracket as illustrated or with No. 1839 Bracket, which is a combination bracket and mounting lug or with No. 1847 Bracket which is similar to No. 1839, but with a tapped 6/32 hole.

No.	Type	Price per C
1660	3 lug with 1839 Bracket	16.50
1661	4 lug with 1839 Bracket	19.50
1662	5 lug with 1839 Bracket	24.00
1663	6 lug with 1839 Bracket	27.00
1664	3 lug with 1847 Bracket	22.00
1665	4 lug with 1847 Bracket	22.00
1666	5 lug with 1847 Bracket	26.00
1667	6 lug with 1847 Bracket	34.00
1847	Bracket and lug with tapped 6/32 hole	4.50

ANGLE AND BRACKET ASSORTMENT



28 popular size angles and brackets made of brass and nickel plated. A choice selection of "Z" included. Indispensable for mounting radio parts.
No. 488-10...............Price $0.70

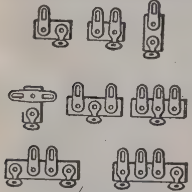
RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS

AMERICAN RADIO HARDWARE CO., INC.

BAKELITE TERMINAL STRIPS AND TERMINALS

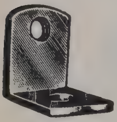
No.	Type	Price Each
1501—2	Term. Marked	$0.25
1502—2	Term. Plain	.20
1503—2	Term. A. & G.	.25
1504—2	Term. "Output"	.25
1505—2	Term. "Input"	.25
1506—3	Term. Plain	.30
1507—3	Term. Marked	.35
1508—4	Term. Marked	.50
1509—4	Term. Plain	.45

TERMINAL LUG STRIPS



No.	Price per C
5101	$2.00
5110	2.15
512	1.65
501	1.65
5201	3.00
5210	3.25
5202	4.00
5211	4.50

SPECIAL ANGLE BRACKETS WITH TAPPED HOLES



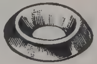
No.	Type	Price per C
1627	—½" x ½" Bracket	$4.50
1628	—½" x ⅝" Bracket	5.00
1629	—½" x ¾" Bracket	6.00
2663	—Z Bracket Type with no clearance hole—one tapped hole ½" x ⅜" Bend x 7/16" long	6.00

RACK SCREWS

Particularly suitable for mounting panels in racks and cabinets. Enhances appearance of any panel. Screws, steel nickel plated.

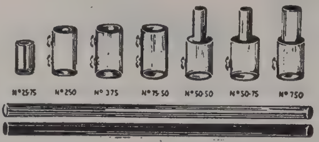
No.	Size	Price per M
1641	—¼" x 6/32	$4.50
1642	—½" x 6/32	4.75
1643	—¾" x 6/32	5.50
1644	— 1" x 6/32	6.00
1637	—¼" x 8/32	4.75
1638	—½" x 8/32	5.50
1639	—¾" x 8/32	6.00
1640	— 1" x 8/32	6.50
1630	—¼" x 10/32	6.00
1631	—½" x 10/32	6.50
1645	—⅝" x 10/32	7.00
1632	—¾" x 10/32	7.50

WASHERS



No.	Size	Price per M
1634	—6/32 Cup Washer	$5.50
1635	—8/32 Cup Washer	6.00
1636	—10/32 Cup Washer	7.00

SHAFT COUPLINGS EXTENDERS AND REDUCERS

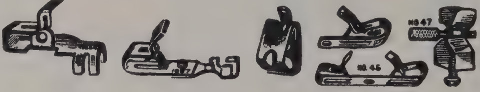


These accurate machined brass fittings can be used for coupling shafts of the same or different diameter, for straight extension, or for extension with smaller or larger shaft diameter.

No.	Length		Price Each
25-75	7/16"	¼" Hole I.D.—⅜" O.D. Dial Bushings	$0.10
250	¾"	¼" Hole I.D.—½" O.D. Brass Coupling	.20
375	¾"	⅜" Hole I.D.—9/16" O.D. Brass Coupling	.20
75-50	¾"	⅜"-¼" Hole I.D.—9/16" O.D. Brass Coupling	.20
50-50	1⅛"	¼" Hole I.D.—½" O.D. Brass Reducer	.20
50-75	1⅛"	⅜" Hole I.D.—9/16" O.D. Brass Reducer	.20
750	1⅛"	¼" Hole I.D.—½" O.D. Brass Reducer	.20
6250	6"	¼" Diameter Brass Shafting	.20
12250	12"	¼" Diameter Brass Shafting	.40
388	8"	⅜" Diameter Brass Shafting	.40
250C	¾"	¼" Hole I.D.—½" O.D. Ins. Coupling	.20
375C	¾"	⅜" Hole I.D.—9/16" O.D. Ins. Coupling	.20
75-50C	¾"	⅜"-¼" Hole I.D.—9/16" O.D, Ins. Coupling	.20
50-50C	1⅛"	¼" Hole I.D.—½" O.D. Ins. Reducer	.20
50-75C	1⅛"	⅜" Hole I.D.—9/16" O.D. Ins. Reducer	.20
750C	1⅛"	¼" Hole I.D.—½" O.D. Ins. Reducer	.20
637C	6"	¼" Diameter Insulated Shafting Black	.20
1237C	12"	¼" Diameter Insulated Shafting Black	.30
388C	12"	⅜" Diameter Insulated Shafting Black	.40

FAHNESTOCK SPRING BATTERY CLIPS

A complete line of Fahnestock Clips to meet every demand. Each clip is made of either Phosphor Bronze or Spring Brass assuring maximum life and good contact. Any type Fahnestock Clip available upon request.



No.		Price per C
41	¾" Long 1 Clip	$ 1.65
42	1" Long 1 Clip	2.00
44	1½" Long 2 Clip	9.00
45	1¾" Long 2 Clip	9.00
47	1" High 1 Clip	5.50
1844	1½" Long 1 Clip	12.00
1857	1¾" Long 1 Clip	12.00
1858	1¼" Long, same as 1857	15.00
1853	1" Long 1 Clip	5.50
1826	⅝" Long 1 Clip (Bronze)	2.75

RUBBER GROMMETS

Ideal for Use in All Types of Electrical and Radio Purposes

Available in either black or gum rubber.

No.	Panel Hole	I.D.	O.D.	Panel Thickness	Price per C
1113	13/32	21/64	5/8	1/16	$3.50
1114	1/4	1/8	11/32	1/16	2.25
1115	3/8	1/4	9/16	7/32	3.50
1118	5/16	3/16	7/16	1/16	2.85
1119	13/32	17/64	9/16	1/16	2.85
1120	7/16	19/64	5/8	1/16	3.20
1121	1/2	3/8	11/16	1/16	3.25
1122	11/32	1/4	1/2	1/32	2.80

When ordering Gum Rubber add "G" to number and add $1.00 per C to list price of Black.

RUBBER GROMMET ASS'T

An assortment of 5 sizes of pure gum and black rubber grommets.

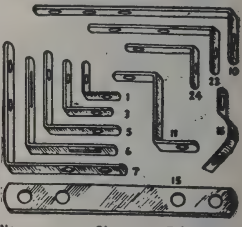
No.		Price
68	—Assortment of 12 Rubber Grommets	$0.35
69	—Assortment of 30 Rubber Grommets	.75
70	—Assortment of 100 Rubber Grommets	2.30

R. H. STEEL CADMIUM PLATED MACHINE SCREWS

6-32 No.	6-32 Price per M	Length	8-32 No.	8-32 Price per M
2648	$4.25	¼"	2654	$4.25
2649	4.25	⅜"	2655	5.25
2650	4.50	½"	2656	6.00
2651	4.50	⅝"	2657	6.25
2652	4.75	¾"	2658	6.50
2653	7.00	1"	2659	7.00

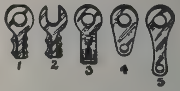
No.	Size	Price per M
2665	10-32 x ¼"	$4.75
2666	10-32 x ⅜"	6.25
2667	10-32 x ½"	6.50
2668	10-32 x ⅝"	7.00
2669	10-32 x ¾"	7.25
2670	10-32 x 1"	8.50

ANGLES AND BRACKETS



No.	Size	Price per C
1	1½"x1½"	$1.50
3	⅝"x⅝"	2.30
5	1"x1"	3.50
6	1⅛"x1⅛"	4.50
7	1½"x1½"	5.50
10	⅝"x2¼"	5.75
11	13/16" high	2.25
15	2⅞" long	4.60
23	½"x1½"	3.10
24	½"x⅞"	2.25

TINNED BRASS LUGS



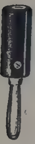
No.	Length	Hole Size	Price per M
1	⅝"	6 or 8	$4.00
2	⅝"	8	4.00
3	¾"	8	4.00
4	⅝"	6 or 8	4.00
5	⅞"	6 or 8	4.00

TWIN PHONE TIP JACKS

Jacks in this assembly are our No. 138 type, mounted on a bakelite strip ½" and 2" long. Standard spacing between Jacks ¾". Coded red and black for identification.

No. 406.............Price Each $0.35

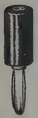
RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS



INSULATED BANANA PLUG

Set screw in side of barrel secures wire within plug without soldering. Full length center pin prevents spring from collapsing. Standard colors.

No.	Sleeve	Overall	Price Each
131	⅞″	1⅝″	$0.20
131A	1½″	2¼″	.25

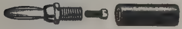


SPLIT TYPE BANANA PLUG

Designed to snugly fit a standard type banana jack. Spring action is positive and durable. Length 1-7/16″. The plug is ½″ long. Standard colors.

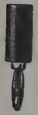
No. 331.............Price Each $0.20

SOLDERLESS BANANA PLUGS



Made with three-pointed leaf spring; screw into insulated portion of plug. Overall length 1⅞″. All standard colors.

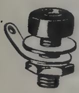
No. 207.............Price Each $0.25



ARCHOITE-SOLDERLESS INSULATED BANANA PLUG

All external set screws are eliminated, removing possibility of shocks or grounding. One - piece phosphor bronze spring and full length center pin assure good contact and long life. ARHCOITE barrel is ¾″ long. ⅜″ diameter. Standard colors.

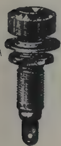
No. 332.............Price Each $0.20



INSULATED BANANA JACKS

Equipped with insulated shoulder washers, lug and a nut. Can be mounted in a ¼″ hole on a panel up to ⅜″ in thickness. Standard colors.

No. 136.............Price Each $0.15

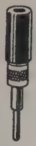


BANANA PLUG OR TIP JACK

So constructed that either phone tip or banana plugs fit interchangeably. Cap of ARHCOITE insulation, in standard colors. Mounts in a ¼″ diameter hole in panels up to ½″ thick. With shoulder washer and nut. Overall length is 1⅜″.

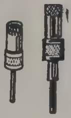
No. 148.............Price Each $0.20

INSULATED SOLDERLESS PHONE TIP PLUG



Fits all standard tip jacks including such units as our No. 137, 138 Insulated Jacks, and No. 143 Binding Posts. Overall length is 1⅞″, sleeve is ¾″ long. All standard colors.

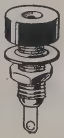
No.	Price Each
141	$0.18
142	.15



SOLDERLESS PHONE TIPS

So made that a wire fits through the body and is wrapped around the screw and tightened with the nut.

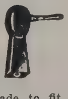
No.	Price per C
10—1⅝″ in length	$10.00
9—1⅛″ in length	10.00



INSULATED PHONE TIP JACKS

Accommodates all standard phone tips. Phosphor bronze springs make positive contact and hold phone tip straight and secure. Insulating washer and nut. Standard colors.

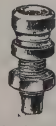
No.	Head	Price Each
1866	3/8″	$0.14
138	7/16″	.15
1861	1/2″	.16



STREAMLINED PHONE TIP PLUG

The highly polished ARHCOITE handles are made to fit a standard non-insulated or insulated phone tip jack. By inserting the wire in the hole and screwing the tip in securely, a solid,, solderless connection is made. 1⅜″ long and ½″ high.

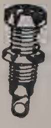
No. 1855...........Price Each $0.40



INSULATED BANANA PLUG JACK

For use with all our standard size Banana Plugs. The insulated head has a shoulder which extends into the mounting hole thus centering the jacks and preventing grounds. Mounts in 5/16″ diameter hole. Can be used in panels up to ⅝″ thick. Complete with second shoulder washer and nut. The overall length is ⅞″. Available in all standard colors.

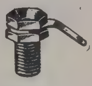
No. 336............Price Each $0.20



PHONE TIP JACKS

Specially designed springs within the body hold the phone tips straight and grip firmly at all times. Mounts in a ¼″ diameter hole in panels up to ⅜″ thick.

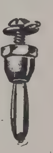
No. 137...........Price per C $10.00



BANANA TYPE PLUG JACK

Recommended for use with No. 1150 Banana Plug. Countersunk to fit tapered portion of plug shank. Heavily nickel plated and furnished with nuts and soldering lug. Will fit panels up to 7/16″ thick and mounts in ¼″ hole.

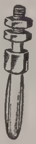
No. 1151..........Price per C $12.00



BANANA TYPE PLUG

6/32″ female thread and 6/32″ screw and soldering lug. One-piece phosphor bronze spring assures positive, long lasting contact. Full length center pin prevents plug from collapsing when misaligned with jack.

No. 1150..........Price per C $12.00

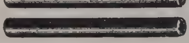


BANANA TYPE PLUGS

Spring brass, nickel plated. Full length center pin prevents spring from collapsing. Supplied with two plated nuts.

No.	Thread	Price per C
120	6/32—½″ long	$12.00
1764	6/32—1″ long	15.00
122	8/32—½″ long	12.00

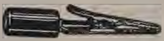
FIBRE NEUTRALIZING TUBES



These tubes are made of specially treated hard fibre for durability. They are ideal for servicemen and production lines, for when the hexagon wears out it can be cut off and used again.

No.	Price Each
¼″ HEXAGON	
2502— 6″ long	$0.30
2503— 8″ long	.35
2504—10″ long	.45
2505—12″ long	.50
2506—28″ long	1.00
5/16″ HEXAGON	
2507— 6″ long	$0.30
2508— 8″ long	.35
2509—10″ long	.45
2510—12″ long	.50
2511—28″ long	1.00

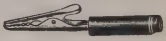
ALLIGATOR CLIP COMBINATION JACK



Embodies our No. 129 insulated alligator clip and No. 148 insulated phone tip jack. It is possible to insert any test prod equipped with phone tips, directly into Alligator Clip for temporary connection to any part or wire of radio receivers, public address systems, or electrical appliances, leaving the other test lead and both hands free to test any part of the circuit. Overall length 2⅜″. Length of insulated handle 1″. All standard colors.

No. 338............Price Each $0.50

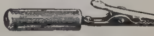
ALLIGATOR CLIP PHONE TIP JACK



Incorporates our No. 129 insulated alligator clip and No. 138 insulated phone tip jack. It is possible to insert any test prod, equipped with phone tips, directly into the Alligator Clip for a temporary connection to any part or wire of radio receivers, public address systems or electrical appliances, leaving the other test lead and both hands free to test any part of the circuit. Overall length 2⅜″. Insulated handle 1″. All standard colors.

No. 337.............Price Each $0.45

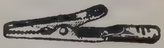
INSULATED ALLIGATOR CLIPS



No. 130 Clips are made so that the attached ARHCOITE handle will receive any male banana type plugs. No. 129 has a round ARHCOITE handle and is made for wire assembly. No. 152 Clip is similar to the No. 130 but larger.

No.	Handle	Overall	Price Each
129	1¼″	2¾″	$0.22
130	¾″	2¼″	.20
152	1¼″	3¼″	.25

ALLIGATOR CLIPS

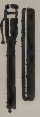


For use in all types of testing equipment; designed with a long thin nose to fit into confined areas and hard to get at places. Steel or brass, nickel plated.

No.	Price per C
STEEL	
45AT—2″ long	$10.00
242—2¾″ long	12.00
BRASS	
80—2″ long	$12.00
84—2¾″ long	17.50

ARHCO AMERICAN RADIO HARDWARE CO., INC.

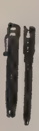
FIBRE NEUTRALIZING TOOLS



3 in 1 combination. A ¼" diameter screw driver on the inside and ¼" and 5/16" sockets at each end of the tool. Completely insulated

No. 2501............Price Each $0.85

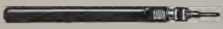
NEUTRALIZING TOOLS METAL TIPS



With brass nickel plated metal tip at both ends. Metal tips are hexagon broached for ¼" and 5/16" nuts. Screw driver inside is 7/32" diameter to fit inside of coils for compensating. 3 in 1 combination.

No. 2500............Price Each $1.25

TEST PRODS
Solderless Type



Designed so that the phone tip screws right into the handle itself. Handles in various lengths made in ARHCOITE.

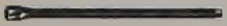
No.	Handle Overall	Price Each
145	5"	$0.40
149	6¾"	.45

Phonographic Needle Type

These test prod handles are standard photograph needles to fit into the chuck. Can be tightened with nut.

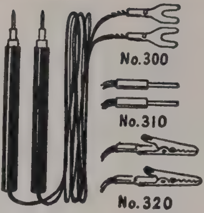
No.	Handle	Overall	Price Each
153	3½"	4¾"	$0.40
155	4"	5⅛"	.45

SOCKET HEAD ALIGNMENT WRENCH



6" long with a brass ¼" socket head that fits over trimmer screws on various types of receivers. Outside diameter is ⅜". Has a hardened screw driver bit for adjusting trimmer screws. Insulated diameter shaft fits ¼" holder. Available in assorted colors.

No. 820............Price Each $0.70

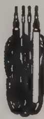


HEAVY DUTY TEST PRODS

For rough usage in production testing lines and large service shops. ARHCOITE prod handles, 7/16" diameter and 5" long. Prods equipped with 60" heavy duty flexible wire; choice of attachments. Handles and leads are colored red and black for identification.

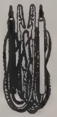
No.	Type	Price per Pair
300	Taper lugs	$1.25
310	Phone tips	1.25
320	Alligator clips	1.35

PENCIL TYPE SHARP POINT TEST PRODS



Long and thin, ideal for testing in tight places in receivers and amplifiers Handles and 60" leads Overall length 7", diameter ¼".

No.	Type	Price per Pair
330	Spade lugs	$1.15
340	Phone tips	1.15
350	Alligator clips	1.25



TEST PRODS
Solderless Tip Type

Test leads run through prod handles into tip where connection is securely made by means of a knurled collar. Fibre handles and leads colored red and black for identification. Handles are four inches long and ⅜" diameter. Wire length 50".

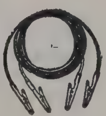
No.	Type	Price per Pair
210	Spade lugs	$0.85
200	Phone tips	.85
260	Alligator clips	1.00

Phono Needle Tip Type

Prod handles are equipped with chucks for securely holding standard phonograph needles, which are quickly replaceable. Fibre handles are colored red and black for identification. Handles are 4" long and ⅜" in diameter. Wire length 50".

No.	Type	Price per Pair
230	Phone tips	$0.85
240	Spade lugs	.85
259	Alligator clips	.95

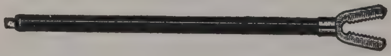
ALLIGATOR CLIP TEST LEADS



Made with Alligator Clips at each end and red and black flexible wire for easy identification. Ideal as temporary connections. Clips have a firm grip and will make a perfect contact at all times.

No.	Wire Length	Price per Pair
400	12"	$0.60
420	24"	.70
430	36"	.80
440	48"	.90

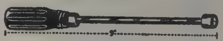
ALLIGATOR ALIGNMENT WRENCH



Fits various sizes of knurled or hexagon nuts up to ⅜" diameter. Has hardened screw driver on the other end for adjusting trimmer screws. Overall length is 6" and diameter of shaft is ¼". Assorted colors.

No. 805..Price Each $0.70

SOCKET WRENCHES
Spin Type



Made with a deep hollow hole in the end of socket. Takes a long screw any size up to No. 10 diameter. Wooden handle for firm grip and the socket is hardened for durability and service.

No.	Hex. Nut Size	Price Each
	(6" LONG)	
48	3/16"	$0.40
50	1/4"	.40
51	5/16"	.40
52	3/8"	.40
53	7/16"	.40
49	1/2"	.40
	(9" LONG)	
58	3/16"	.45
54	1/4"	.45
55	5/16"	.45
56	3/8"	.45
57	7/16"	.45
59	1/2"	.45

660—Box of six 6" wrenches—one of each size........... 2.40

690—Box of six 9" wrenches—one of each size........... 2.70

Offset Type

Ideal for inconvenient places and for tightening up nuts under condensers, transformers, or sub-panels.

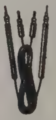
No.	Length	Hex. Nut Size	Price Each
106	7"	3/16"	$0.45
107	7"	1/4"	.45
108	7"	5/16"	.45
109	7"	3/8"	.45
110	7"	7/16"	.45
111	7"	1/2"	.45

670—Box of 6 7" wrenches...... 2.70

FIBRITE ALIGNMENT SCREW DRIVER

Designed to work satisfactorily on all ultra - high frequency ranges without disturbing the circuit. Overall length is 7".

No.	Diameter	Length	Price Each
815	7/32"	7"	$0.50
817	5/16"	6"	.70



SOLDERLESS TEST PRODS

Used extensively in the service shop or laboratory. ARHCOITE handles in red and black for identification. Leads and phone tip plugs are also color coated. Wire easily replaced without soldering.

No.	Handle Length	Price per Pair
220	4"	$1.25
450	5½"	1.50
460	7"	1.75

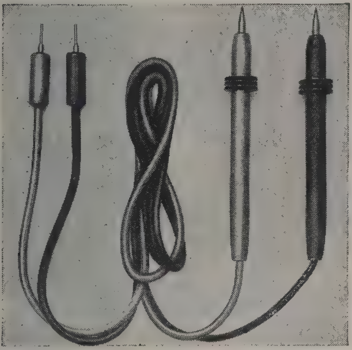
REINER ELECTRONICS CO., INC.

NEW YORK 1, N. Y.

TEST LEADS AND ACCESSORIES

REINER "15000" VOLT HEAVY DUTY TEST LEADS

Invaluable for all Engineers working on High Tension Circuits



"HIGH VOLTAGE SAFETY FIRST"

Reiner "Scientific" High Voltage Test Leads are designed and manufactured for use up to 15000 volts with a good safety factor. Attractive in appearance, with the highest quality of materials and construction. Combination thumb rests and long path leakage barriers. Pair consists of black lead with black handles and red lead with red handles. Special construction prevents wire from pulling out through prod handlels.

Other features include

- Heavy Duty Kinkless Leads
- Negligible Voltage Drop
- 7″ Prod Length—Heavy Duty Type
- Insulated Handles on Tips
- Heavy Duty Hardened Steel Prod Points
- Triple Barrier Leakage Guard
- Length 54 Inches

No. 910—Individually Boxed; Distributors Standard Package, 25 prs. **List price per pair** **$4.95**

No. 920—Signal Tracing Type Probe with built-in resistor; otherwise identical to No. 910. **List Price each** **$6.00**

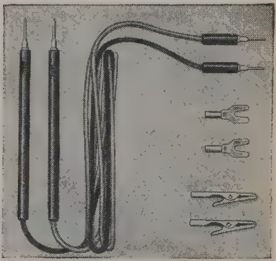
REINER SCIENTIFIC PENCIL TYPE TEST LEADS

All Reiner "Scientific" Test Leads have attractive 5½″ pencil-type prod handles which permit entering into tight places. These prod handles are of the finest quality material with extremely high voltage insulation, low moisture absorption, low power factor and surface leakage. The handles are scived to permit a secure finger grip and minimize slippage.

Prod points are made of hardened steel. They will not become dull or wear out easily. A hardened steel point prevents bending which so frequently occurs with brass points.

Test lead wires are extra heavy kinkless multi-strand flexible wires insulated for 6000 volts—one red wire lead and one black, with uniform good color quality.

No. 904—"De Luxe" Scientific Test Leads have red and black handles with the sciving filled in white. Length 72″. Insulated tip handles at the tip end. Threaded brass prod sleeves and brass tip pins.
No. 903—Scientific Test Leads are 54″ long; no white filling at the sciving; otherwise identical to No. 904.
No. 901—Scientific Test Leads are 48″ long; plain insulated tips; otherwise identical to No. 903.



No. 903

PRICES

Cat No.	Type	List Price	Cat. No.	Type	List Price
901	Phone Tip	$1.25	903S	Spade Lug	$2.00
901S	Spade Lug	1.25	903A	Alligator Clip	2.15
901A	Alligator Clip	1.40	904	Insulated Phone Tip	2.40
903	Insulated Phone Tip	2.00	904S	Spade Lug	2.40
			904A	Alligator Clip	2.55

INDIVIDUALLY BOXED; DISTRIBUTORS STANDARD PACKAGE, 100 PRS.

REINER TEST PROD HANDLES

No. 931

No. 930—Test Prod Handle with brass nickel plated tip available in black and red bakelite; 5½″ long. **List Price**........each $0.50

No. 931—De Luxe Test Prod Handle with sciving available in black and red bakelite. Needle point hardened steel nickel plated phone tip 5½″ long. **List Price**........each $0.70

REINER PHONE TIPS

No. 941

No. 940

No. 941—Insulated Phone tip fits all standard type jacks—available in black and red brass nickel plated—2″ long.
List Price........each $0.25

No. 940—Phone tip brass nickel plated 1″ long.
List Price........each $0.06

REINER BAR KNOBS

Reiner Scientific Bar Knobs are the last word in beautiful streamlined modernistic design. They have smooth parallel surfaces for finger-grip which give more powerful action and more comfortable hold. Base is recessed to fit over large ⅜″ locknuts. Overall length 1-5/16″. Indicating radius ¾″.

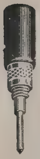
No. 950—with white line.
List Price .... each $0.11

No. 951—with white line and stop in skirt—especially used for thermostats.
List Price .... each $0.12

AVAILABLE IN BLACK, BROWN AND RED.

T·A·C PLUGS · JACKS · CONNECTORS
TELEGRAPH APPARATUS CO . . . CHICAGO 7, ILLINOIS

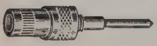
INSULATED SOLDERLESS PHONE TIP PLUG



A standard insulated solderless phone tip plug which fits our parts 101, 106, 108 and 109 phone tip jacks. Metal parts are nickel plated brass. Overall length 2-3/16". The high lustre insulated handle is 1" long. Available in red, black, green and yellow.

No. 202 **LIST PRICE 18c**

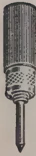
SOLDERLESS PHONE TIP PLUG



A standard solderless phone tip plug. Identical to No. 202 above, except for insulated handle.

No. 203 **LIST PRICE 10c**

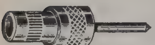
INSULATED SOLDERLESS JR. PHONE TIP PLUG



A standard insulated solderless junior phone tip plug made to fit our parts #101 and 106 phone tip jacks. Metal parts are nickel plated brass. The high lustre insulated handle is 1" long. Available in black, red, green and yellow. Overall length 1⅞".

No. 204 **LIST PRICE 18c**

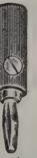
SOLDERLESS JR. PHONE TIP PLUG



A standard solderless junior phone tip plug identical to No. 204 above except for insulated handle.

No. 205 **LIST PRICE 10c**

Insulated Solderless SPRING BANANA PLUG

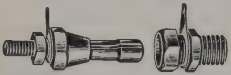


This insulated non-collapsible solderless spring banana plug is designed to give the greatest area of contact. Connection is made by a side set screw.

Metal parts are nickel plated brass except the four leaf banana spring which is nickel plated phosphor bronze. The high lustre insulated handle is 1" long. Available in red, black, green and yellow. Overall length 1-11/16".

No. 208 **LIST PRICE 20c**

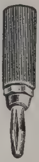
Giant Banana Plug & Jack



Designed to handle heavy high frequency currents. Made of nickel plated spring brass.

No.	LIST PRICE
225—Jack	30c
226—Plug with threaded shank	35c
226—Plug with 10-32 hole with screw	35c

SPRING BANANA PLUG INSULATED

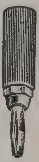


In this spring banana plug no metal parts are exposed around the insulated handle. Connection is made by soldering to special type tubular lug which is an integral part of metal body. Non-collapsible four leaf banana spring gives maximum area of contact. Metal parts are nickel plated brass except banana spring which is nickel plated phosphor bronze. The high lustre insulated handle is 1" long. Available in red, black, green and yellow.

No. 209 **LIST PRICE 20c**

INSULATED SOLDERLESS SPRING BANANA PLUG

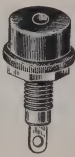
(INTERNAL SOLDERLESS FASTENER)



An insulated spring banana plug identical in appearance to our part No. 209 except that connection is made to an internal solderless fastener. The high lustre insulated handle is available in red, black, green and yellow.

No. 210 **LIST PRICE 25c**

Insulated Phone Tip Jack



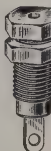
An insulated phone tip jack which makes very positive contact. Contact springs are made of phosphor bronze. Metal parts are nickel plated brass. The high lustre insulated head is ⅜" in diameter. Available in red, black, green and yellow.

Fits ¼" hole in panels up to ¼" thick.

Supplied with nut and insulating washer.

No. 101 **LIST PRICE 15c**

.. PHONE TIP JACK

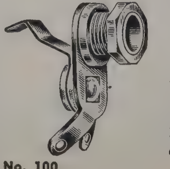


A phone tip jack identical to our part No. 101 above except that it has a non-insulated 5/16" hex head. Metal parts are nickel plated brass.

Fits ¼" hole in panels up to ⅜" thick.

No. 106 **LIST PRICE 10c**

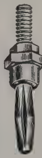
Open Circuit Phone Jack



Made to fit all standphone plugs. Contact spring made of nickel plated phosphor bronze and body made of nickel plated brass. Highest quality insulating material used. Fits ⅜" hole in panels up to 3/16" thick. Supplied with one metal washer.

No. 100 **LIST PRICE 30c**

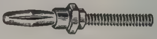
SPRING BANANA PLUG



This spring banana plug is used extensively for plug-in coils, etc. Greater surface contact gives low RF resistance. Threaded shank is 6-32 thread, ⅜" long. Overall length 1-3/16". All metal parts are nickel plated brass except the four leaf banana spring which is nickel plated phosphor bronze. Supplied with soldering lug.

No. 206 **LIST PRICE 7c**

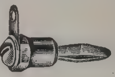
SPRING BANANA PLUG



Identical to our part No. 206 above except that threaded shank is ¾" long.

No. 207 **LIST PRICE 7c**

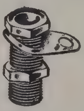
SPRING BANANA PLUG



Identical to No. 206 spring banana plug except that instead of threaded shank it has a female 6-32 thread. Supplied with soldering lug and 6-32 screw.

No. 212 **LIST PRICE 8c**

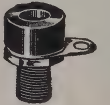
BANANA JACK



A standard banana jack made of nickel plated brass. Overall length ⅝". Fits ¼" hole in panel. Supplied with solder lug and nut.

No. 105 **LIST PRICE 6c**

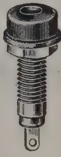
INSULATED BANANA JACK



All metal parts are nickel plated brass. The high lustre insulated head is available in red, black, green and yellow. Fits ¼" hole in panels up to ⅜" thick. Supplied with solder lug, insulated washer and nut.

No. 107 **LIST PRICE 15c**

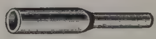
Insulated Combination Banana Plug & Phone Tip Jack



An insulated combination banana plug and phone tip jack made to fit our parts Nos. 206, 207, 202, 203, 208, 209, 210, 212, 219 and 220. The phosphor bronze contact springs assure positive contact. Fits ¼" hole in panels up to ⅝" thick. The high lustre insulated head is available in red, black, green and yellow.

No. 108 **LIST PRICE 20c**

STANDARD PHONE TIP



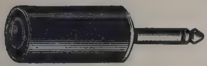
A standard phone tip made of nickel plated brass. Used extensively for connections on head phone cords.

No. 220 **LIST PRICE 2c**

T·A·C PLUGS · PRODS · CONNECTORS

TELEGRAPH APPARATUS CO . . . CHICAGO 7, ILLINOIS

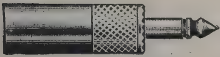
DOUBLE PHONE PLUG



A two way phone plug. Will accommodate 2 sets headphone tips or lugs. Fits all standard jacks. Handle is molded bakelite. Metal parts are nickel plated brass. Available in red and black.

No. 211 **LIST PRICE 50c**
No. 224—Barrel only **LIST PRICE 20c**

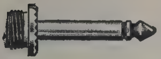
SHIELDED TWO-WAY PHONE PLUG



Identical to our part No. 211 phone plug except that barrel is made of nickel plated brass for shielding purposes.

No. 221—Plug **LIST PRICE 85c**
No. 222—Barrel only **LIST PRICE 50c**

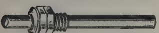
PHONE PLUG ADAPTER



For use in any single contact connectors and any standard phone jacks. No wiring or soldering necessary to make connection. Made of nickel plated brass.

No. 223 **LIST PRICE 45c**

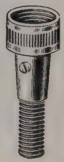
PANEL BEARING ASSEMBLY



The accurately reamed hole in bearing assures smooth, non-binding operation. Equipped with bowed spring washer which eliminates sliding forward and backward. Shaft is ¼" in diameter. Fits ⅜" hole in panels up to 5/16" thick. Made of brass.

No. 1022—3" Shaft **LIST PRICE 40c**
No. 1023—6" Shaft **LIST PRICE 50c**

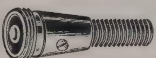
Single Contact Female Microphone Connector



This microphone connector assures a completely shielded connection. All metal parts are nickel plated brass except spring. Used extensively for making connections from microphone to amplifier. When used with our part No. 505 and 500, any combination of connection can be arranged. Equipped with coupling ring.

No. 506 **LIST PRICE 50c**

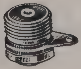
Single Contact Male Microphone Connector



Similar to microphone connector No. 506 above except that it has a male thread ⅝-27 and no coupling ring.

No. 505 **LIST PRICE 40c**

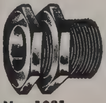
Single Contact Male Chassis Connector



This microphone connector is used on chassis or in the microphone. Made of nickel plated brass. The thread is ⅝-27 and ⅜" hole required for mounting. Supplied with washers, soldering lug and nut. Highest quality insulating material used.

No. 500 **LIST PRICE 30c**

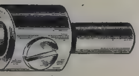
PANEL BEARING



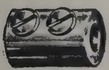
Accurately machined bearing made to fit ¼" shafts. Fits ⅜" hole in panels up to 5/16" thick. Supplied with one mounting nut. Body made of brass.

No. 1021 **LIST PRICE 18c**

SHAFT EXTENDERS, COUPLINGS AND REDUCERS



A



B

C

EXTENDER FIG. A

Brass No.	Insulated No.	Hole Dia.	Shaft Dia.	Overall Length	List Price
1014	914	⅜	¼	1⅛	20c
1015	915	¼	¼	1⅛	20c
1017	917	¼	⅜	1⅛	20c
		EXTRA LENGTH EXTENDER			
1016		¼	¼	1¾	25c

COUPLING FIG. B

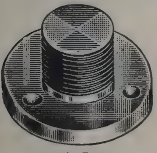
Brass No.	Insulated No.	Hole Dia.		Hole Dia.	Overall Length	List Price
1011	911	¼	to	⅜	¾	20c
1012	912	¼	to	¼	¾	20c

REDUCER FIG. C

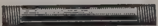
No. 1009—Reduces a ⅜" hole to ¼" hole List Price 10c

BRASS	No. 1018	Dia. ¼	Length 6"	List Price 20c
SHAFTING	No. 1019	Dia. ¼	Length 12"	List Price 40c

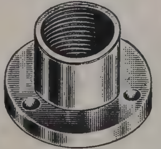
Microphone Base Flanges & Extension Rods



Male Type



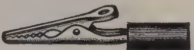
New mike stand items for which there has long been a demand. With the male type Base Flange the microphone can be attached directly to the desk, table, pulpit, etc.



Female Type

No. 515—Male Flange	**LIST PRICE $0.75**
No. 516—Female Flange	**LIST PRICE .75**
No. 517—6" Extension Rod	**LIST PRICE .75**
No. 518—12" Extension Rod	**LIST PRICE 1.00**

Insulated Alligator Clips

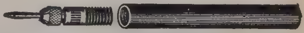


Sturdy clips made with thin jaws, fine meshing teeth and strong spring to assure hard bite. Handles 1" long.

No. 333—Red **LIST PRICE 20c**
No. 334—Black **LIST PRICE 20c**

NEEDLE POINT TEST PRODS

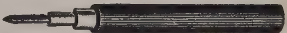
REMOVABLE PHONO-NEEDLE CHUCK



Test prods are made of non-breakable extruded plastic and available in red and black. Chuck can be removed from prod as well as phono-needle from chuck. All brass parts are nickel plated.

No.	Color	Length	List Price
315	Red	4"	35c
316	Red	6"	40c
317	Black	4"	35c
318	Black	6"	40c

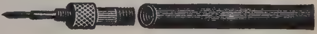
HEAVY DUTY TEST PRODS



Identical to above except that these test prods are equipped with heavy duty phone tips made of nickel plated brass.

No.	Color	Length	List Price
319	Red	4"	35c
320	Red	6"	40c
321	Black	4"	35c
322	Black	6"	40c

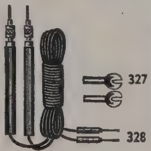
SOLDERLESS TEST PRODS



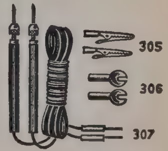
Identical to above except that test prods are equipped with solderless phone tips.

No.	Color	Length	List Price
323	Red	4"	35c
324	Red	6"	40c
325	Black	4"	35c
326	Black	6"	40c

PHONO-NEEDLE AND PHONE TIP TEST LEADS



Solderless Type



Phono Tip Type

Prods are made of non-breakable extruded plastic, 4" long, one each red and black. Supplied with rubber covered kinkless wire 48" long. Insulated for high voltage. Available with non-insulated phone tips, spade lugs or alligator clips as illustrated.

No.		Price
305	Alligator Clips	$1.10
306	Spade Lugs	1.00
307	Phone Tips	1.00
327	Spade Lugs	1.00
328	Phone Tips	1.00

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

GENERAL GC CEMENT Radio Cements

G-C RADIO SERVICE SOLVENT

"CLEANS AND DISSOLVES"

Best Solvent for loosening cement on speaker cones, frames, etc. made to dissolve all types of cements. Can also be used as a thinner for G-C Cement and other cements.

12 to display

No.		List Price
31-2	2 oz. bottle	$0.35
31-2-D	Display 12 No. 31-2	4.20
31-4	4 oz. bottle	.50
31-6	6 oz. economy bottle	.65
31-8	8 oz. economy bottle	.75
31-16	1 pt. economy bottle	1.25
31-32	Quart	2.45
31-G	1 Gallon	5.00
31-5G	5 Gallons	23.25

RADIO
SERVICE
SOLVENT

G-C RADIO SERVICE CEMENT

The Best Cement for Speaker and Radio Work. Especially suitable for cementing replacement cones and repairing rattling and torn cones. Also used on glass, to seal adjustments, hold wires in place, etc. Dependable, Vibration-Proof, Waterproof, and Fast-Drying.

12 to display

No.		List Price
30-0	½ oz. bottle	$0.20
30-0-D	Display 12 No. 30-0	2.40
30-2	2 oz. bottle, brush attached to cap	.50
30-2-D	Display 12 No. 30-2	6.00
30-4	4 oz. economy bottle	.90
30-6	6 oz. economy bottle	1.25
30-8	8 oz. economy bottle	1.60
30-16	1 pt. bottle	3.00
30-32	Quart	5.75
30-G	1 Gallon	9.35
30-5G	5 Gallons	42.00

The Proper Thinner for G-C Radio Service Cement is G-C No. 28 Cement Thinner. (Page 3)

RADIO
SERVICE
CEMENT

New Type Wide Mouth Bottle

G-C No. 28 CEMENT THINNER

This thinner is made of same solvents as G-C Service Cement and makes the best thinner for thinning all cements.

No.	Size	List Price
No. 28-2	2 oz.	$0.35
No. 28-2-D	Display 12 No. 28-2	4.20
No. 28-4	4 oz.	.50
No. 28-8	8 oz.	.75
No. 28-16	16 oz.	1.25
No. 28-32	32 oz.	2.45
No. 28-G	1 Gal.	5.00
No. 28-5G	5 Gal.	23.25

Radio
CEMENT
THINNER

G-C ALL-PURPOSE CEMENT

Fast drying cement suitable for many uses. Excellent "Household Cement". Also an ideal "model-makers" cement for use on model airplanes, ships, toys, etc.

No.		List Price
No. 45-2	2 oz.	$0.42

The Proper Thinner for G-C All Purpose Cement is G-C No. 28 Cement Thinner (above).

GENERAL
CEMENT

G-C FILM SPLICING CEMENT

Improved Formula fast drying cement. No better quality. Specially prepared for splicing all types of movie camera film.

No.		List Price
33-0	½ oz. Size	$0.20
33-0-D	Display 12 #33-0	2.40
33-1	1 oz. Size	.25
33-2	2 oz. Size	.45

FILM
CEMENT

G-C P-X PLASTIC ADHERING CEMENT

Cements station call tabs to Push Buttons and escutcheons. Keeps them from getting lost! Ideal for cementing paper, cloth, leather, etc. to plastics.

No.		List Price
44-1	1 oz.	$0.42

G-C GRILLE CLOTH FABRIC CEMENT

For cementing grille cloth, aeroplane luggage fabric, leather, etc. to wood radio cases, test equipment and cabinets.

No.		List Price
38-4	4 oz.	$0.42
38-8	8 oz.	.75
38-16	Pint	1.25

GRILLE CLOTH
FABRIC CEMENT

G-C CEMENT AND SOLVENT KIT

Kit consists of 1 bottle of our famous Service Cement, and 1 bottle of Service Solvent. Handy Kit to carry with you.

No.	List Price
343	$0.50

G-C BAKELITE CEMENT

Prepared for cementing Bakelite to Bakelite or Bakelite to other materials. Useful for broken knobs, molded cabinets, etc. 12 to display.

No.		List Price
32-2	2 oz. bottle	$0.55
32-8	Half Pint	1.25
32-16	Pint	2.25
32-32	Quart	4.25
32-G	1 Gallon	12.50
32-5G	5 Gallons	61.25

The Proper Thinner for G-C Bakelite Cement is G-C No. 67 Thinner. (Page 7).

B-K
BAKELITE
CEMENT

G-C WOOD CABINET GLUE

Best quality wood glue for repairing cabinets. Strong and fast drying. Will not injure cabinet finish.

No.		List Price
39-2	2 oz. bottle with brush	$0.35
39-4	4 oz.	.42
39-8	8 oz.	.75
39-16	Pint	1.25

G-C RUBBER CEMENT

Best quality general purpose rubber cement for cloth, paper, rubber, etc. A necessity in every shop.

No.		List Price
23-4	4 oz.	$0.42
23-8	8 oz.	.75
23-16	Pint	1.25

The Proper Thinner for G-C Rubber Cement is G-C No. 67 Thinner. (Page 7).

RUBBER
CEMENT

General Cement Mfg. Co. is the leading Manufacturer of Radio Cements, Chemicals, Coil Dopes and Compounds for all Radio and Electronic uses.

Cements and Compounds are available in any quantity from small bottles to drums.

G-C SPEAKER REPAIR CEMENT IN TUBES

This is our regular service cement put up in a handy tube. Makes a good, general-purpose, waterproof glue. Also useful for speakers, cones, coils, etc.

12 to display

No.		List Price
34-2	Large Size	$0.42
34-2-D	Display 12 No. 34-2	5.04

Radio
Cement
SPEAKER
REPAIRS

G-C PLASTIC CEMENT

Best grade pyroxilyn cement for cementing all types of plastics. Excellent for cementing broken cabinets, knobs, etc.

No.	Size	List Price
No. 32-2A	2 oz.	$0.55
No. 32-8A	8 oz.	1.25
No. 32-16A	16 oz.	2.25
No. 32-32A	32 oz.	4.25
No. 32-GA	1 Gal.	10.00
No. 32-5GA	5 Gal.	48.00

The Proper Thinner for G-C Plastic Cement is G-C No. 28 Cement Thinner. (Page 3)

PLASTIC
CEMENT

G-C RUBBER TO METAL CEMENT

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal.

No.		List Price
35-0	½ oz.	$0.20
35-0-D	Display 12 #35-0	2.40
35-1	1 oz.	.42
35-2	2 oz. bot. with brush	.50
35-4	4 oz.	.90
35-8	8 oz.	1.60
35-16	16 oz.	3.00
35-32	32 oz.	4.50
35-G	1 Gallon	9.35
35-5G	5 Gallons	42.00

The Proper Thinner for G-C Rubber Cement is G-C No. 67 Thinner. (Page 7).

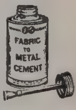
RUBBER TO
METAL
CEMENT

G-C FABRIC TO METAL CEMENT

For cementing cloth and felt to metal. Ideal for cementing felt to phono turntables, grille cloth to metal cases, etc. Brush attached to cap.

No.		List Price
22-4	4 oz.	$0.42
22-8	8 oz.	.75
22-16	Pint	1.25

The Proper Thinner for G-C Fabric to Metal Cement is G-C No. 67 Thinner. (Page 7).



G-C DIAL DRIVE CEMENT

FOR CEMENTING RUBBER TO METAL

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal.

No.		List Price
35-0	½ oz.	$0.20
35-0-D	Displ. 12 #35-0	2.40
35-1	1 oz.	.42
35-2	2 oz.	.50

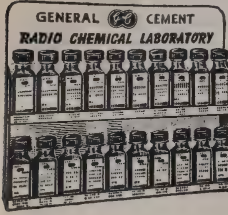
The Proper Thinner for G-C Dial Drive Cement is G-C No. 67 Thinner (Page 7).

DIAL DRIVE
CEMENT

GENERAL G-C CEMENT *Radio Chemicals*

G-C RADIO CHEMICAL LABORATORY

"Use G-C Chemicals for Radio Repairs and Save Time"



Here is a real professional Radio Chemical Laboratory that is complete in every respect. Twenty large 2 oz. bottles put up in permanent laboratory stand that can be placed on your bench or hung up on the wall. The stand is a permanent rack to hold all your Radio Service Chemicals and find them when you need them. Every needed chemical and cement is included in this Laboratory for all kinds of Radio Repairs, speakers, coils, contacts, dials, controls, etc. Every Radio Man, Radio Laboratory, Radio Engineer, and Radio Manufacturer should all have this complete Laboratory.

	List Price
No. 997 G-C Chemical Laboratory	$8.17

No. 997 Radio Chemical Laboratory contains the following Radio Chemicals in large wide mouth 2 oz. bottles

(2 oz. bottles)

Cat. No.		List Price
30-2	Service Cement	$0.50
31-2	Service Solvent	.35
32-2	BK Cement	.55
35-2	Rubber to Metal Cement	.50
36-2	Liquidope	.35
37-2	Q-Dope	.35
39-2	Wood Glue	.35
45-2	General Purpose Cement	.42
56-2	Insulating Varnish	.35
917	Scratch Liquid	$0.35
1201	Non-Stick Iron Tip Compound	.35
120-2	Grafoline	.35
1205	Carbon-X	.75
1209	Lube-Rex	.50
1210	Non-Slip Compound	.30
1214	Contact Dope	.50
1215	Liquid Non-Slip	.35
1247	Dial Oil	.30
127-2	Contact Cleaner	.30
161-2	Varnish Stain	.50

Refills are available at the above prices.
Jobbers cartons 12 each to carton

G-C CONTACT & CRYSTAL CLEANER

CONTACT AND CRYSTAL CLEANER

Specially prepared for cleaning contacts and crystals. Cleans easily and will not injure delicate parts, crystals, etc. "Hams" and Radio Men will appreciate this item.

No.		List Price
127-0	½ oz.	$0.20
127-0-D	Display 12 #127-0	2.40
127-2	2 oz.	.30
127-4	4 oz.	.50
127-8	8 oz.	.75
127-16	Pint	1.10

NEW G-C ELECTRONIC CONTACT CLEANER

"Improved red color contact cleaner made with G-C Lube-Rex"

Electronic CONTACT CLEANER

Special cleaner which cleans fast and dries fast. On drying it leaves a protective film of G-C Lube-Rex on the contact without affecting electrical characteristics.

	Size	List Price
No. 210-0	½ oz.	$0 20
210-0-D—Display 12 #210-0		2.40
No. 210-2	2 oz.	.35
No. 210-4	4 oz.	.50
No. 210-8	8 oz.	.85
No. 210-16	16 oz.	1.65
No. 210-32	32 oz.	3.00
No. 210-G	1 Gal.	7.50

G-C GRAFOLINE

Specially made for noisy controls, switches, and wire wound controls. Will eliminate noises on controls and contacts and on tube prongs.

12 to display

		List Price
No. 120-2	2 oz.	$ .35
No. 120-16	pint	2.00

G-C LIQUIDOPE

"Genuine All-Wave Coil Dope"

Ideal coil dope for all-wave coil windings. Clear and fast-drying. Gives coils a tough protective film that insures firmness and prevents characteristic changes due to weather.

12 to display

No.		List Price
36-2	2 oz. bot.	$ .35
36-8	½ pt.	1.05
36-16	Pint	2.00
36-32	1 Quart	3.75
36-G	1 Gallon	9.35
36-5G	5 Gallons	42.00

The proper thinner for G-C Liquidope is G-C No. 28 Cement Thinner. (page 3)

G-C CARBON TETRA-CHLORIDE

CARBON TETRA-CHLORIDE

100% Carbon Tetra-Chloride. Non-explosive and non-inflammable for cleaning electrical controls and contacts.

	Size	List Price
No. 211-2	2 oz.	$0.35
No. 211-4	4 oz.	.50
No. 211-8	8 oz	.85
No. 211-16	16 oz.	1.50
No. 211-32	32 oz.	2.45
No. 211-G	1 Gal.	5.75

(Write for Special Quantity Prices)

G-C CONTACT DOPE

CONTACT DOPE

Ideal contact cleaner for electronic switches, controls and contacts. Specially prepared to resist corrosion and oxidation on contacts. Eliminates noise on switches and contacts.

	List Price
No. 1214—2 oz. Bottle	$0.50

G-C LUBE-REX "LUBRIPLATE"

"Prevents Corrosion"

The best contact cleaner on the market. Fine for attenuators, push button switches, all wave switches, contacts, etc. Cleans contacts and prevents corrosion. The only acceptable lubricant for Philco Mystery controls. Moisture repellent and rust preventing—fine for use on locks, fishing reels, guns, dial mechanisms, phonograph equipment, etc. Is especially desirable since it clings to the metal.

LUBE-REX LUBRIPLATE

		List Price
1203	½ oz.	$0.20
1203-D	Display 12 #1203	2.40
1209	2 oz.	.50
1208	pint	2.25

12 to display

G-C Q-DOPE

"Made from Polystyrene"

New Ultra Low Loss Compound that is recommended for high frequency work. Absolutely no loss in Q—fast-drying—maintains coil characteristics.

POLYSTYRENE Q-DOPE

No.		List Price
37-2	2 oz. bot.	$0.3[illegible]
37-4	4 oz.	.60
37-8	½ pt.	1.05
37-16	Pint	2.00
37-32	Quart	3.[illegible]0
37-G	Gallon	9.[illegible]0
37-5G	5 Gallon	43.50
Special Thinner		
41-2	2 oz. bot.	.25
41-4	4 oz.	.45
41-8	8 oz.	.75
41-G	Gal.	4.00

G-C RADIO CHASSIS CLEANER

RADIO CLEANER
for Chassis - Panels

Make extra money by returning your customer's set thoroughly cleaned from dirt, grease and grime. Chassis Cleaner cleans Radio Chassis, Panels, Test Equipment, etc., without injuring the surface. Buy in gallon quantities and save.

		List Price
123-8	8 oz. bottle	$0.50
123-16	16 oz. bottle	.75
123-G	gallon can	2.25

G-C CONTACT DOPE

CONTACT DOPE

Ideal new chemical for treating Electrical and Radio Contacts. Will prevent corrosion and eliminate noise on switches, contacts, relays, etc. Put in convenient long-neck tubes for easy application.

No.		List Price
1213	Tube	$0.30
1213-D	Display—24 Tubes	7.20

G-C CONTACT & ATTENUATOR SERVICE KIT

"Eliminates Noise . . . Prevents Corrosion"

Ideal kit for cleaning noisy attenuators, tuners, all-wave switches, variable contacts, etc. Consists of special contact cleaner and special corrosion-resistant lubricant. With this Kit you can easily clean those noisy controls and 9 times out of 10 without dismantling the chassis or control unit. It will pay to use this Kit.

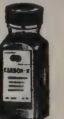
CONTACT LUBRICANT
CONTACT CLEANER

	List Price
No. 777—Kit	$1.00

G-C CARBON-X

"For Noisy Carbon Controls"

Here is an item every Service Man has been looking for. A practical method to touch up those worn and noisy spots on carbon volume controls. You simply apply CARBON-X over the bad spots and the job is done. When you cannot sell a replacement control you can do the job with Carbon-X.



CARBON-X is an electrical conductor

12 to display

No.		List Price
1200	½ oz. bottle	$0.20
1200-D	Display 12 #1200	2.40
1204	1 oz. bottle	.50
1205	2 oz. bottle	.75

G-C RADIO CHEMICAL KIT AND REFILLS

A complete kit of 8 chemical necessities in neat leatherette pocket case. Makes it easy for Serviceman to always have his chemical needs with him. Includes: Service Cement, Rubber Drive Cement, Carbon-X, Lube-Rex, Scratch Polish, Liquid Non-Slip, Dial Oil, and Contact Cleaner. Handy applicator attached to cap of each container. Servicemen should have this kit with them for every outside call.

RADIO CHEMICAL KIT

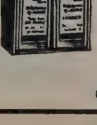
No. 999—Radio Chemical Kit ....**List Price $2.25**

G-C CHEMICAL KIT REFILLS

No.		List
30-0	Radio Cement	$0.20
35-0	Dial Drive Cement	.20
127-0	Contact Cleaner	.20
923	Scratch Polish	.20
1200	Carbon-X	$0.20
1203	Lube-Rex	.20
1211	Liquid Non-Slip	.20
1246	Dial Oil	.20

Display 12 Bottles—Any Type $2.40

G-C COIL DOPE KIT



Handy Coil Dope Kit, containing one 2 oz. bottle G-C Polystyrene Q-Dope and one 2 oz. bottle G-C Q-Dope Thinner. Kit includes 2 Brushes. Especially handy kit for amateurs, experimenters and Servicemen, requiring a low loss compound for designing or repairing high frequency coils.

No.		List Price
888	Kit	$0.65

GENERAL G-C CEMENT Radio Chemicals

New!

ELECTRONIC CHEMICAL LABORATORY

GENERAL G-C CEMENT
RADIO CHEMICAL LABORATORY
CARBON TETRA-CHLORIDE
CONTACT AND CRYSTAL CLEANER
Q-DOPE
CREME-O-WAX
SCRATCH REMOVER
RADIO SERVICE CEMENT
RADIO SERVICE SOLVENT
CONTACT CLEANER

Cat. No. 998 **List Price $11.12**

Dealer's Net **$6.67**

Here's what G-C gives you—Heavy Steel Rack **FREE** and 19 different bottles and chemicals.

Heavy Steel Rack finished in new Luster Gray—designed to hang on the wall or stand on your bench.

Here's the latest in G-C chemical innovations. A complete practical laboratory made up to fit the needs of all Service Men in their every day work. The quantities are arranged so that you get more of the items used constantly.

An ideal chemical set-up for servicing Radio Sets, Phonographs, and Electronic Devices.

Also very handy for Factories, Engineers, Experimental and Research Labs, Schools, Home Work Shops, Hobby Shops, etc.

HEAVY STEEL RACK IS FREE!

CONTENTS

8 oz.

30-8 Service Cement
31-8 Service Solvent
92-8-L Scratch Polish
95-8-L Creme-O-Wax
210-8 Red Contact Cleaner

4 oz.

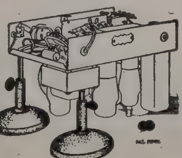
22-4 Fabric to Metal Cement
35-4 Rubber to Metal Cement
37-4 Q-Dope
56-4 Insulating Varnish
127-4 Contact Cleaner
211-4 Carbon Tetra-Chloride

2 oz.

32-2A Plastic Cement
36-2 Liquidope
120-2 Grafoline
126-2 Rek-O-Dope

1205 Carbon-X
1209 Lube-Rex
1215 Liquid Non-Slip
1247 Dial Oil

G-C RADIO CHASSIS JACKS

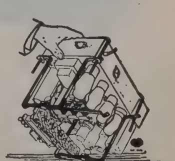


A practical tool for the Radio Bench. Have you ever tried to prop up a set with boxes, old parts, etc.? If you have, then you will appreciate these Jacks. They are quickly adjustable to fit any set, and can be used in any place. Made of metal, they will find a permanent place on your bench and will more than pay for themselves in time saved.

No. 711—Per Pair .... **List Price $1.65**

G-C RADIO CHASSIS GUARDS

"THE ANSWER TO THE RADIO MAN'S PROBLEM"



Inexpensive set of guards that will protect the chassis and tubes. When working on set, chassis can be turned in any position without damage to set or tubes. Adjustable to fit all sets. Easly applied.

No.	List Price
709—Chassis Guards complete per pair	$2.25

GENERAL G-C CEMENT

Flock Finish Kits, Flock Grille Screening

G-C FELT-KOAT FLOCK FINISH SPRAY KITS

G-C
FELT FLOCK SPRAY GUN
FELT-KOAT FLOCK TAUPE
FELT-KOAT FLOCK BROWN
FELT-KOAT UNDERCOAT
FELT-KOAT UNDERCOAT
FELT-KOAT UNDERCOAT THINNER

"NEW PATENTED BLOWER SPRAY GUN FOR FLOCK"

The new G-C method of applying flock with the G-C patented gun. It distributes flock evenly and blows each fibre into the undercoat vertically with great power. The Flock in reality "Flocks to the undercoat in a heavy velvet coat." Coats of varied softness and density can be obtained by amount you apply.

You can do a professional job without any experience with the new G-C patented Blower Gun; no special skill required. You can really turn out a professional job on phono turntables, cabinets, grilles, instrument cases, tool boxes, toys, ornaments, signs, and hobby uses.

Earn extra profit on refinishing turntables for Juke Boxes, Home Sets, etc. Many ornamental designs can be obtained with this new kit.

KIT CONTAINS:

- 1 Special Patented Blower Gun
- 1 Can Brown Flock
- 1 Can Ivory Flock
- 1 Can Thinner
- 1 Brush and Instructions
- 1 Can Brown Under Koat
- 1 Can Ivory Under Koat

No. 180-2—DeLuxe Blower Kit Complete................**List Price $10.75**

G-C FELT-KOAT SPECIAL FLOCK PATENTED BLOWER GUN

(ILLUSTRATED ABOVE)

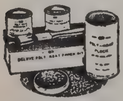
For those who have complete flocking material G-C Blower Gun can be purchased separately. The gun, specially designed, distributes the flock evenly and blows each fibre into the undercoat vertically with great force, thereby giving a smooth, velvet finish. Every fibre is securely held in the undercoat.

No. 180-3—Flock Blower Gun..............**List Price $3.95**

G-C FELT-KOAT "FLOCK FINISH KITS"

POWDERED FELT

Complete Flock Finish Kit for applying soft felt-like, flock to phono-turntables, cabinets, testers, panels, displays, tool chests, compartments, lamp bases, wire mesh on speakers, and microphone grilles, etc. Produces heavy soft velvet-like coat that prevents scratching. Easy to apply.



Colors: Brown, Blue, Taupe, Black, White, Ivory, Red, Green, Silver and Gold. (Specify color.)

No. 180-0—DeLuxe Kit ....**List Price $2.00**

Contains Flock, Special Applicator, Undercoat, Thinner, and Brush.

No. 180-1—Regular Kit .... **List Price $1.65**

Contains Flock, Special Applicator, and Undercoat.

G-C FELT-KOAT FLOCK MATERIALS

Same materials supplied in above Kits in individual quantities for the larger user. Manufacturers, Servicemen, Advertisers, etc., will find it more economical to buy these larger quantities.

G-C FLOCK

G-C
FELT COAT FLOCK

Colors: Brown, Taupe, Blue, Black, White, Ivory, Red, Green, Silver and Gold.

No.		List Price
180-5	Replacement Flock for Kit sifter type container (specify color)	$1.00
180-LB	Pound, Flock (specify color)	5.50
180-5LB	5 pounds. Flock (specify color)	24.75

G-C UNDERCOAT

Colors: Brown, Taupe, Blue, Black, White, Ivory, Red, Green, Silver and Gold.

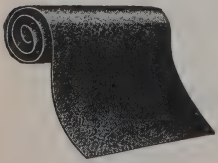
180-4	4 oz. (specify color)	$0.70
180-8	8 oz. (specify color)	1.10
180-16	Pint (specify color)	2.00
180-G	Gallon (specify color)	11.50
180-5G	5 Gal. (specify color)	49.00

G-C THINNER

181-4	4 oz.	$0.35
181-8	8 oz.	.50
181-16	Pint	.75
181-G	Gallon	3.25
181-5G	5 Gallons	15.75

(For larger quantities write for quotations.)

G-C FLOCKED GRILLE PLASTIC SCREEN



"SMOOTH AS SILK — TOUGH AS STEEL"

Very popular grille screen, flocked with a smooth rayon velvet-like flock. Made on new plastic screening that is easy to cut. Holds its smooth shape, and is easy to install.

Plastic screen is fireproof and weatherproof, and can be used indoors or outdoors.

Excellent grille for radio cabinets, small midget sets, intercom's, juke boxes, etc. Improves appearance of sets.

Available in 4 standard colors and various sizes. (Special colors available on large quantity orders.)

No.	Size	Color	List Price
951-1	8″ x 11″	Walnut Brown	$0.45
951-2	8″ x 11″	Walnut Mottled	.45
951-3	8″ x 11″	Ivory	.45
951-4	8″ x 11″	Ivory Mottled	.45
952-1	18″ x 24″	Walnut Brown	1.35
952-2	18″ x 24″	Walnut Mottled	1.80
952-3	18″ x 24″	Ivory	$1.35
952-4	18″ x 24″	Ivory Mottled	1.80
953-1	36″ x 36″	Walnut Brown per yard	4.00
953-2	36″ x 36″	Walnut Mottled per yard	5.00
953-3	36″ x 36″	Ivory per yard	4.00
953-4	36″ x 36″	Ivory Mottled per yard	5.00

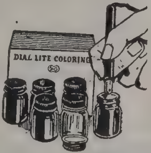
GENERAL G-C CEMENT Paints - Varnishes - Compounds

G-C R.M.A. COLOR CODING KIT

Complete Kit of all of the standard R. M. A. colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Grey and White. All colors are brilliantly alive. Brushes furnished and R. M. A. color chart is on box. Kit is necessary for complete color coding parts.

No.	Price List
677—Color Coding Kit	$1.50

G-C DIAL LITE COLORING



Long lasting coloring for multi-colored dials. Instant drying. Bright colors of Red, Green, Blue, Amber, Purple, and Solvent. Earn extra money by selling colored dial lites.

Dress up those old sets.

No.	List Price
66-6 —6 bots.	$ .60
66-5 —5 bots., no purple	.50
66-1 —Bot. of any color	.10
66-2 —2 oz. Bot., any color	.35
66-16—Pint of any color	1.75
66-32—Quart, any color	2.25
66-G —1 Gal., any color	8.50

G-C No. 29 Lacquer Thinner

LACQUER THINNER

Solvent for thinning all types of lacquers, lacquer enamels, telephone black and gray, etc.

No.	Size	List Price
29-2	2 oz.	$ .35
29-4	4 oz.	.50
29-8	8 oz.	.75
29-16	16 oz.	1.25
29-32	32 oz.	2.45
29-G	1 gal.	5.00
29-5G	5 gal.	23.25

G-C KROME-KOAT ALUMINUM PAINT

Fast drying ready mixed aluminum paint leaves chrome-like finish. For P.A. equipment, speakers, chassis, etc.

KROME KOAT ALUMINUM PAINT

No.	Size	List Price
61-2	2 oz.	$0.30
61-4	4 oz.	.60
61-8	8 oz.	1.10
61-16	16 oz.	2.00
61-32	32 oz.	3.25
61-G	1 Gal.	9.00

The Proper Thinner for G-C Krome Koat is G-C No. 67 Thinner (below).

TELEPHONE BLACK & GRAY

TELEPHONE BLACK

High grade enamel that covers well and dries fast. Black will produce an ebony black finish that is so familiar on telephone devices. Gray is a pleasing shade. Excellent for panel work and parts. Specify color.

12 to display

No.	List Price
62-2 —⅛ pt.	$0.35
62-8 —½ pt.	1.05
62-16—Pint	2.00
62-32—Quart	3.50
62-G —1 Gallon	10.50
62-5G—5 Gallons	50.00

The Proper Thinner for G-C Telephone Black and Gray is G-C No. 29 Lacquer Thinner. (Page 7)

G-C No. 67 THINNER

For Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish, and Rubber Cements

No. 10 THINNER

No.	List Price
67-2 —2 oz.	$ .35
67-4 —4 oz.	.50
67-8 —8 oz.	.75
67-16—pint	1.00
67-32—quart	1.50
67-G —gallon	3.25
67-5G—5 gallons	15.75

G-C VINYLITE CEMENT

VINYLITE CEMENT

New G-C cement of vinylite base specially made for cementing vinylite materials; has excellent adhesion, high tackiness, and extreme flexibility. Excellent for cementing metals, plastics, paper, leather, etc. Can also be used as a thermoplastic cement for non-porous materials. Cement is applied to both surfaces, dried and then pressed together under heat such as flat irons, hot plates, or soldering irons. Sets on cooling.

No.	List Price
58-2—2 oz. Bottle	$0.50
58-8—8 oz. Bottle	1.60
58-G—1 Gallon	9.35

G-C NON-CORROSIVE LIQUID SOLDERING FLUX

"Fast soldering for Radio and Electrical Work"

SOLDERING SOLUTION

Best quality non-corrosive flux for all types of Radio and Electrical Soldering, for Copper, Brass, Steel, Nickel, etc. Makes the solder flow faster and smoother and stick better.

No.	List Price
42-2—2 oz. Bottle	$0.50
42-8—8 oz. Bottle	1.60
42-G—1 Gallon	9.00

G-C INSULATING & DIPPING VARNISH

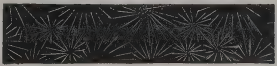
Clear Amber Insulating Varnish for noisy or buzzing transformers, chokes, field coils, etc. Requires no baking—air dries.

INSULATING AND DIPPING VARNISH

No.	List Price
56-2 —2 oz.	$ .35
56-4 —4 oz.	.50
56-8 —8 oz.	.80
56-16—Pint	1.50
56-G—1 Gallon	9.80
56-5G—5 Gallons	45.00

The Proper Thinner for G-C Insulating and Dipping Varnish is G-C No. 67 Thinner. (Page 7)

G-C KRYSTAL KOAT CRYSTALIZING LACQUER



The famous GC Krystal Koat lacquer. Strictly Air-Drying; forms beautiful floral pattern when dry. For chassis, panels, etc. Can be used on metal, wood or paper.

Colors: Black, Gray, Brown, Green, Blue, Red and Clear. Specify Color.

12 to display

KRYSTAL-KOAT CRYSTALIZING LACQUER

No.	List Price
63-2—⅛ pt.	$0.40
63-4 —¼ pt.	.75
63-8 —½ pt.	1.25
63-16—Pint	2.25
63-32—Quart	3.50
63-G —1 Gallon	12.50
63-5G—5 Gallons	58.50

The Proper Thinner for G-C Krystal Koat is G-C No. 29 Lacquer Thinner. (Page 7)

NOTE:. Impenetro Sealer must be used for undercoat when Krystal Koat is applied over other finishes. Same price as black.

CLEAR FROST-X for frosting window glass same price as Crystal Lacquer.

G-C LUMINOUS LITE-KOAT KIT ("Glows in the Dark")

LUMINOUS LITE-KOAT FINISH KIT

A long-life, non-poisonous luminous coating that emits light in the dark. Coating absorbs light in daytime and glows in the dark. Hundreds of uses in the laboratory, home, office, institutions, factories, etc. Ideal to coat or stripe dials, knobs, switch plates, meter boxes, key holes, panels, instruments, hallways, stair cases, location of lights, etc. Makes it easier to locate in the dark. De-luxe Kit contains generous quantity of Lite-Koat Powder, Mix-Koat Top-Koat, to protect the finish, handy small brushes for applying and thinner. Complete instructions and suggestions.

No.	List Price
184-0—De-luxe, luminous Lite-Koat Kit contains Lite-Koat Powder, Mix-Koat, Top-Koat, brushes and Thinner	$2.50
184-1—Regular, luminous Lite-Koat Kit contains Lite-Koat Powder, Mix Koat and Brushes	1.65

G-C LUMINOUS LITE-KOAT MATERIALS

LITE-KOAT POWDER

No.	List Price
185-1 —1 oz.	$0.95
185-2 —2 oz.	1.65
185-8 —8 oz.	4.75
185-LB —1 lb.	9.25
185-5LB—5 lb.	41.50

MIX-KOAT

No.	List Price
186-2 — 2 oz.	$0.50
186-8 — 8 oz.	1.25
186-16—16 oz.	2.25
186-32—32 oz.	3.50
186-G —Gal.	11.50
186-5G—5 Gal.	49.00

KOVER-KOAT

No.	List Price
187-2 — 2 oz.	$0.50
187-8 — 8 oz.	1.25
187-16—16 oz.	2.25
187-32—32 oz.	3.50
187-G —Gal.	11.50
187-5G—5 Gal.	49.00

MIX-KOAT THINNER

No.	List Price
188-2 — 2 oz.	$0.50
188-8 — 8 oz.	1.25
188-16—16 oz.	2.45
188-32—32 oz.	5.00
188-G —Gal.	10.00
188-5G—5 Gal.	45.00

(WRITE FOR PRICES IN LARGE QUANTITIES)

G-C FUNGUS LACQUER

"Meets U. S. Army Signal Corps Specifications"

FUNGUS LACQUER

G-C Fungus Lacquer is used on all types of Radio Electronic and Communication equipment to prevent moisture absorption and fungus growth, when equipment is used in hot and humid climates.

No.	List Price
57-2 —2 oz.	$0.35
57-8 —8 oz.	.80
57-16—16 oz.	1.50
57-G —1 Gal.	9.00

G-C RUF-KOAT AIR DRY WRINKLE VARNISH

RUF-KOAT WRINKLE VARNISH

The only finish that will Air Dry and give you a professional wrinkle job without baking. It is the same finish as is employed by manufacturers on P. A. Equipment, Chassis, Panels, and Racks. Easy to use. Don't experiment — use the best.

Colors: Black, Gray, Brown, Green, Red, Blue, and Ivory (Specify Color)—12 to display.

No.	List Price
60-2 —⅛ pt.	$0.45
60-4 —¼ pt	.75
60-8 —½ pt.	1.25
60-16—Pint	2.25
60-32—Quart	3.50
60-G —Gallon, Black	11.00
60-G —Gallon, Colors	11.50
60-5G—5 Gal., All Colors	49.00

The Proper Thinner for G-C Ruf-Koat is G-C No. 67 Thinner. (Page 7)

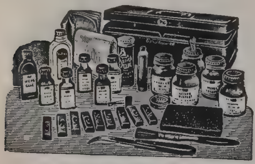
Undercoat. Use Ruf-Koat Undercoat before applying Ruf-Koat on porous materials. Same price as above.

GENERAL G-C CEMENT *Cabinet Repair Kits Scratch Removers*

G-C MASTER DELUXE CABINET REPAIR KIT

"New, Most Complete Kit"

A complete cabinet repair kit, put in a permanent metal box. All finishes supplied are spirit soluble and will not cut or damage surrounding finishes on cabinets, etc. Kit contains shellac sticks, alcohol lamp, French varnishes, rubbing felt and fluid, enamels, glue, steel wool, sandpaper, polish, directions, etc. Nothing else needed! The best buy on the market!

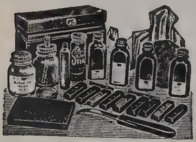


No. 900 — Master De Luxe Cabinet Repair Kit.
List Price $6.75

G-C DELUXE CABINET REPAIR KIT

"New Improved Kit"

Comes in handy Black Leatherette finish box. Contains nine shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Skratch Stik, alcohol lamp (with alcohol) spatula, small brushes, steel wool, sand paper, and wiping cloth. Everything necessary for a practical repair job. No special skill required. Directions included.

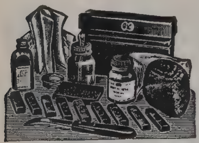


No. 901 .....List Price $3.50

G-C RADIO-REFRIGERATOR CABINET PATCH KIT

"New Improved Kit"

A Kit of the Shellac Patch Sticks to fill all needs. Patches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light and dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sand paper and wiping cloth are packed in the black leatherette box. Directions included.

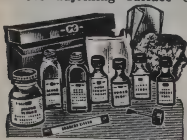


No. 903..........List Price $2.45

G-C MASTER CABINET TOUCH-UP KIT

"Ideal Quick Touch-Up Kit"

A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cabinets. The spirit finishes will not cut into the adjoining surface or injure surrounding finish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpaper, steel wool, rubbing cloth and directions included. Brushes attached to caps of all finish bottles. Put up in black leatherette finish box.

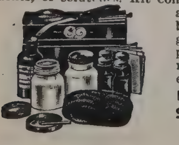


No.	List Price
907—Master Touch-Up Kit......	$1.95

G-C REFRIGERATOR PATCH KIT

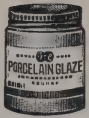
"New Improved Kit"

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains bottle of pure white lacquer enamel and bottles of yellow, blue, brown, and black tinting colors, a bottle or porcelain glazing compound, solvent, spatula, sandpaper, mixing tins and brushes. Useful on refrigerators, washers, ranges, table tops, etc. Directions included.



No.	List Price
902	$2.65

G-C PORCELAIN GLAZE



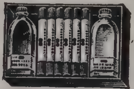
"For Refrigerators and Washers"

Easily fills in those nicks in porcelain. Used on refrigerators and washing machines and all porcelain. Merely fill in the nick and smooth over the top.

No.	List Price
911—2 oz. Bottle..	$0.50
911-16—16 oz. Bottle..	2.00

NEW! G-C MAGIC SCRATCH REMOVER KIT

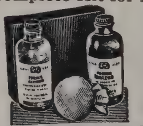
New combination kit of 6 colors popular shades of wood Scratch Stik fillers, and 2 bottles scratch remover liquid—walnut and clear. Merely select proper shade of filler and run it over the scratch. Works on all types of light and dark shades of wood. Sold to housewives on sight.



No.	List Price
915—Per package	$1.00

G-C FRENCH VARNISH KIT

Complete Kit for French Polishing. The only practical way to blend cabinet repairs with the adjoining finish. Kit contains French varnish, Emulsion, Polishing Pad and complete directions.

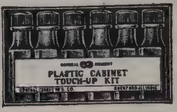


No.	List Price
160-0—Kit	$1.00

G-C PLASTIC CABINET TOUCH-UP KIT

"For Plastic and Colored Cabinets"

A new Kit composed of six various shades of the high grade lacquer enamel for touching up plastic cabinets. All colors are very brilliant and will blend with cabinets in use. Kit contains Walnut, Ivory, Black, Red Blue and Green colors. Brushes furnished.

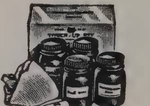


No. 910 ....List Price $1.00

G-C CABINET TOUCH-UP KIT

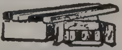
"Improved Kit"

A practical Kit for scratches and dents. Includes light and dark stains and light and dark varnish stains that dry almost immediately, brushes, wiping cloth, and a scratch filler.



No. 905.......................List Price $0.60

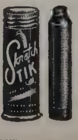
G-C SHELLAC STIKS



For permanently filling in holes and nicks in cabinets and fine furniture. All shades.

No.	List Price
No. 925—Kit of 10 asst., 2¼" sticks.	$1.25
No. 929—Light Walnut, 7" stick..	.35
No. 930—Dark Walnut, 7" stick..	.35
No. 933—Black, 7" stick..	.35
No. 934—White, 7" stick...	.35
No. 935—Maple, 7" stick...	.35
No. 936—Special Spatula	.50
No. 937—Alcohol Lamp	.25
No. 938—Alcohol Lamp Fuel per pt..................................	.75
No. 978—Light Oak, 7" stick...	.35
No. 979—Dark Oak, 7" stick..	.35
No. 980—Transparent, 7" stick	.35
No. 981—Light Transparent, 7" stick..................................	.35
No. 982—Walnut, 7" stick	.35
No. 983—Mahogany, 7" stick..	.35
No. 984—Blonde Maple, 7" stick...	.35
No. 990—Felt Rubbing Pad	.25
No. 992—2 oz. Shellac Stick Rub. Fl..................................	.35

G-C GENERAL SKRATCH STIK

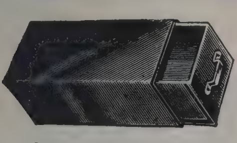


Handy Pocket scratch remover. The stick has both a filler and a scratch polish in it. It's hard to avoid making scratches, but they are easy to take out with this stick. The most popular Scratch Stik on the market. Thousands in use. Makes excellent premium for customers. Your name imprinted in Gross lots.

No. 909—Skratch Stik ....**List Price $0.35**
No. 909-D—Display of 12 ....**List Price 4.20**

GENERAL G-C CEMENT Grille Cloth - Polishes

G-C STEEL STOCK CABINETS



Ideal steel drawer type cabinet for Radio Parts, etc. Made so cabinets can be stacked on top of each other. Size, 13½″ long; 6″ wide; 4″ high.

No.	List Price
4001	$1.75

G-C LEATHERETTE INSTRUMENT FABRIC

A black leatherette finish fabric for re-covering instrument cases. Same as used by manufacturers. Keep your instruments looking new.

No.		List Price
965	18″ x 20″	$0.45
966	18″ x 40″	.85
967	Any length (per yd.) 36″ wide	1.50

G-C FRENCH VARNISH

For blending repaired surfaces with the original. Merely apply over the repaired part and it will blend into the original finish and conceal the repair. Dries Fast.

FRENCH VARNISH

No.		List Price
160-2	⅛ pt. bot.	$0.35
160-4	¼ pt.	.65
160-8	½ pt.	1.05
160-16	Pint	2.00

G-C SCRATCH REMOVER LIQUID

New type liquid! Removes scratches instantly. Simply wipe the liquid with a cloth over the scratches and they will disappear. A handy bottle to have in every Service Men's Kit.

No.		List Price
917	2 oz. Bottle	$0.35
923	½ oz. bottle	.20
923-D	Display 12 No. 923	2.40

G-C PORCELAIN PATCH STICK

Specially made for white Porcelain Refrigerators. Simply melt into nick and smooth off. Makes a perfect patch.

No.		List Price
908		$0.25
908-D	Display— 12 Sticks	3.00

G-C STEEL RACKS

GENERAL G-C CEMENT
RADIO HARDWARE LABORATORY

An excellent steel rack to hold small bottles, parts and jars, and keep your place in order. .0″ long; shelves, 2¼″ wide; 12″ high.

No.	List Price
4010	$1.75

G-C RUBBING OIL

For rubbing down newly finished cabinets and furniture. Takes the high gloss off newly lacquered and varnished surfaces. Produces a satin-like finish.

RUBBING OIL FOR CABINETS

No.		List Price
163-16	Pint	$0.50
163-32	Quart	.75
163-G	Gallon	2.00

G-C SPIRIT VARNISH STAIN

The same stains that are used in our cabinet touch-up Kits. A durable fast drying varnish with the finishing stains in it. Walnut shade.

WALNUT VARNISH STAIN

No.		List Price
No. 161-2	⅛ pint	$0.50
No. 161-4	¼ pint	.75
No. 161-8	½ pint	1.00
No. 161-16	Pint	2.00
No. 161-32	Quart	3.00

G-C LEMON OIL POLISH

A high grade inexpensive lemon oil polish. Polish those sets after repairing for customer good-will.

FAST WORKING
INEXPENSIVE
12 to Carton

LEMON OIL POLISH

No.		List Price
91-8	8 oz. bottle	$0.25
91-16	16 oz. bottle	.45
91-G	Gallon	3.00

G-C TOPS SKRATCH REMOVER POLISH

Our famous Scratch Remover Polish put up in a special bottle with an applicator in the cap. Merely rub the applicator over the scratch and the job is done. Display in your shop for extra sales.

TOPS
SKRATCH REMOVER
Brush Top

No.		List Price
92-0	6-oz. bottle	$0.50

G-C RADIO Cabinet Speaker GRILLE CLOTH

High quality speaker grille cloth, that will blend with any cabinet.

Speaker GRILLE CLOTH

No.		List Price
940	18″ x 20″	$1.00
941	9″ x 18″	.53
942	12″ x 12″	.53
943	14″ x 18″	.63
944	24″ x 13″	.74
945	18″ x 13″	.58
946	8″ x 8″	.21
947	9½″ x 10″	.26
948	6″ x 6″	.21
949	Any length, per yd.	$4.00
950	Roll, 9″ x 12″	.40
950-D	Display 8, No. 950	3.20

Special light color Grille Cloth for Plaskon and Ivory Cabinets can be supplied at above prices. Specify "Ivory" when wanted.

G-C PENETRATING STAIN

"Spirit Type"

The stain that is used to cover scratches and nicks on Radio Cabinets, Pianos, Furniture, etc. Specially formulated to penetrate into wood. Fine for darkening the corners on cabinets. Use on all wood. Walnut finish.

PENETRATING STAIN FOR WOOD

No.		List Price
162-2	⅛ pint	$0.20
162-4	¼ pint	.35
162-8	½ pint	.65
162-16	Pint	1.25

G-C WINDOW CLEANER CONCENTRATE

"Make your own window cleaner and save"

Here's exactly the same compound as is used in the popular window cleaners — make your own and save. You simply add the concentrate to water and have a first grade window cleaner. Concentrate is colored blue. Regular size bottle will make a quart of cleaner.

WINDOW CLEANER CONCENTRATE

No.		List Price
122-5	6 oz. bottle	$0.25
122-G	Gallon	3.00

G-C TOPS SELF-POLISH LIQUID FLOOR WAX

Durable no-rub self-polishing Floor Wax. Very Best Quality. Merely apply to the floor and dries to a durable gloss finish. Profit by selling.

TOPS
SELF Polishing WAX

No.		List Price
No. 97-16	Pint	$1.10
No. 97-32	Quart	2.00
No. 97-G	Gallon	7.00

G-C TOPS SPOT CLEANER

A High Grade dry cleaner with a special applicator. The applicator is in the cap—no extra cloth needed. Non-explosive. Sell your customers for extra profits.

TOPS
SPOT REMOVER
Brush Top

No.		List Price
124-2	6 oz. bottle. With Special Cap.	$0.50
124-8	8 oz. bottle. No Special Cap.	.50
124-16	16 oz. bottle. No Special Cap.	.75

G-C MAGIC SCRATCH REMOVER POLISH

NEW! LIGHT SHADE

Light Shade for Blonde Maple, Mahogany and all light wood.

12 to Carton

No.	Size	List Price
93-2	2 oz.	$0.20
93-8	8 oz.	.45
93-8-D	Display 12, 8 oz. bottles	5.40
93-16	16 oz.	.75
93-32	32 oz.	1.25
93-G	1 Gal.	4.00

DARK SHADE

Something new! Polish contains the proper stains, etc., to eliminate scratches on cabinets while polishing the cabinet to a gloss! You can sell this to Housewives.

12 to carton

Scratch Remover and Polish

No.		List Price
92-2	2 oz. bottle	$0.20
92-8	8 oz. bottle	.45
92-8-L	8 oz. Lab. size	.45
92-8-D	Display 12, 8 oz. bottles	5.40
92-16	16 oz. bottle	.75
92-32	Quart	1.25
92-G	Gallon	4.00

G-C CREME-O-WAX POLISH

"A WHITE NON-STAINING POLISH"

The best polish for furniture, refrigerators, radio cabinets, pianos, etc. Truly a wax finish; contains no oil. Dries hard and glossy. Is not sticky. Demonstrate on the job and sell your customer. Easily applied.

12 to carton

CREME O WAX
Polish

No.		List Price
95-2	2 oz. bottle	$0.20
95-8	8 oz. bottle	.45
95-8-L	8 oz. Lab. size	.45
95-8-D	Display 12, 8-oz. bottles	5.40
95-16	16 oz. bottle	.75
95-32	Quart	1.25
95-G	Gallon	4.00

Phonograph Needles - Record Compounds and Accessories

G-C MASTER-POINT 'Concert Grand' Phono Needle

Our very finest needle. A Phonograph needle that will bring out even the slightest tone and give scratch-free reproduction. The needle for the discriminating. Long life, with a special long-lasting, perfectly formed tip made from precious metal. Especially designed to give quiet, noise-free and natural, true reproduction. Pick up every tone with this specially designed "light touch" needle that is so easy on the records. Truly the needle of the Masters. Designed for use also on automatic record players.

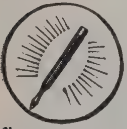
No.		List Price
1436	—Each	$ 1.50
1436-D	—Display of 13 No. 1436 (one free)	18.00

G-C MASTER-POINT 'Symphonic' Phono Needle

A better quality phongraph needle, especially designed to give excellent tone reproduction. Because of its design, is very easy on records and will give extra long life. The tip is made of special alloys which assure thousands of plays. True reproduction with minimum needle pressure on the record. Excellent for the home automatic record player.

No.		List Price
1435	—Each	$ 1.00
1435-D	—Display of 13 No. 1435 (one free)	12.00

G-C MASTER-POINT 'Cathedral Tone' Phono Needle



Long-life, quality performance needle. Made with a special alloy tip to assure uniform reproduction. Has remarkable endurance on either light or heavier weight pick-up arms. Easy on the records and will give excellent reproduction. Each needle supplied in a cellophane wrapped card.

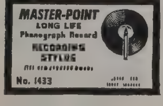
No.		List Price
1430	—Each	$0.75
1431-D	—Display of 13 No. 1430 (one free)	9.00

G-C MASTER-POINT 'Juke Special' Phono Needle

The needle preferred by Juke Box operators. Has a perfectly formed tip made of precious metals so as to assure extra long life—even when used on equipment with heavy pick-up arms. Excellent tone reproduction. Guaranteed to give thousands of satisfactory plays. It will pay operators of Juke Box Equipment and other Automatic Equipment to use this fine quality G-C "Juke Special." Buy this guaranteed needle to minimize needle replacements.

No.		List Price
1437	—Each	$ 1.00
1437-D	—Display of 13 No. 1437 (one free)	12.00

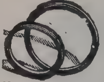
G-C MASTER-POINT LONG LIFE RECORDING STYLUS



The best cutting stylus made from processed alloy steel, that will give several hours of perfect cutting. Not to be confused with cheap short-lived stylus. Each needle mounted on cellophane wrapped card. Sell your customers the best so as to assure satisfaction.

No. 1433	—Each	List $0.50
No. 1434-D	—Display of 12 No. 1433	List 6.00

G-C PHONO-TURNTABLE Rubber Replacement Drives



Exact duplicates for replacement of popular friction-type phono turntable drives. Increase efficiency and prevent slipping by replacing worn rubber drives. Use G-C 35-2 Rubber to Metal Cement for cementing rubber to rim.

No.		List Price
16	—For General Industries RX-LX Motors	$0.25
16-E	—Env. 2 No. 16 Drives	.40
16-D	—Display of 20 No. 16-E	8.00
16-19-D	—Display of 32 Asst. Phono Drives	6.40
17	—For Alliance Model & Motorola	.25
17-E	—Env. 2 No. 17 Drives	.40
17-D	—Display of 20 No. 17-E	8.00
18	—For RCA	.15
18-E	—Env. 3 No. 18 Drives	.40
18-D	—Display of 20 No. 18-E	8.00
19	—For Philco, RCA, etc.	.15
19-E	—Env. 3 No. 19 Drives	.40
19-D	—Display of 20 No. 19-E	8.00
20	— or Detrola	.40
20-D	—Display of 20 No. 20	8.00
21	—For Webster Model 56	.25
21-E	—Env. 2 No. 21	.40
21-D	—Display 20 No. 21-E	8.00
21-A	—For General Electric Models	.15
21-A-E	—Env. 3 No. 21-A	.40
21-A-D	—Display of 20 No. 21-A-E	8.00

G-C SERVICEMAN'S PHONO NEEDLE PACKET

"SELL A NEW NEEDLE ON THE JOB"

Just what every Serviceman should carry with him on every service call so he can profit by selling new needle replacements. Handy package containing ten assorted high quality G-C Master Point Needles for all purposes. Packaged in attractive folder which protects the needle packages so that they are fresh and new when you make your sale. Packet contains 2 each G-C Needles No. 1436, 1435, 1430, 1437, and 2 each No. 1433 Recording Stylus. Save by buying this assortment and earn extra profit. (Standard carton 12 packets).

No.		List Price
1432	—Packet 10 needles	$8.50

(Regular list price individual needles $9.50)

G-C RECORD CLEANING PAD

RECORD CLEANING PAD

For all who use records, this specially treated pad is necessary to clean and remove dust and accumulation from records, without harming them. You can sell record users one of these pads.

No.		List Price
1290	—Size 4" x 4"	$0.22
1291	—Size 6" x 6"	.45
1291-D	—Display 12 No. 1291	5.40

G-C PHONO-TURNTABLE MOTOR & GEAR LUBRICANT

"MADE WITH GRAPHITE"

PHONO
MOTOR & GEAR
LUBRICANT

A new special lubricant for phonographs. Other lubricants will thin and run to the lowest point of gravity on the mechanism, but this is specially formulated so that the lubricant clings to the surface of the parts. Eliminate trouble on phono repairs by using the best.

No.		List Price
1223	—Tube	$0.42
1223-D	—Display—12 Tubes	5.04
122-2	—2 oz. jar	.35

G-C RECORD LUBRICANT

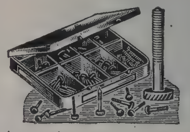
RECORD LUBRICANT

Reduces the surface noise and prevents excessive wear on the record or needles. Can also be used for a pre-recording lubricant. Records will last longer when you use a lubricant. 12 to Display.

No.		List Price
125-1	—1 oz. bottle	$0.25
125-1-D	—Display of 12 1-oz. bottles	3.00
125-2	—2 oz. bottle	.35
125-4	—4 oz. bottle	.50
125-6	—6 oz. bottle	.75

G-C PHONOGRAPH NEEDLE AND STYLUS SET SCREWS

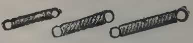
"THESE ARE ACCURATE MACHINED SCREWS, PRECISION MADE" (NOT ROLLED THREAD)



Here's the hard-to-get replacement set screws for pick-up arms and recording heads! Replacements for all popular types. Specially made round head, hardened machine screws. Buy a kit so as to have all 10 sizes on hand for those unexpected rush jobs and calls.

No.		List Price
1052	—10 Assorted Stylus Screws	$1.51
1052-E	—Env. 7 Asst. Screws	1.06
1052-E-D	—20 Env. No. 1052-E	21.20
1053	—100 Assorted Stylus Screws	13.95
P1	—for Shure Bros. No. 30-132	.17
P2	—for Astatic No. 3258; RCA No. 37045; Webster Electric No. P9564-1	.17
P3	—for Astatic No. 3207 and 3205; Stromberg-Carlson SD-64 and SD-149; Universal No. 3207; Webster No. 26A2108	.17
P4	—for Rek-O-Kut Recorder Cutter No. MG625, and No. 8-S; Webster Co. No. 26A2142	.17
P5	—for RCA No. 34432	.17
P6	—for RCA Nos. 33974, 3811, 33529, 31160, 12539	.17
P7	—for Webster Electric No. P4819-2	.17
P8	—for Shure Bros. No. 30-76	.17
P9	—for RCA, long 1 inch type	.17
P10	—for Audex, D-32	.17

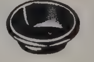
G-C PHONO TURNTABLE SPRINGS



Needed by all Servicemen. An assortment of the most popular type Phono-Turntable Springs. Assortments contain springs used by RCA, Philco, Seeburg, New Products, Oak, Zenith, and many others. Two assortments, one of smaller size springs and the other of larger types.

No.		List Price
6480	—Env. 10 small size phono springs	$0.40
6480-D	—Display of 20 envelopes No. 6480	8.00
6481	—Env. 8 larger size phono springs	.40
6481-D	—Display of 20 envelopes No. 6481	8.00

G-C PHONO-NEEDLE CUP



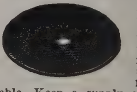
Standard size bakelite molded replacement phono-needle cup.

WALNUT FINISH

No.		List Price
1399	—Phono needle cup	$0.11
1399-R	—Needle Cups per 1000	75.00

RECORD-TURNTABLE FELT

"Ready Cut Pieces"



Replace worn out and "friction-less" felt on record turntable. You or your customers cannot obtain good recordings or reproductions unless the record is held firmly in place on the turntable. Keep a supply of this special felt on hand for that extra profit job. Pieces cut round, center hole punched.

		List Price
No. 1292	— 7⅞" diam.	$0.39
No. 1293	— 9⅞" diam.	.56
No. 1294	—11⅞" diam.	.72
No. 1295	—15⅞" diam. (Broadcast size)	1.12

(Use "Fabric to Metal Cement" as an adhesive)

G-C REK-O-DOPE

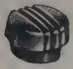
"New All-Purpose Record Compound"

Cleans — Lubricates — Hardens — Renews old records and preserves new records and recordings. It improves reproduction as it removes all dirt and loose particles, lubricates the surface and hardens the grooves. Records treated with G-C REK-O-DOPE will give better tone, and will last longer.

No.		List Price
126-1	—1 oz. bottle	$0.25
126-1-D	—Display of 12 1-oz. bottles	3.00
126-2	—2 oz. bottle	.45
126-4	—4 oz. bottle	.60
126-6	—6 oz. bottle	.75

GENERAL G-C CEMENT Radio Knobs and Accessories

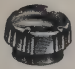
G-C SET SCREW BAKELITE KNOBS



MAJESTIC BAKELITE KNOBS

Popular Patterns. Set screw type. ⅞″ Diameter, ¼″ Shaft.

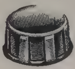
No. List
1100—Walnut $0.14
1100-I—Ivory .16
1100-D—Display 24 Env. Asst'd. Set Screw Knobs (2 to Env.) 7.09
1102-D—Display 16 Env. No. 1100 and 8 Env. No. 1100-I Knobs. (2 to Env.) 7.04



ROYAL BAKELITE KNOBS

Beautiful patterns. Set screw type. ⅞″ Diameter, ¼″ Shaft.

No. List
1105—Walnut $0.14
1105-I—Ivory. .16
1105-D—Display 16 Env. No. 1105 and 8 Env. No. 1105-I Knobs. (2 to Env.) 7.04

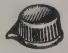


YANKEE BAKELITE KNOBS

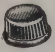
Popular Patterns. Set screw type. ¾″ & 1″ Diameter, ¼″ shaft.

No. List
1109—¾″ Wal. $0.14
1110—1″ Walnut .16
1109-I—¾″ Ivory .16
1110-I—1″ Ivory .18
1109-D—Display 16 Env. No. 1109 and 8 Env. No. 1109-I Knobs (2 to Env.) 7.04
1110-D—Display 16 Env. No. 1110 and 8 Env. No. 1110-I Knobs (2 to Env.)..... 8.00

G-C MIDGET BAKELITE KNOBS



SET SCREW TYPE

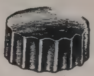


Popular knobs for small sets. 11/16″ diameter. Set screw ¼″.

POINTER TYPE			NON-POINTER TYPE	
No.	List	Color	No.	List
1115...	$.12	Walnut	1111...	$.12
1116...	.13	Ivory	1112...	.13
1117...	.12	Red	1113...	.12
1118...	.12	Black	1114...	.12

1115-D—Display 24 Env. Asst'd Midget Knobs (2 to Env.) List Price $5.91

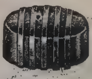
G-C LARGE PLASTIC KNOBS



Attractive molded knob. Knurl Shaft or Set Screw types available. 1⅛″ diameter.

Knurl Shaft Type
No. Color List
1176–Walnut $.15

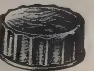
Set Screw Type
1177–Walnut $.17



Very popular molded knob. Knurl Shaft or Set Screw types available. 1⅛″ in diameter.

Knurl Shaft Type
No. Color List
1178–Walnut $.15

Set Screw Type
1179–Walnut $.17



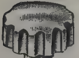
Very attractive molded knob. Knurl Shaft or Set Screw types available. 1-3/16″ diameter.

Knurl Shaft Type
No. Color List
1180–Walnut $.15

Set Screw Type
1181–Walnut $.17

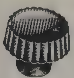
No. List Price
1176-D—Display 8 Env. each No. 1176, No. 1178 and No. 1180 Knurl Knobs (2 to Env.)..$7.20
1177-D—Display 8 Env. each: No. 1177, No. 1179 and No. 1181 Set Screw Knobs (2 to Env.) 8.16

G-C KNURL AND SPRING SHAFT PLASTIC KNOBS



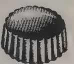
15/16″ diameter spring type to fit ¼″ flat shaft. Has ⅛″ extension shank.

No. List
1151–Walnut $.12
1152–Ivory.. .13



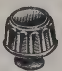
15/16″ diameter knurled shaft with ½″ extension shank.

No. List
1153–Walnut $.12
1154–Ivory.. .13



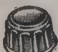
15/16″ diameter to fit the new style knurled shaft.

No. List
1155–Walnut $.12
1156–Ivory.. .13



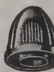
Midget ¾″ diam. knurled type with ⅜″ extension shaft.

No. List
1157–Walnut $.12
1158–Ivory.. .13



Midget ⅜″ diam. knurled type shaft.

No. List
1159–Walnut $.12
1160–Ivory.. .13

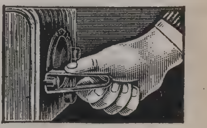


Very popular acorn knob for midget sets. Will fit all knurl shafts. ¾″ diameter, ⅛″ shank length.

No. List
1182–Walnut.... $.12
1183–Ivory...... .13

No. 1150-D—Display 24 Env. Asst'd Knurl Shaft Knobs (2 to Env.)..............................List $4.93
No. 1151-D—Display 24 Env. Large Asst'd. Knurl Knobs (2 to Env.).............................. 6.04
No. 1152-D—Display 16 Env. No. 1151 and 8 Env. No. 1152 Spring Shaft Knobs (2 to Env.).............. 5.92
No. 1157-D—Display 24 Env. Asst'd. Small Knurl Knobs (2 to Env.).............................. 6.04

G-C KNOB PULLER

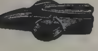


Now you can easily remove those knobs that are hard to grip. Simply slip the G-C puller behind the knob and pull it off. Saves time, the cabinet, and the knob. Have one in your shop and in your tool kit!

List Price
No. 1063—Knob Puller $0.25
No. 1063-D—Display—24 Pullers. 6.00

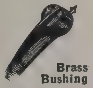
G-C MODERN POINTER KNOBS

Streamline Pointer



Popular pointer knob. ¼″ shaft, set screw type.

Black or Wal. (Specify)			Red or Ivory (Specify)		
No.	Size	List	No.	Size	List
1136	1¼″	$.15	1137	1¼″	$.21
1135	2¼″	.19	1138	2¼″	.24

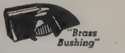


MODERN POINTER KNOBS

Attractive pattern, black finish. Set screw, ¼″ shaft.

No.	Size	List
1130	2¾″	$.27
1131	1⅝″	.22

Streamline Pointer

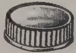


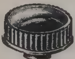
Popular pointer knob with brass insert for better mounting. ¼″ shaft—set screw type.

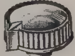
Black or Wal. (Specify)			Red or Ivory (Specify)		
No.	Size	List	No.	Size	List
1170	1¼″	$.24	1172	1¼″	$.27
1171	2″..	.27	1173	2″..	.31

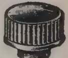
No. List Price
1136-D—Display 40 Env. Asst'd. Type Pointer Knobs (1 to Env.)........ $7.88

G-C KNURL SHAFT PLASTIC KNOBS









MATCHED SERIES

Very attractive knobs molded of tenite. Used on most popular sets.

Large Knob with flush shank. 15/16″ diam.

No. List
1184–Walnut $.12
1185–Ivory.. .13

Large Knob with extension shank. 15/16″ diameter, ½″ shank.

No. List
1186–Walnut $.12
1187–Ivory.. .13

Pointer type knob with extension shank. 15/16″ diameter, ½″ shank.

No. List
1188–Walnut $.12
1189–Ivory.. .13

No. 1184-D—Display 24 Env. Asst'd. Walnut Matched Knurl Knobs (2 to Env.)...List Price $5.76
No. 1185-D—Display 24 Env. Asst'd. Ivory Matched Knurl Knobs (2 to Env.) ...List Price 6.24

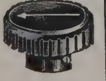
Midget type Knob, to match larger knobs. 23/32″ diameter.

FLUSH SHANK
No. List
1193–Walnut $.12
1194–Ivory.. .13

½″ SHANK
1197–Walnut $.12
1198–Ivory.. .13

G-C INSTRUMENT KNOB

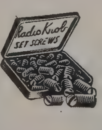
A superior knob for communication equipment and instruments, etc. Bakelite Molded knob with pointer, ¼″ brass insert and set screw. 1¾″ O.D. x ⅞″ over-all height.



No. List Price
1175 .... $0.38

G-C RADIO KNOB SET SCREWS

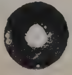
Replacement Screws for Knobs. Assortments contain various length of 6/32, 8/32 and 10/32 screws.



No. List Price
1060—50 assorted set screws..$0.99
1061—100 assorted set screws 1.81
1062—20 assorted set screws in env. .... .40
1062-D—Display—20 Env. ... 8.00
6605—Hdwre. Lab. Jar 30 Asstd. Knob Set Screws .60

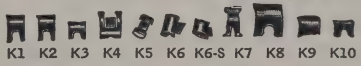
G-C RADIO KNOB FELTS

Same as are used behind radio knobs on the latest sets. Prevent scratching and rubbing.



No. List Price
1065—45 Felts $0.40
1065-D—Display—20 Env. 8.00
6641—Hdwre. Lab. Jar 70 Knob Felts .... .60

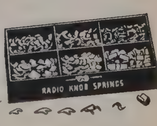
G-C RADIO PUSH-ON-KNOB SPRINGS



KNOB SPRINGS FOR ALL TYPES OF KNOBS

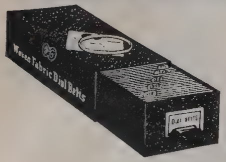
No.	List Price
K1, K2, K3, K4, K5, K7, K8, K9, K10, per hundred	$1.37
K1, K2, K3, K4, K5, K7, K8, K9, K10, each	.02
K6, K6-S, per hundred	2.74
K6, K6-S, each	.05
6460 —K-1 Knob Springs, 20 Springs	.40
6460-D—Display 20 Env., K-1 Knob Springs	8.00
6461 —K-2 Knob Springs, 20 Springs	.40
6461-D—Display 20 Env., K-2 Knob Springs	8.00
6462 —K-3 Knob Springs, 20 Springs	.40
6462-D—Display 20 Env., K-3 Knob Springs	8.00
6463 —K-4 Knob Springs, 20 Springs	.40
6463-D—Display 20 Env., K-4 Knob Springs	8.00
6464 —K-5 Knob Springs, 20 Springs	.40
6464-D—Display 20 Env., K-5 Knob Springs	8.00
6465 —K-6 Knob Springs, ⅜″ Long, 10 Springs	.40
6465-D—Display 20 Env., K-6 Knob Springs	8.00
6466 —K-6S Knob Springs, ¼″ Long, 10 Springs	.40
6466-D—Display 20 Env., K-6S Knob Springs	8.00
6467 —K-7 Knob Springs, 20 Springs	.40
6467-D—Display 20 Env., K-7 Knob Springs	8.00
6468 —K-8 Knob Springs, 20 Springs	.40
6468-D—Display 20 Env., K-8 Knob Springs	8.00
6469 —K-9 Knob Springs, 20 Springs	.40
6469-D—Display 20 Env., K-9 Knob Springs	8.00
6470 —K-10 Knob Springs, 20 Springs	.40
6470-D—Display 20 Env., K-10 Knob Springs	8.00
6619 —Hardware Lab. Jar 35 Knob Springs	.60

KNOB SPRING KITS



No. List Price
1049—20 asst. in env...$0.40
1049-D—Display—20 Env. 8.00
1050—Kit of 35 Springs ..... .66
1051—Kit of 100 Springs 1.37
6619—Hardware Laboratory jar 35 assorted .... .60

GENERAL G-C CEMENT Woven Fabric Dial Belts Dial Crystals



STEEL BOXES Supplied with Kits

G-C SERVICEMEN'S DIAL BELT KITS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are specially treated to prevent slipping. They are the best. Sizes available for all sets. **They are easy to install as they are made to fit. No adjustments necessary.**

G-C SERVICEMEN'S KITS

Servicemen! Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used. KIT INCLUDES ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

	List Price
No. G- 25—Kit of 25 popular belts	$ 6.70
No. G- 50—Kit of 50 popular belts	13.40
No. G-100—Kit of 100 (includes every size)	25.00
No. G-200—Kit of 200—assorted	50.00
No. G-300—Kit of 300—assorted	75.00

G-C Belts are the same type as used by manufacturers on the best sets.

EACH BELT

List Price $0.25

Send for the new G-C Dial Belt and Cable Guide Book.

INSTRUCTIONS — FOR MEASURING BELTS

To determine size of belt, if the old belt is available, cut the belt and measure for stretched out length. This will be "cut length" of belt.

If old belt is not available or is worn out so that it cannot be properly measured, stretch a thin thread around belt pulleys on set. (Be sure to use thin thread as a thick cord will give an inaccurate reading.) Measure the thread, it will be our "circumference around pulleys." In measuring belts always remember that the **circumference around pulleys** is not the same as **stretched out or cut length.** A belt when cut, develops approximately 3/16" extra length when stretched out, depending on thickness of belt.

G-C RADIO BELT SPECIFICATIONS

LISTED AS PER BELT NO.

GC Belt No.	Circumference Around Pulleys	Cut Length
101	6-23/32"	6-29/32"
102	6-57/64"	7-5/64"
103	7-15/32"	7-21/32"
104	8-1/64"	8-13/64"
105	7-1/2"	7-11/16"
106	7-1/4"	7-7/16"
107	7-11/16"	7-7/8"
108	8-21/32"	8-27/32"
109	8-1/2"	8-11/16"
110	8-25/64"	8-37/64"
111	7-15/16"	8-1/8"
112	8-43/64"	8-55/64"
113	8-3/32"	8-9/32"
114	8-15/64"	8-27/64"
115	9-13/64"	9-25/64"
116	9-5/16"	9-1/2"
117	9-1/16"	9-1/4"
118	10-23/64"	10-35/64"
119	9-17/32"	9-23/32"
120	10-45/64"	10-57/64"
121	10-11/16"	10-7/8"
122	10-3/8"	10-9/16"
123	9-7/8"	10-1/16"
124	10-17/64"	10-29/64"
125	10-25/64"	10-37/64"
126	10-1/16"	10-1/4"
127	9-59/64"	10-7/64"
128	10-19/64"	10-31/64"
129	10-41/64"	10-53/64"
130	11-5/64"	11-17/64"
131	11-9/64"	11-21/64"
131W	11-9/32"	11-15/32"
132	10-31/32"	11-5/32"
133	10-61/64"	11-9/64"
134	11-3/8"	11-9/16"
135	11"	11-3/16"
136	11-25/64"	11-37/64"
137	11-5/32"	11-15/32"
138	12"	12-3/16"
139	12-9/32"	12-15/32"
140	12-7/32"	12-13/32"
141	11-3/4"	11-15/16"
142	12-3/32"	12-1/4"
143	11-13/16"	12"
144	12-15/32"	12-21/32"
145	12-39/64"	12-51/64"
146	13-3/16"	13-3/8"
147	14-27/64"	14-39/64"
148	14-33/64"	14-3/4"
149	15-1/64"	15-13/64"
150	15-61/64"	16-9/64"
151	14-57/64"	15-5/64"
152	10-1/2"	10-11/16"
153	8-39/64"	8-51/64"
154	12-1/32"	12-7/32"
155	7-35/64"	7-23/32"
156	7-9/32"	7-15/32"
157	7-1/64"	7-13/64"
158	6-15/16"	7-1/8"
159	8-1/32"	8-7/32"
160	8-11/16"	8-7/8"
161	6-55/64"	7-3/64"
162	8-13/64"	8-25/64"
163	9-19/64"	9-31/64"
164	10-1/4"	10-7/16"
165	17-1/16"	17-1/4"
166	19-7/16"	19-5/8"
167	8-13/16"	9"
168	12-13/16"	13"
169	17-13/32"	17-19/32"
170	16-19/64"	16-31/64"
171	11-3/16"	11-3/8"
172	8-3/16"	8-3/8"
173	11-7/16"	11-5/8"
174	7-3/4"	7-15/16"
175	21-5/16"	21-1/2"
176	22-35/64"	22-47/64"
177	7-13/32"	7-19/32"
178	12-1/2"	12-11/16"
179	17-37/64"	17-49/64"
180	10-27/32"	11-1/32"
181	18-9/16"	18-3/4"
182	15-13/16"	16"
183	15-7/16"	15-5/8"
184	16-27/64"	16-39/64"
185	16-15/16"	17-1/8"
186	14-7/32"	14-13/32"
187	15-17/64"	15-29/64"
188	19-47/64"	19-59/64"
189	18-1/2"	18-11/16"
190	17-5/8"	17-13/16"
191	22-49/64"	22-61/64"
192	straight belt	16"
193	straight belt	12-7/16"
194	11-21/32"	11-27/32"

LISTED AS PER BELT SIZE

Circumference Around Pulleys	Cut Length	GC Belt No.
6-23/32"	6-29/32"	101
6-55/64"	7-3/64"	161
6-57/64"	7-5/64"	102
6-15/16"	7-1/8"	158
7-1/64"	7-13/64"	157
7-1/4"	7-7/16"	106
7-9/32"	7-15/32"	156
7-13/32"	7-19/32"	177
7-15/32"	7-21/32"	103
7-1/2"	7-11/16"	105
7-35/64"	7-23/32"	155
7-11/16"	7-7/8"	107
7-3/4"	7-15/16"	174
7-15/16"	8-1/8"	111
8-1/64"	8-13/64"	104
8-1/32"	8-7/32"	159
8-3/32"	8-9/32"	113
8-3/16"	8-3/8"	172
8-13/64"	8-25/64"	162
8-15/64"	8-27/64"	114
8-25/64"	8-37/64"	110
8-1/2"	8-11/16"	109
8-39/64"	8-51/64"	153
8-21/32"	8-27/32"	108
8-43/64"	8 55/64"	112
8-11/16"	8-7/8"	160
8-13/16"	9"	167
9-1/16"	9-1/4"	117
9-13/64"	9-25/64"	115
9-19/64"	9-31/64"	163
9-5/16"	9 1/2"	116
9-17/32"	9-23/32"	119
9-7/8"	10-1/16"	123
9-59/64"	10-7/64"	127
10-1/16"	10-1/4"	126
10-1/4"	10-7/16"	164
10-17/64"	10-29/64"	124
10-19/64"	10-31/64"	128
10-23/64"	10-35/64"	118
10-3/8"	10-9/16"	122
10-25/64"	10-37/64"	125
10-1/2"	10-11/16"	152
10-41/64"	10-53/64"	129
10-11/16"	10-7/8"	121
10-45/64"	10-57/64"	120
10-27/32"	11-1/32"	180
10-61/64"	11-9/64"	133
10-31/32"	11-5/32"	132
11"	11-3/16"	135
11-5/64"	11-17/64"	130
11-9/64"	11-21/64"	131
11-5/32"	11-15/32"	137
11-3/16"	11-3/8"	171
11-9/32"x5/16"	11-15/32"x5/16"	131W
11-3/8"	11-9/16"	134
11-25/64"	11-37/64"	136
11-7/16"	11-5/8"	173
11-21/32"	11-27/32"	194
11-3/4"	11-15/16"	141
11-13/16"	12"	143
12"	12-3/16"	138
12-1/32"	12-7/32"	154
12-3/32"	12-1/4"	142
12-7/32"	12-13/32"	140
straight belt	12-7/16"-str. belt	193
12-9/32"	12-15/32"	139
12-15/32"	12-21/32"	144
12-1/2"	12-11/16"	178
12-39/64"	12-51/64"	145
12-13/16"	13"	168
13-3/16"	13-3/8"	146
14-7/32"	14-13/32"	186
14-27/64"	14-39/64"	147
14-33/64"	14-3/4"	148
14-57/64"	15-5/64"	151
15-1/64"	15-13/64"	149
15-17/64"	15-29/64"	187
15-7/16"	15-5/8"	183
15-13/16"	16"	182
straight belt	16" - str. belt	192
15-61/64"	16-9/64"	150
16-19/64"	16-31/64"	170
16-27/64"	16-39/64"	184
16-15/16"	17-1/8"	185
17-1/16"	17-1/4"	165
17-13/32"	17-19/32"	169
17-37/64"	17-49/64"	179
17-5/8"	17-13/16"	190
18-1/2"	18-11/16"	189
18-9/16"	18-3/4"	181
19-7/16"	19-5/8"	166
19-47/64"	19-59/64"	188
21-5/16"	21-1/2"	175
22-35/64"	22-47/64"	176
22-19/64"	22-61/64"	191

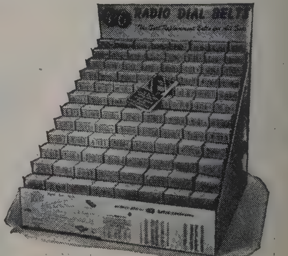
IT PAYS TO BUY G-C RADIO DIAL BELTS

Millions of G-C Belts in use as original equipment and as exact replacements. G-C Belts are used by Leading Radio Manufacturers on original equipment.

- ACCURATELY MADE
- UNIFORM CONSTRUCTION
- NO STRETCH
- NO SLIPS
- NO HUMPS
- NO WEAK JOINTS
- BEST RUBBER
- PLIABLE
- STRONGER
- WEATHER RESISTING
- LAST LONGER
- ORIGINAL BELT EQUIPMENT
- EXACT REPLACEMENTS
- UP-TO-DATE LISTINGS
- TAILOR-MADE KITS*
- GUARANTEED

*Buy a G-C Tailor-Made Dial Belt Kit made up of your exact territorial belt requirements. Sold only through your Jobber.

(The attractive Self-Serve Belt Display pictured at the right is for your convenience in purchasing G-C Belts from your distributor. Buy your belts from the G-C Self-Serve Display to get accurately made, trouble-free, and guaranteed belts.)



GENERAL G-C CEMENT Radio Dial Cables

G-C SERVICEMENS' DIAL CABLE RACKS

A new convenient way to handle Radio Dial Cables. Hang the rack on the wall and measure the cable as required. Each rack has a permanent 10-inch ruler lithographed on the attractive metal sign. Special feature of rack is, that each spool winds separately without disturbing the other spools. Two racks hold all the cables you need.

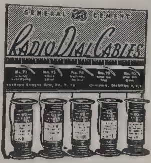
No. 2 — POPULAR RACK

(Free Racks with each assortment.)

No. 7-B-25 —Cable deal includes rack, ruler and 5-25 ft. spools each of Nos. 72, 73-X, 74L, 78 and 79 cables.
List Price.....$5.04 **Dealers Net.....$3.02**

No. 7-B-50 —Same as 7B-25 except 50 ft. spools of cable.
List Price.....$9.64 **Dealers Net.....$5.78**

No. 7-B-100—Same as 7B-25 except 100 ft. spools of cable.
List Price....$17.57 **Dealers Net....$10.54**



No. 1—MOST POPULAR RACK

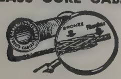
(Free Racks with each assortment.)

No. 7-A-25 —Cable deal includes rack, ruler and 5-25 ft. spools each of Nos. 71, 73, 74, 75, and 76 cables.
List Price.....$5.58 **Dealers Net.....$3.35**

No. 7-A-50 —Same as 7A-25, except 50 ft. spools of cable.
List Price....$10.73 **Dealers Net.....$6.44**

No. 7-A-100—Same as 7A-25 except 100 ft. spools of cable.
List Price....$19.38 **Dealers Net....$11.63**

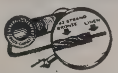
G-C BRAIDED BRONZE GLASS CORE CABLE



Very high quality Braided Bronze cable with fibre glass core for extra strength.

No.	Spool	List Price
70-25	— 25 ft.	......$1.26
70-50	— 50 ft.	...... 2.46
70-100	— 100 ft.	...... 4.38
70-500	— 500 ft.	......17.52
70-1000	—1000 ft.	......35.04
70-11	—Env. 8½ Ft.	.... 0.40
70-11-D	—Dsply 20 #70-11	8.00

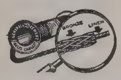
G-C 42 STRAND PHOSPHOR BRONZE CABLE



Highest Grade cable made of 42 strands and constructed over a linen thread center.

No.	Spool	List Price
71-25	— 25 ft.	.....$1.26
71-50	— 50 ft.	...... 2.46
71-100	— 100 ft.	...... 4.38
71-500	— 500 ft.	......17.52
71-1000	—1000 ft.	......35.04
71-11	—Env. 8½ Ft.	.... 0.40
71-11-D	—Dsply 20 #71-11	8.00

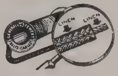
G-C BRAIDED BRONZE CABLE



A lower quality cable than the No. 71, but a cable that will give good service. Braided Prosphor Bronze Cable.

No.	Spool	List Price
72-25	— 25 ft.	.. ...$0.93
72-50	— 50 ft	...... 1.81
72-100	— 100 ft.	...... 3.45
72-500.	— 500 ft.	......14.78
72-1000	—1000 ft.	...... 27.38
72-11	—Env. 11½ Ft.	... 0.40
72-11-D	—Dsply 20 #72-11	8.00

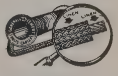
G-C HEAVY LINEN CABLE



Best Quality cord, same as used in Philco, Silver Marshall, Brunswick, and others. Made of finest Black Linen Braided.

No.	Spool	List Price
73-25	— 25 ft.	......$1.42
73-50	— 50 ft.	...... 2.74
73-100	— 100 ft.	...... 4.60
73-500	— 500 ft.	......21.90
73-1000	—1000 ft.	......38.33
73-11	—Env. 8 Ft.	...... 0.40
73-11-D	—Dsply 20 #73-11	8.00

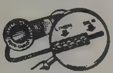
G-C EXTRA HEAVY LINEN CABLE



A heavier cable than our No. 73. This is the same type and weight of cable used on Philco receivers.

No.	Spool	List Price
73X-25	— 25 ft.	.....$1.42
73X-50	— 50 ft.	..... 2.74
73X-100	— 100 ft.	..... 4.60
73X-500	— 500 ft.	.....21.90
73X-1000	—1000 ft.	.....38.33
73X-11	—Env. 8 Ft.	.... 0.40
73X-11-D	—Display 20 #73X-11	..... 8.00

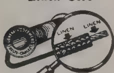
G-C LIGHT LINEN CABLE
Black Silk Core



Highest quality Light Cord, exactly as used in RCA, Wells-Gardner, Majestic, Sonora and others. Made of finest Black Silk Braided. The strongest cable available.

No.	Spool	List Price
74-25	— 25 ft.	......$1.26
74-50	— 50 ft.	...... 2.46
74-100	— 100 ft.	...... 4.38
74-500	— 500 ft.	......16.43
74-1000	—1000 ft.	......27.38
74-11	—Env. 8½ Ft.	.... 0.40
74-11-D	—Dsply 20 #74-11	8.00

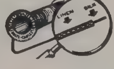
G-C LIGHT LINEN CABLE
Linen Core



A very high grade linen cable. Used for original equipment on many of the older type sets. Has a strong linen core with a closely braided and treated covering to minimize wear.

No.	Spool	List Price
74L-25	— 25 ft.	.....$1.26
74L-50	— 50 ft.	..... 2.46
74L-100	— 100 ft.	..... 4.38
74L-500	— 500 ft.	.....16.43
74L-1000	—1000 ft.	.....27.38
74L-11	—Env. 8½ Ft.	.. 0.40
74L-11-D	—Display 20 #74L-11	...... 8.00

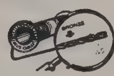
G-C SPECIAL THIN-LINEN CABLE



A strong, extra-thin linen cable for replacement where a very thin cord must be used. Braided of finest black linen.

No.	Spool	List Price
75-25	— 25 ft.	......$0.82
75-50	— 50 ft.	...... 1.53
75-100	— 100 ft.	...... 2.85
75-500	— 500 ft.	......10.95
75-1000	—1000 ft.	......19.71
75-11	—Env. 13½ Ft.	... 0.40
75-11-D	—Dsply 20 #75-11	8.00

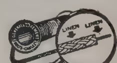
G-C SPECIAL LIGHT BRONZE CABLE



A high Quality Special Thin Phosphor Bronze Braided Cable exactly the same as used on RCA and GE sets.

No.	Spool	List Price
76-25	— 25 ft.	......$0.93
76-50	— 50 ft.	...... 1.81
76-100	— 100 ft.	...... 3.45
76-500	— 500 ft.	......14.78
76-1000	—1000 ft.	......27.38
76-11	—Env. 11½ Ft.	... 0.40
76-11-D	—Dsply 20 #76-11	8.00

G-C WHITE BRAIDED LINEN CORD



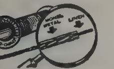
Same type of cable as used on Emersons. A light colored tightly braided linen cable. Very strong and durable.

No.	Spool	List Price
78-25	— 25 ft.	......$0.93
78-50	— 50 ft.	...... 1.81
78-100	— 100 ft.	...... 3.45
78-500	— 500 ft.	......14.78
78-1000	—1000 ft.	......27.38
78-11	—Env. 11½ Ft.	... 0.40
78-11-D	—Dsply 20 #78-11	8.00

G-C READY MADE DIAL CABLES

Make of Set and Model No.		List Price
R7	Brunswick, 15, 22 Front	.............$.44
R8	Brunswick, 15, 22 Rear	.... .44
R9	G.E., A88, A82, A87	.22
R10	Majestic, 70, 71, 72.	.22

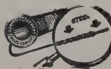
G-C MONEL METAL DIAL CABLE



A very high grade monel metal cable. It will not ravel, is very strong, won't stretch, and solders very easily. Preferred by many to the popular phosphorous bronze cables.

No.	Spool	List Price
79-25	— 25 ft.	......$1.10
79-50	— 50 ft.	...... 2.08
79-100.	— 100 ft.	...... 3.83
79-500	— 500 ft.	......15.33
79-1000	—1000 ft.	......28.47

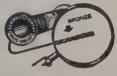
G-C EXTRA-THIN METAL CABLE



A strong extra-thin metal cable, now becoming popular. Used especially in the foreign market. Thinner than our No. 76 cable.

No.	Spool	List Price
80-25	— 25 ft.	......$1.26
80-50	— 50 ft.	...... 2.46
80-100	— 100 ft.	...... 4.38
80-500	— 500 ft.	......17.52
80-1000	—1000 ft.	......35.04

G-C SPECIAL EXTRA THIN PHOSPHOR BRONZE CABLE
Diameter .012"



Special thin cable made of 7 strand of .004" twisted phosphor bronze cable. Used by Army and Navy on Radio, Radar Equipment and special instruments.

No.	Spool	List Price
82-25	— 25 ft.	......$1.26
82-50	— 50 ft.	...... 2.46
82-100	— 100 ft.	...... 4.38
82-500	— 500 ft.	......17.52
82-1000	—1000 ft.	......35.04

G-C PHOSPHOR BRONZE BELTING

For Atwater Kents. 3/16" wide x .005" thick.

No.	List Price
61-25—25 ft. spool	......$1.42

For Brunswick $\frac{5}{16}$"x.006" thick.

No.	List Price
62-25—25 ft. spool	......$2.08

G-C NON-SLIP COMPOUND FOR RADIO DIALS

NON-SLIP
COMPOUND

Powder Compound for treating friction type dial drives such as cords, cables, and belts. Easy to use! Just apply freely to slipping parts.

No. 1210 .....List Price $0.30

G-C LIQUID NON-SLIP

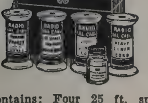
LIQUID
DIAL CORD
DRESSING

"For Radio Drive Cables and Belts"

Penetrating and fast drying liquid dressing. Shrinks fibres, prolongs life of cables and belts and prevents slipping.

No.	Size	List Price
1211	......½ oz.	......$0.20
1211-D	—Display 12, ½ Oz. Bottles	.... 2.40
1215	...... 2 oz.	...... .35

G-C SERVICE MEN'S DIAL CABLE KIT No. 1

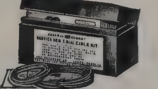


Kit contains: Four 25 ft. spools of popular type Dial Cable—42 strand Bronze, Special thin GE - RCA Cable, Light and Heavy Linen Cable.

FREE assortment of Eyelets and Clamps with Kit.

No.	List Price
77-SK—Cable Kit	$4.76

G-C SERVICE MEN'S CABLE KIT No. 2


GENERAL CEMENT
SERVICE MEN'S DIAL CABLE KIT

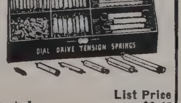
A handy combination Kit of 10 ft. lengths of all 12 G-C dial cables listed above. Each type in a separate envelope, and all packed in a leatherette box. -

No.	List Price
78-SK—Complete Kit	$4.65

G-C DIAL DRIVE SPRING ASSORTMENT

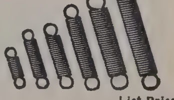
Kit of Dial Drive Tension Springs.

Six sizes supplied to handle all sets.



No.		List Price
1054	—10 assorted	$0.40
1054-D	—Dsply—20 Env. Reg. Springs	8.00
1054-S	—10 Small Springs	.40
1054-S-D	—Display—20 Env. Small Springs	8 00
1055	—Kit of 25 assorted Springs.	1.10
1056	—Kit of 100 assorted Springs.	3.83
Any size each	....	.05

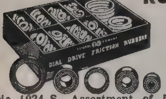
G-C DIAL DRIVE SPRINGS
(Bulk)



No.		List Price Per 100
T1	Spring, ⅛" x ½"..	$4.22
T2	Spring, ⅛" x 1"...	4.22
T3	Spring, 3/16" x 1".	4.22
T4	Spring, 3/16" x 1⅜"	4.22
T5	Spring, ¼" x 1½"..	4.22
T6	Spring, ¼" x 2"...	4.54
Any size—each	....	.05

GENERAL G-C CEMENT Service Aids - Tools

G-C RADIO AND PHONOGRAPH RUBBER DRIVES



Specially made for Atwater Kent, RCA, Stewart Warner, Olsen, Kennedy, Emerson and others. Best quality live rubber drives.

	List Price
No. 1024-S—Assortment of 5 Small Dial Drives	$0.40
No. 1024-S-D—Display—20 Env. of 1024-S	8.00
No. 1024-L—Assortment of 5 Large Dial Drives	.40
No. 1024-L-D—Display—20 Env. of 1024-L	8.00
No. 1024 —Assortment of 10 Dial Drives	.80
No. 1024-D—Display—24 Env. of 1024	19.20
No. 1025 —Box of 25 Assorted Drives	1.50
No. 1026 —Box of 100 Assorted Drives	6.00
No. 1—AK small, part No. 1568L	.10
No. 2—AK large, for gear Part No. 17961	.10
No. 3—Stewart-Warner-113, 114 Converter	.10
No. 4—Kennedy 26, 34, 36 and Wells-Gardner 2-22 Series	.10
No. 5—Stewart-Warner 105-120	.10
No. 6—RCA all numbers	.10
No. 7—Stewart-Warner 102-104	.10
No. 8—Stewart-Warner 105-120 Small	.10
No. 9—Atwater-Kent Part No. 27333 for models 465, 655Q, 768Q, 978Q	.10
No. 10—Stewart-Warner 126	.10
No. 11—Large Atwater-Kent for part number 27332 for models 465Q, 655Q, 768Q, 978Q	.10
No. 12—Emerson-Majestic grooved Rubber. Fits ¼" shaft	.10
No. 13—Small AK, for Part Number 27332	.10
No. 15—Philco Part No. 42-2346	.25
No. 16—Phono Drive for General Industries RX-LX Motors	.25
No. 17—Phono Drive for Alliance Model 80 and Motorola	.25
No. 18—Phono Drive for RCA	.15
No. 19—Phono Drive for Philco, RCA, etc.	.15
No. 20—Phono Drive for Detrola	.40
No. 21—Phono Drive for Webster Model 56	.25
No. 21-A—Phono Drive for General Electric	.15

G-C RADIO DIAL OIL

RADIO DIAL OIL

Special oil for lubricating dial mechanisms. Treated with graphite to assure effective lubrication. You need this for the new complicated dials.

No.	List Price
1245—4 oz. bottle.	$ .25
1246—½ oz. bottle	.20
1246-D—Display 12 No. 1246	2.40

G-C SOLDERING PASTE

Soldering PASTE

New high quality, non-corrosive, soldering paste for radio and electrical work.

No.	List Price
1207—2 oz. can	$ .17
1207-D—Di play 24	4.08

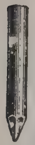
G-C NON-STICK IRON TIP COMPOUND

NON-STICK IRON TIP COMPOUND

"Made with Graphite" A new development. Prevents iron tips from burning into soldering irons. Saves tips and irons.

No.	List Price
1201—2 oz. bottle	$.35
1216—Pint	2.75

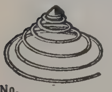
G-C Solder Iron Tips



Made of best grade hard drawn copper; will fit all makes Irons.

No.	diam.	long	List Price
724—	¼"	x 3"	$ .45
725—	5/16"	x 4½"	.55
726—	⅜"	x 4½"	.60
727—	7/16"	x 4"	.75

G-C HUB CAP WHEEL STATIC ELIMINATOR

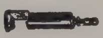


Eliminates static noises in front wheels of car. Spring is made with metal point for sure contact.

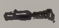
No.	List Price
1058—Each	.11
1059—Box of 24	2.30

G-C IGNITION SUPPRESSORS

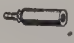
G-C now offers a rugged assortment of bakelite auto-radio ignition suppressors. All metal parts are made of brass and all terminals securely fastened in casings. All resistors are double-impregnated with a special moisture-proof compound to eliminate resistance variation due to moisture and weather. G-C Suppressors are impervious to heat, oil, moisture and mild acids. Over 50,000 miles of operation.



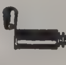
No.	List Price
1501—Bracket type	$.33
1502—Ford V8	.33



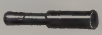
No.	List Price
1503—Ford V8 brush type for 33, 34, 35 cars	.33
1504—Ford V8 brush type for 36, 37, 38, 39	.33



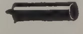
No.	List Price
1505—Screw type Universal	.33



No.	List Price
1506—Snap on type	.33



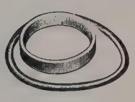
No.	List Price
1507—Distributor type	.33



No.	List Price
1508—Cable type for splicing cables	.33

G-C VACUUM CLEANER BELTS

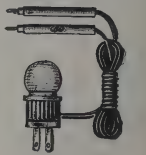
"Made of Best Grade Live Rubber"



Display G-C Vacuum Cleaner Belts and make extra profit. Needed in every home—so sell to all your customers. Belts made of finest grade live rubber. Display the belts in your store and also carry an assortment with you when making service calls. Belts marked for identification.

No.		List Price
7010-D	—Display 24 flat type belts—6 each cleaner belts types No. 7012, No. 7013, No. 7014, and No. 7015.	$5.40
7011-D	—Display 24 round type belts used on Apex, Hoover, AMC, and Kenmore—8 each belts No. 7016, No. 7017, and No. 7018	6.00
7012	—Flat Belt, 2⅛" I. D. x ½" wide x ⅛" thick, Fits Premier Duplex Jr.; G. E.; AMC; Bee Vac; Eureka, G Models; Hamilton Beach, 8, 12, 14; Kenmore, BV Types; Universal; Westinghouse	.20
7012-D	—Display 24 No. 7012 Belts	4.80
7013	—Flat Belt, 2⅜" I. D. x ½" wide x ⅛" thick. Fits Premier Duplex, General Electric, Westinghouse, Royal, Universal, Hamilton Beach, AMC, Airway, Apex, Eureka, Graybar, Kirby, Regina, Scott-Fitzer, Sweeper Vac.	.20
7013-D	—Display 24 No. 7013 Belts	4.80
7014	—Flat Belt, 3½" I. D. x ½" wide x 5/32" thick. Fits Airway, Apex, General Electric, Kenmore, Premier, Singer.	.25
7014-D	—Display 24 No. 7014 Belts	6.00
7015	—Flat Belt, 3¾" I. D. x ½" wide x 9/64" thick. Hoover large flat type.	.25
7015-D	—Display 24 No. 7015 Belts	6.00
7016	—Round Belt, 3" diam. x 5/16" thick. Fits Hoover, 25, 26, 27, 80, 103, 150, 300, 305, 450, 475; Apex, 129	.25
7016-D	—Display of 24 No. 7016 Belts	6.00
7017	—Round Belt, 3¾" diam. x ¼" thick. Fits Hoover models 102, 105, 541, 543, 961, N. Special	.25
7017-D	—Display 24 No. 7017 Belts	6.00
7018	—Round Belt, 3¾" diam. x 5/16" thick. Fits AMC, Kenmore Commander; Hoover models 60, 90, 575, 700, 725, 750, 800, 925, 930.	.25
7018-D	—Display 24 No. 7018 Belts	6.00

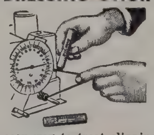
G-C APPLIANCE CIRCUIT TESTER



Easy to operate tester for testing circuits in appliances of all types. Tests out of your regular 110-120 volt outlet. Merely plug the tester into outlet and use the handy test leads for checking appliances. Tests cords, irons, clocks, fuses, refrigerators, toasters, washers, automatic irons, vacuum cleaners, etc. Easy to use.

No.	List Price
5175 —Appliance Circuit Tester	$ 1.50
5175-D—Display 12 Appliance Tester	18.00

NEW! G-C DIAL CORD DRESSING STICK



A new easy way to treat slipping cords on dial mechanisms. Simply rub the stick on cord and job is done! Prevents and stops slipping. Carry a stick with you.

No.	List Price
1212—Dressing Stick	$.20
1212-D—Display—36 Sticks	7.20

G-C MICROPHONE CARBON GRANULES

MICROPHONE CARBON

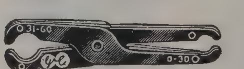
Finest grade, polished carbon. No ash content, so can stand high currents without burning. Enough for several double button Microphones. 3 types.

No. 1281—No. 100 size—highest sensitivity, best quality reproduction, but packs easily . . **List $.80**

No. 1282—No. 80 size—Best for general purpose work. Good quality reproduction and does not easily pack. **List .80**

No. 1283—No. 60 size—Best for hard use—sound trucks, etc. Fair quality reproduction less packing . . **List .80**

G-C SPEEDEX FUSE PULLERS



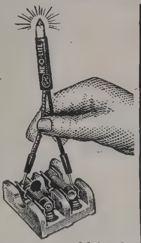
Inexpensive—no-slip fuse puller. Safe and handy for cartridge fuses. Laminated insulation construction of high di-electric material for extra strength and safety. Keeps the fingers away from dangerous high voltages. A necessity in every kit.

No.	List Price
5525—Midget size, for fuses ¼" to ½" diameter.	$0.35
5525-D—Display 12 No. 5525 Pullers	4.20
5526—Pocket size, for fuses ½" to 1½" diameter. Voltages to 200 amps at 250 volts and 100 amps at 600 volts.	1.00
5526-D—Display 6 No. 5526 Pullers	6.00

GENERAL G-C CEMENT

Wire Strippers Speaker Shims - Test Lites

G-C NE-O-LITE TESTER

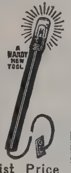


Handy, inexpensive Ne-O-Lite tester that every Radio Man should have for testing A.C. Lines, polarity of A.C. or D.C., testing for blown fuses, tracing ground line in A.C., as a R.F. indicator Spark Plug tester and 101 other uses. Can be used on 60 V. A.C. to 500 V. A.C. or D.C.

No.		List Price
5100	Single tester on card	$ 0.50*
5100-D	Display 20 No. 5100	10.00
5112-D	Display 12 No. 5100	6.00

G-C INSPECTION LITE

LIGHT WHERE YOU WANT IT — 110v. AC or DC

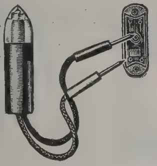


Just the light for Service work in the field. Lights up those hard-to-see corners in Chassis and Refrigerators. Handy for coloring dial lite bulbs. Dip bulb in coloring and job is done.

No.		List Price
705		$1.50
705-D	Display 6 Lites	9.00
704	Replacement Bulb for 705	.15
704-S	Clear Plastic Shield	.15

G-C THERMO-VOLT CIRCUIT TESTER

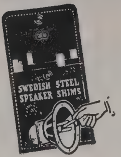
"FOR 15-60 VOLTS AC OR DC"



Tester designed for use between 15 and 60 volts either AC or DC. Used for testing thermostats, aircraft circuits and all lower voltage controls operating up to 60 volts. Also needed in aircraft, trains, 28-32 volt electrical systems, marine lighting, etc. Durable pocket type tester housed in a permanent plastic case. Equipped with long test leads and handy clips for easy attaching to contacts. A necessity when installing automatic heating or air-conditioning equipment. Useful to the engineer, electrician, radio man, etc.

No.		List Price
5150	Thermo-Volt Circuit Tester	$ 1.75
5150-D	Display 12 Thermo-Volt Tester	21.00

G-C SWEDISH STEEL SPEAKER SHIMS



The best shims for centering voice coils. With steel shims adjustments can be made in a few minutes. Made of Swedish Steel, these are very flexible—a permanent tool. Kit consists of 4 sizes, put up in gold-lettered snap case. 16 shims to kit.

No.		List Price
701		$0.65
701-D	Display of 12 No. 701	7.80

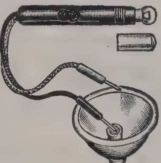
G-C FIBRELOID SPEAKER SHIMS

Handy tool for centering voice coils. Kit consists of 5 sizes of specially flexible and tough celluloid shims put up in gold-lettered snap case. Sizes marked—20 shims to kit.

No.		List Price
No. 702		$0.60
No. 702-D	Display of 12 No. 702	7.20

G-C LO-VOLT CIRCUIT TESTER

"FOR 0-15 VOLTS"

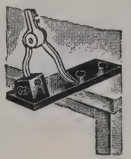


Low voltage tester for testing 0 to 15 volts either AC or DC. Just the tester for making low voltage automotive tests on lighting and primary ignition circuits. Tests storage batteries, head-light wiring, generator output, etc. Also useful for testing Bell circuits and control circuits operating at less than 15 volts. Supplied with screw-type bulb for easy replacement. A necessity for the mechanic or electrician.

No.		List Price
5125	Lo-Volt Circuit Tester	$ 1.25
5125-D	Display 12 Lo-Volt Tester	15.00
5126	Replacement screw type Bulb for No. 5125	.25
5127	Replacement Shield for Bulb for No. 5125	.15

G-C "SPEEDEX" STRIPPER BENCH HOLDER

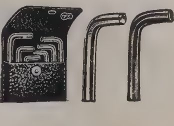
"FOR THE FACTORY OR SERVICE BENCH"



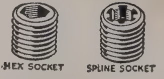
Special Bench Holder that will hold any model Speedex Stripper. Makes a bench operated tool, which is especially handy for stripping insulation from wires in production. With this holder a hand operated Speedex can be converted to strip up to 2500 wires hourly. Also useful at the service bench where a permanently fastened tool is desired. Easily installed. Stripper can be quickly attached or removed merely by adjusting set screw. An inexpensive investment that will really pay dividends. Made of steel.

No. 755 .... **List Price $3.75**

G-C HEXAGON AND BRISTO KEY WRENCHES



Essential Key wrenches for every repair man. Both Hex and Bristo Types made of special alloy steel properly hardened. Used on Knobs, Dials, Motors, Pulleys, etc.



HEX KEY WRENCHES

No.		List Price
5029	Kit 6 Hex Key Wrenches for No. 4 to ¼" Set Screws and No. 2 to 8 Cap Screws in Leatherette Case	$0.50
5029-D	Display 16 No. 5029 Kits	8.00
5029-A	Env. 4 Hex Key Wrenches for No. ¼" to 7/16" Set Screws and No. 8 to 5/16" Cap Screws	.40
5029-A-D	Display 20 No. 5029-A	8.00
5030	Env. 5 Hex Key Wrenches for No. 4 to ¼" Set Screws and No. 2 to 8 Cap Screws	.40
5030-D	Display 20 No. 5030	8.00
5031	No. 4 set screw wrench	.10
5031-A	No. 5 set screw wrench	.10
5032	No. 6 set screw wrench	.10
5033	No. 8 set screw, No. 4 cap screw	.10
5034	No. 10 set screw, No. 5 - 6 cap screws	.10
5035	¼" set screw, No. 8 cap screw	.10
5036	5/16" set screw, No. 8 cap screw	.10
5037	⅜" set screw, No. ¼" cap screw	.10
5038	7/16" set screw, No. 5/16" cap screw	.10

BRISTO KEY WRENCHES

Spline Type

No.		List Price
5070	Kit 6 Bristo Key Wrenches for No. 4 to ¼" set screws and No. 2 to No. 8 cap screws in Leatherette Case.	$0.50
5070-D	Display 16 No. 5070 Kits	8.00
5071	No. 4 set screw wrench	.10
5071-A	No. 5 set screw wrench	.10
5072	No. 6 set screw wrench	.10
5073	No. 8 set screw, No. 4 cap screw	.10
5074	No. 10 set screw, No. 5-6 cap screws	.10
5075	No. ¼" set screw, No. 8 cap screw	.10
5076	No. 5/16" set screw, No. 10 cap screw	.10
5077	No. ⅜" set screw, No. ¼" cap screw	.10
5078	No. 7/16" set screw, No. 5/16" cap screw	.10

G-C "SPEEDEX" WIRE STRIPPER

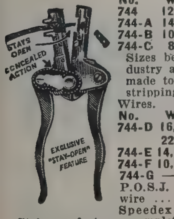
Fast operating precision made hand tool strips insulation from all types of wire. This stripper saves considerable time in Aviation Industry. Automotive Industry, Army, Navy, Signal Corps and Tank Corps. An ideal tool for Manufacturers, Electricians, Radio Men, Ignition Experts and Maintenance Men.

Speedex Wire Stripper can be used as a production tool on the bench or as a portable hand tool wherever needed. 750 to 1000 wires can be stripped per hour by girls or men.

Speedex Strippers are made to strip wire sizes No. 8 to No. 30. Hardened Steel precision ground cutting blades are interchangeable and can be purchased separately.

AUTOMATIC MODEL

With "stay open feature" for stripping fine stranded wires. Automatically holds jaws open until wire is removed. Strips all types fine stranded wire without crushing. Can also be used on solid wire.



No.	Wire	List Price
744	12 to 20	$8.00
744-A	14 to 24	8.00
744-B	10 to 18	8.00
744-C	8 to 10	8.00

Sizes below specially made for Aviation Industry and Aviation Stranded Wires. Cutters made to fit Wire sizes as listed, for perfect stripping without marring flexible Aviation Wires.

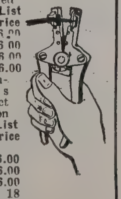
No.	Wire	List Price
744-D	16, 18, 20 22	$8.00
744-E	14, 16, 18	8.00
744-F	10, 12 14	8.00
744-G	For No. 18 P.O.S.J. or parallel wire	$8.00

Speedex Automatic Stripper features completely enclosed positive action.

STANDARD MODEL

This is the most popular Speedex Model and is satisfactory for 90% of stripping jobs Illustrated on the right.

For sizes as listed below



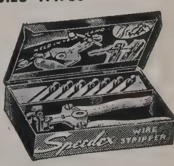
No.	Wire	List Price
733	12 to 20	$6.00
733-A	14 to 24	6.00
733-B	10 to 18	6.00
733-C	8 to 10	6.00

No.	Wire	List Price
733-D	16. 18, 20, 22	$6.00
733-E	14, 16, 18	6.00
733-F	10, 12, 14	6.00
733-G	For No. 18 P.O.S.J. or parallel wire	$6.00

Shipping Weight 1 Lb. Each
Standard Carton 12 Strippers
Extra Cutting Blades—any size..$1.50

G-C DE LUXE "SPEEDEX" WIRE STRIPPER KIT

"Complete Kit for all Size Wires"

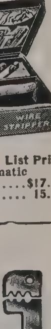


Handy G-C Speedex Wire Stripper Kit comes complete with Wire Stripper and seven different size blades neatly put up in a special permanent steel box. Be ready to strip any size wire No. 8 to No. 30 with this kit. Very practical kit for the Radio Service Man, Electrician, Mechanic, and Manufacturer. Kit is put up so that all parts are kept together in one box. Very handy kit for the tool box, home workshop, maintenance, and production. Kits available with Automatic No. 744 Strippers or Regular 733 Strippers.

No.		List Price
744-K	De Luxe Speedex Stripper Kit complete with Automatic Model Tool and all blades	$17.00
733-K	Standard Speedex Sripper Kit complete with all blades	15.00

G-C "SPEEDEX" REPLACEMENT BLADES

FIT STANDARD AND AUTOMATIC MODEL— BLADES INTERCHANGEABLE

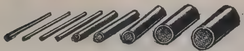


No.	Wire Sizes	List Price
3W	12-to-20	$1.50
3W-A	14-to-24	1.50
3W-B	10-to-18	1.50
3W-C	8-to-10	1.50
3W-D	16, 18, 20, 22	1.50
3W-E	14, 16, 18	1.50
3W-F	10, 12, 14	1.50
3W-G	Blades for Parallel No. 18 P.O.S.J. or similar	1.50

40 (*Net)

GENERAL G-C CEMENT Switches - Insulation - Tape Plugs - Grommets - Tubing

G-C RADIO SPAGHETTI



High grade spaghetti for Radio-Television work. Average dielectric strength — 5,000 volts. Very flexible. Colors: Black, Brown, Red, Green, Yellow.

No.	List Price
500—No. 20—fit 20 wire	$0.15
503—No. 17—fit 18 wire	.15
506—No. 14—fit 14 wire	.15
508—No. 12—fit 12 wire	.15
512—⅛" I.D.	.32
515—3/16" I.D.	.44
518—¼" I.D.	.56
521—⅜" I.D. (resist. size)	.69
522—7/16" I.D.	.94
523—½" I.D.	1.15

(All in 30" Lengths)

G-C SPAGHETTI ON SPOOLS

RADIO SPAGHETTI

"5000 volt dielectric strength" Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green and Blue.

No.	List Price
499—20-ft. spool	$1.25

G-C ASSORTED SATURATED SLEEVING KIT

An assortment of 7½" lengths of saturated sleeving. 26 lengths to the kit. Sizes include from No. 17 wire to ⅜" I.D.

No.	List Price
550—Kit 26 lengths	$0.65
550-D—Display 8 Kits	5.20

G-C COATED SLEEVING

Improved Saturated Sleeving, lower price than regular spaghetti. Dielectric strength 2,000 volts.

No.	List Price
525—No. 20—fit 20 wire	$0.10
528—No. 17—fit 18 wire	.10
531—No. 14—fit 14 wire	.12
533—No. 12—fit 12 wire	.13
537—⅛"	.19
540—3/16"	.25
543—¼"	.31
546—⅜" (resistor size)	.44
547—7/16"	.50

(All in 30" Lengths)

G-C RESISTOR SLEEVING

A special-size sleeving to fit over resistors to insulate them from chassis, parts, etc. ⅜" diam. 30-inch length. Black.

No. 556—Sleeving.... ....List Price $0.31

G-C INSULATING CAMBRIC

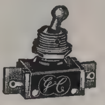
5000 VOLT INSULATING CAMBRIC
GENERAL CEMENT MFG. CO.

"BREAKDOWN VOLTAGE 10,000 VOLTS"

Dry yellow varnished cambric for field coils, transformers, chokes, resistors, etc.

No.	List Price
549—Roll, over 210 sq. in.	$0.60
549-D—Display—10 Rolls	6.00
548—36"x36" yd. any length	2.50

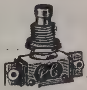
G-C TOGGLE SWITCHES



High grade switches specially made for controlling Radio Sets, Small Motors, etc. The best switches made for the purpose. Underwriters approved. Rated at 3 amps, 125 volts. Made by H & H for G-C. Available in statuary bronze or nickel plated finish.

No.	Description	Shank Length	List Price
1300	S.P.S.T.	½"	$0.49
1301	S.P.S.T.	1"	.55
1302	S.P.D.T.	½"	.66
1303	S.P.D.T.	1"	.71
1304	D.P.S.T.	½"	.93
1305	D.P.S.T.	1"	.99
1306	D.P.D.T.	½"	1.04
1307	D.P.D.T.	1"	1.10

G-C PUSH BUTTON SWITCH



A two circuit slow make and quick break momentary contact switch. One circuit is normally on and the other is off. Pushing the button reverses the circuits in use. Used on many testers and analyzers. Made by H & H for G-C. Shaft ⅝" long.

No. 1340—Switch..................List Price $0.77

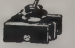
G-C PLASTIC PUSH BUTTON

FOR 1340 SWITCH
Red or Black (Specify Color)

No. 1343—Push Button ....List Price $0.27

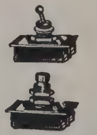
G-C EXTRA HEAVY DUTY POWER SWITCH

For use in motors, projectors, transmitters, amplifiers, and movie equipment where heavy currents are carried. Made by H & H for G-C. Rated 10 amps. 125 volts. 3 types, with neutral off in center. Size—2"x1"x1⅝" sleeve ¾" diam.



No.	List Price
1352—D.P.D.T.	$5.48
1353—3.P.D.T.	8.21
1354—4.P.D.T.	12.05

G-C HEAVY DUTY POWER SWITCH

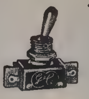


D. P. S. T. power switch. Capacity 12 amps. at 125 volts. Available in both toggle and push-button type. The push-button type is especially adaptable as a safety switch for transformers, high frequency work, etc. Made by H & H for G-C.

No.	List Price
1350—Toggle type	$1.49
1351—Push-button type	2.19

G-C BAT HANDLE TOGGLE SWITCHES

TEAR DROP STYLE



Same as our regular toggle switch except that the handle is bat shaped. It is especially attractive for panel and instrument boards. ½" shank. Nickel Plated only. Made for G-C by H & H.

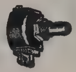
No.	Shank	List Price
1330—S.P.S.T.	½"	$0.49
1331—S.P.D.T.	½"	.66
1332—D.P.S.T.	½"	.93
1333—D.P.D.T.	½"	1.10

G-C TOGGLE SWITCH OFF-ON PLATE

FITS TOGGLE TYPE SWITCHES
Nickel or Bronze

No. 1329..............................List Price $0.04

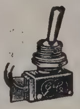
G-C ROTARY SWITCHES



Best grade rotary switches specially made for replacements, or construction of new apparatus. Underwriters approved. Rated at 3 amps. 125 volts. Made by H. & H for G-C. Shafts 1½" long.

No.	Description	Shank Length	List Price
1320	S.P.S.T.	⅜"	$0.53
1321	S.P.S.T.	1"	.64
1322	S.P.D.T.	⅜"	.66
1323	S.P.D.T.	1"	.82
1324	D.P.S.T.	1"	1.15
1325	D.P.D.T.	⅜"	1.20
1326	D.P.D.T.	1"	1.26

G-C BAT HANDLE TOGGLE SWITCH WITH WIRE LEADS



An excellent switch for vacuum cleaners, appliances, radio sets, etc. Nickel plated with wire leads. Underwriters approved, rated at 3 amps 125 volts. Made for G-C by H & H.

No.	Shank	List Price
1335—S.P.S.T.	½"	$0.60

G-C HANDY SNAP SWITCH

The same switch that is used on many of the new sets. Used as a tone control, phono switch, circuit switch, etc. ½" wide — 1⅛" between center mounting holes.

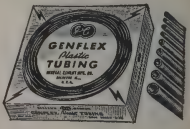
No.	List Price
1355—S.P.S.T.	$0.26
1357—S P.D.T.	.38
1358—D.P.S.T.	.38
1359—D.P.D.T.	.49

G-C GENFLEX PLASTIC TUBING

- High grade extremely flexible plastic tubing for Radio and Electronic Insulation work.
- Highly resistant to cold or heat.
- High dielectric strength average 8,000 volts.
- Tubing is put up in attractive individual boxes for easy handling.

COLORS—Black, Red, Green, and Clear. (Specify Color).

Cat. No.	B-S Gauge	Approx. I.D.	Stand. Pkg.	List Price
603	18	.042	20 Ft.	$0.80
605	16	.053	20 Ft.	.80
607	14	.066	20 Ft.	.80
609	12	.085	20 Ft.	.80
611	10	.106	15 Ft.	.80
613	8	.133	15 Ft.	.80
616	6	.166	10 Ft.	.80
617	4	.208	10 Ft.	.80
620	2	.263	10 Ft.	.80



635—Kit of 25 Ft. Assorted Sizes 18 to 10 Genflex Tubing	$0.90
635-D—Display 8 No. 635 Kits	7.20
636—Kit of 15 Ft. Assorted Sizes 10 to 2 Genflex Tubing	.90
636-D—Display 8 No. 636 Kits	7.20

GENERAL GC CEMENT Radio Hardware-Sockets

G-C Bakelite Sockets

High quality molded bakelite sockets. High Dielectric. Sockets have plated bronze contacts and will not corrode. Three grounding lugs are on metal base of each socket, and are automatically grounded when the socket is installed. 1½" mounting centers. 1-3/32" mounting hole.

Standard R.M.A. Contact Spacings

No.	List Price
1524—4 prong	$.13
1525—5 prong	.13
1526—6 prong	.15
1527—7 prong, standard small	.15
1528—8 prong octal base	.15

G-C Snap-in Trimounts

Trimounts are used in place of screws to fasten dials, built in aerials, speakers and other parts. Have replacements on hand.

No.	List Price
1719—30 Asst. Trimounts	$0.40
1719-D—Display of 20 No. 1719.	8.00
1720—100 Asst. Trimounts	1.20
1721—100 Small, 11/64"	1.20
1721E—Env. 30 No. 1721	.40
1721E-D—Display 20 No. 1721E.	8.00
1722—100 Medium 13/64"	1.20
1722E—Env. 30 No. 1722	.40
1722E-D—Display 20 No. 1722E.	8.00
1723—100 Large 17/64"	1.20
1723E—Env. 25 No. 1723	.40
1723E-D—Display 20 No. 1723E.	8.00
1724—100 Extra Large 9/32"	1.20
1724E—Env. 25 No. 1724	.40
1724E-D—Display 20 No. 1724E.	8.00
6620—Hdwe. Lab. Jar 45 Asst.	.60

NEW LARGE SIZE ⅝" LONG

Same as used on Philco, RCA, GE and other sets.

No.	List Price
1727—20 Trimounts ⅝" long	$0.40
1727-D—Display 20 Env.	8.00
1728—100 Trimounts ⅝" long	1.92

G-C Voice Coil Dust Felts

Felt discs same as used on speaker voice coils to keep dust out of voice coils. Can be glued on to any speaker cone. Use G-C Service Cement to apply.

20 to display

No.	List Price
No. 1079—Env. of 25	$.40
No. 1079-D—Display—20 Env.	8.00
No. 6640—Hdwe. Lab. Jar 40 Asst. Voice Coil Felts	.60

G-C Solder Lug Assortment

An assortment of 100 of the most necessary soldering lugs needed by the Radio Man, "Ham", or experimenter. Lugs are tinned, and neatly stamped.

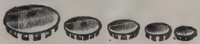
No.	List Price
No. 1019— 50 asst.	$.40
No. 1019-D—Display—20 Env.	8.00
No. 1020—100 asst.	.82
No. 6618—Hdwe. Lab. Jar 75 asst. lugs	.60

G-C Wafer Sockets

High grade laminated bakelite sockets with positive contacts. Standard spacings.

No.	List Price
1534—4 prong, 1½" mtg. centeres.	$0.11
1535—5 prong, 1½" mtg. centers.	.13
1536—6 prong, 1½" mtg. centers.	.13
1537—7 prong, small, 1½" mtg. centers	.13
1537-L—7 prong, large, 1½" mtg. centers	.13
1538—8 prong, Octal, 1-5/16" mtg. centers	.16
1538-2—8 prong, Octal, 1½" mtg. centers	.16
1538-L—8 prong, Loctal, 1-5/16" mtg. centers	.16

G-C Snap Button Hole Plugs



The plug so popular on many sets to seal adjustments, cover holes, etc. Will fit in any material up to 1/16" thick.

No.	List Price
1710—50 assorted plugs in box	$2.46
1716—10 assorted	.40
1716-D—Display—20 Env.	8.00
1711—⅜" hole dia., per 10	.38
1712—½" hole dia., per 10	.49
1713—⅝" hole dia., per 10	.55
1714—¾" hole dia., per 10	.55
1715—1¼" hole dia., per 10	.88

G-C Screw Type Chassis Felt Feet

No.			List Price
1086-A—10 Asst. Felt Feet			$0.40
1086—½" dia.	Wd. screw	doz.	.50
1087—½" dia.	6-32 screw	doz.	.50
1088—¾" dia.	Wd. screw	doz.	.65
1089—¾" dia.	10-32 screw	doz.	.65
1086-D—Display 20 No. 1086-A.			8.00

G-C Felt Pads & Bumpers

Used on the bottoms of radios and appliances.

Felt Pads

No.	List Price
1069— 40 in env.	$.40
1069-D—Display—20 Env.	8.00
1071—100 in env.	.60
6623—Hdwe. Lab. Jar 60 Felt Pads	.60
Tack Bumpers	
1075—18 in env.	$.40
1075-D—Display—20 Env.	8.00
1076—25 in env.	.50
1077—per 100	1.50
6624—Hdwe. Lab. Jar 30 Tack Bumpers	.60

G-C Rivet and Eyelet Assortment

Special assortment of popular size rivets and eyelets. For riveting sockets and parts to chassis, making electrical connections on appliances, etc. Nickel plated.

No.	List Price
1027—55 assorted	$.40
1027-D—Display—20 Env.	8.00
6622—Hdwe. Lab. Jar 85 Asst. Rivets and Eyelets	.60

G-C Test Prod Tips

Solderless type plug for ends of cords, test leads and test prods. Insulated and non-insulated available.

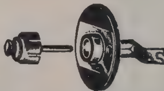
No.	List Price
5060—Not Insulated	$ .12
5061—Red Insulated	.18
5062—Black Insulated	.18

G-C Alligator Clips

Popular alligator clip for use on all types of testing equipment. Insulated and non-insulated available.

No.	List Price
5063—Non Insulated	$ .12
5064—Red Insulated	.20
5065—Black Insulated	.20

G-C RCA Pin Plug and Jack



Used on various types of RCA equipment, but adaptable to all sets and purposes. A fine auto-radio antenna connector.

No.	List Price
1742—Midget Pin Plug	$0.12
1743—Midget Shielded Jack	.19

G-C Pin Plug and Jack

Specially shielded—positive connection plug and jack for auto radio, etc. Motorola type. Adaptable to all types of sets.

No.	List Price
1740—Shielded Pin Plug	$.12
1741—Shielded Jack	.24

G-C Escutcheon Plate Screws

Bronze plated wood screws such as are used for attaching escutcheon plates to cabinets.

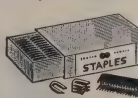
No.	List Price
1090—Assortment of 100 in jar	$.60
1090-E—60 assorted	.40
1090-D—Display 20 No. 1090-E.	8.00
1091—No. 1—¼" length, per doz. in envelope	.12
1092—No. 1—⅜" length, per doz. in envelope	.12
1093—No. 2—⅜" length, per doz. in envelope	.12
6632—Hdwe. Lab. Jar 90 Asst. Escutcheon Plate screws	.60

G-C Eyelet and Clamp Assortment

The same eyelets and clamps used on READY MADE CABLES. Make your own cables and belts—AND SAVE!

No.	List Price
1028—60 asstd. pieces	$.40
1028-D—Display—20 Env.	8.00
6621—Hdwe. Lab. Jar 75 Asst'd. Cord Clips	.60

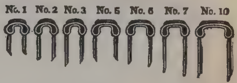
G-C Staple Driver Staples



Hardened Steel—Best quality staples in cartridge form to fit Staple Drivers. Lacquer coated, rust-proof steel.

No.	List Price
430—approximately 250 staples to box	$.49

G-C Insulated Bell Staples

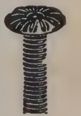


Saddle type insulated staples for holding wires in place and out of the way.

No.	List Price
Fig. 1, 3/16" x ½"	
1751—Box of 50, No. 1	$0.17
1752—Box of 100, No. 1	.30
Fig. 2, 3/16" x ⅝"	
1753—Box of 50, No. 2	.17
1754—Box of 100, No. 2	.30
Fig. 3, 3/16" x ¾"	
1755—Box of 50, No. 3	.17
1756—Box of 100, No. 3	.30
Fig. 5, ¼" x ⅝"	
1757—Box of 50, No. 5	.17
1758—Box of 100, No. 5	.30
Fig. 6, ¼" x ¾"	
1759—Box of 100, No. 6	.35
Fig. 7, ¼" x ⅞"	
1760—Box of 100, No. 7	.35
Extra Large Cable Size Fig. 10, ⅜" x ¾"	
1761—Box of 100 No. 10	.60

STANDARD CARTON 1000 STAPLES

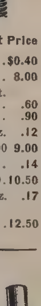
G-C Ornamental Head Screws



Popular Rosette head, statuary bronze head screw, such as used to mount speakers, etc. 5/16" head.

No.	List Price
1094—Env. 25 Asst.	$0.40
1094-D—Display 20 Env.	8.00
6631—Hdwe. Lab. Jar 60 Asst. Head screws	.60
1096—Jar 100 Asst.	.90
1097—6-32x¾" screw, per doz.	.12
1097-R—6-32x¾" screw, per 1000	9.00
1098—6-32x1" screw, per doz.	.14
1098-R—6-32x1" screw, per 1000	10.50
1099—8-32x1¼" screw, per doz.	.17
1099-R—8-32x1¼" screw, per 1000	12.50

G-C Banana Pin Plugs



Approved silver plated plugs. Can be used for many purposes. Ideal for multiple plugs and cords. Straight shank, small type. Can be riveted or soldered.

No.	List Price
6400—Env. 10 Plugs	$0.40
6400-D—Display—20 Env.	8.00

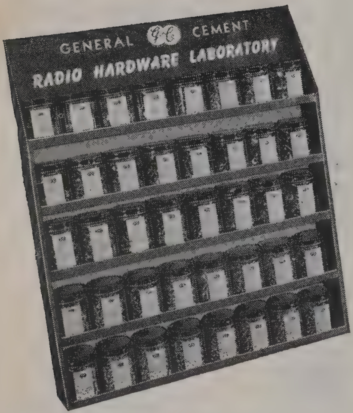
New!

COMPLETE HARDWARE LABORATORY

Here is a complete Electronic Hardware Rack that contains over 2100 essential Electronic Hardware items, packed in clear glass jars with screw caps.

HEAVY STEEL RACK IS FREE!

The ideal Lab for Radio Service Shops, Factories, Experimental and Research Labs, Home Work Shops, and Hobby Shops.



Beautiful Steel Rack finished in new Luster Gray. Rack is designed to hang on the wall or stand on your bench.

Cat. No. 6604—DeLuxe Hardware Laboratory, 40 Jars on one rack, contains both assortments. **List Price $24.00**

Dealer's Net Only 14.40*

●

Cat. No. 6601 — Hardware Laboratory, 20 Jars as listed. **List Price $12.00**

Dealer's Net Only 7.20*

●

Cat. No. 6602 — Hardware Laboratory, 20 Jars as listed. **List Price $12.00**

Dealer's Net Only 7.20*

No. 6601 Hardware Rack Assortment Contains:

Cat. No.		List Price
6605	—30 Asst'd. 6-32, 8-32,10-32, Knob Set Screws	$0.60
6606	—60 Asst'd. Hex nuts, 4-36 and 6-32 sizes	.60
6607	—60 Asst'd. Hex nuts, 8-32 & 10-32 sizes	.60
6608	—60 Asst'd Sheet Metal Screws, sizes No. 4 and 6	.60
6609	—45 Asst'd. Sheet Metal Screws, sizes No. 8 and 10	.60
6610	—75 Asst'd. Machine Screws, 4-36 and 6-32 sizes	.60
6611	—60 Asst'd. Machine Screws, 8-32 and 10-32 sizes	.60
6612	—135 Asst'd. Steel Washers, sizes No. 4 and 6	.60
6613	—100 Asst'd. Steel Washers, sizes No. 8 and 10	.60
6614	—90 Asst'd. Lock Washers, sizes No. 4, 6, 8, and 10	.60
6615	—25 Asst'd. Mounting Nuts for Volume Controls	.60
6616	—15 Asst'd. Extension Springs	.60
6617	—12 Asst'd. Brass and Insulated Bushing and Spacers	.60
6618	—75 Asst'd. Soldering Lugs	.60
6619	—35 Asst'd. Knob Springs	.60
6620	—45 Asst'd. Trimounts	.60
6621	—75 Asst'd. Dial Cord Clips	.60
6622	—85 Asst'd. Rivets and Eyelets	.60
6623	—60 Asst'd. Felt Pads for Cabinets	.60
6624	—30 Asst'd. Tack Bumpers	.60

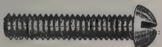
No. 6602 Hardware Rack Assortment Contains:

Cat. No.		List Price
6625	—25 Asst'd. Grommets, small sizes	$0.60
6626	—20 Asst'd. Grommets Large Size	.60
6627	—18 Asst'd. Acorn Nuts	.60
6628	—25 Ea. Asst'd. Rack Screws and Cup Washers	.60
6629	—30 Asst'd. Phone Tips	.60
6630	—60 Asst'd. Speed Nuts	.60
6631	—60 Asst'd. Ornamental Head Screws	.60
6632	—90 Asst'd. Escutcheon Plate Screws	.60
6633	—60 Asst'd. Wood Screws	.60
6634	—85 Asst'd. Fibre Washers	.60
6635	—25 Asst'd. Grid Caps	.60
6636	—85 Asst'd. "C" Washers	.60
6637	—75 Asst'd. Hairpin Spring Clamps	.60
6638	—12 Asst'd. Dial Pulleys	.60
6639	—30 Asst'd. Fahnestock Clips	.60
6640	—40 Asst'd. Voice Coil Dust Felts	.60
6641	—70 Asst'd. Knob Felts	.60
6642	—90 Asst'd. Cotter Pins	.60
6643	—30 Asst'd. Compression Springs	.60
6644	—40 Asst'd. Cable Holder Clamps	.60

JOBBERS' JAR REPLACEMENTS, 12 EACH TO CARTON

GENERAL G-C CEMENT Electronic Hardware

G-C MACHINE SCREWS



No.	List Price
296—Env. 50 Asst'd Screws	$0.40
296-D—Display Card—20 Env.	8.00
6610—Hardware Lab. Jar 75 Asst'd. 4-36 and 6-32 screws	.60
6611—Hardware Lab. Jar 60 Asst'd. 8-32 and 10-32 screws	.60
6001—Env. 55 4-36 Asst'd. Length screws	.40
6001-D—Display 20 Env. No. 6001	8.00
6002—Env. 45 6-32 Asst'd Length screws	.40
6002-D—Display 20 Env. No. 6002	8.00
6003—Env. 40 8-32 Asst'd Length screws	.40
6003-D—Display 20 Env. No. 6003	8.00
6004—Env. 35 10-32 Asst'd. Length screws	.40
6004-D—Display 20 Env. No. 6004	8.00

ROUND HEAD NICKEL PLATED MACHINE SCREWS. PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity in Jar	List per Jar	List per 1000
6005	4-36 x ¼"	100	$0.60	$2.50
6005-A	4-40 x ¼"	100	.60	2.50
6005-B	4-40 x ½"	100	.60	3.00
6005-C	4-40 x ¾"	80	.60	3.50
6006	4-36 x ½"	100	.60	3.00
6007	4-36 x ¾"	80	.60	3.50
6008	6-32 x ¼"	90	.60	2.60
6009	6-32 x ½"	85	.60	3.00
6010	6-32 x ¾"	75	.60	3.50
6011	6-32 x 1"	50	.60	4.00
6014	8-32 x ⅜"	75	.60	3.50
6015	8-32 x ½"	70	.60	4.00
6016	8-32 x ¾"	65	.60	4.30
6017	8-32 x 1"	45	.60	5.00
6020	10-32 x ½"	60	.60	5.00
6021	10-32 x ¾"	50	.60	5.80
6022	10-32 x 1"	35	.60	6.00

DISPLAYS AND ENVELOPES MACHINE SCREW ASSORTMENTS, INDIVIDUAL SIZES IN EACH PACKAGE.

Cat. No.	List Price
6005-AE—Env. 60, 4-40 x ¼" Screws	$0.40
6005-AE-D—Display 20 No. 6005-AE	8.00
6005-BE—Env. 50, 4-40 x ½" Screws	.40
6005-BE-D—Display 20 No. 6005-BE	8.00
6005-CE—Env. 40, 4-40 x ¾" Screws	.40
6005-CE-D—Display 20 No. 6005-CE	8.00
6005E—Env. 60, 4-36 x ¼" Screws	.40
6005E-D—Display 20 No. 6005E	8.00
6006E—Env. 50, 4-36 x ½" Screws	.40
6006E-D—Display 20 No. 6006E	8.00
6007E—Env. 40, 4-36 x ¾" Screws	.40
6007E-D—Display 20 No. 6007E	8.00
6008E—Env. 60, 6-32 x ¼" Screws	.40
6008E-D—Display 20 No. 6008E	8.00
6009E—Env. 50, 6-32 x ½" Screws	.40
6009E-D—Display 20 No. 6009E	8.00
6010E—Env. 50, 6-32 x ¾" Screws	.40
6010E-D—Display 20 No. 6010E	8.00
6011E—Env. 35, 6-32 x 1" Screws	.40
6011E-D—Display 20 No. 6011E	8.00
6014E—Env. 50, 8-32 x ⅜" Screws	.40
6014E-D—Display 20 No. 6014E	8.00
6015E—Env. 40, 8-32 x ½" Screws	.40
6015E-D—Display 20 No. 6015E	8.00
6016E—Env. 30, 8-32 x ¾" Screws	.40
6016E-D—Display 20 No. 6016E	8.00
6017E—Env. 25, 8-32 x 1" Screws	.40
6017E-D—Display 20 No. 6017E	8.00
6020E—Env. 30, 10-32 x ½" Screws	.40
6020E-D—Display 20 No. 6020E	8.00
6021E—Env. 25, 10-32 x ¾" Screws	.40
6021E-D—Display 20 No. 6021E	8.00
6022E—Env. 20, 10-32 x 1" Screws	.40
6022E-D—Display 20 No. 6022E	8.00

G-C HANDY DIAL AND KNOB REPAIR KIT

Assortment of Knob Springs, Set Screws, Dial Springs, Idler Pulleys and Drive Rubbers. A handy kit to take on the job.

No.	List Price
1015—70 piece Repair Kit	$2.19
1016—150 piece Repair Kit	4.38

G-C SHEET METAL SELF TAPPING SCREWS

No.	List Price
297—Env. 40 Asst'd Screws	$0.40
297-D—Display Card—20 Env.	8.00
6608—Hardware Lab. Jar 60 No. 4 and 6 screws	.60
6609—Hardware Lab. Jar 45 No. 8 and 10 screws	.60

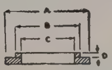
HARDENED HEXAGON HEAD SHEET METAL SCREWS TAP THEIR OWN THREAD IN METAL. PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity in Jar	List per Jar	List per 1000
6090	4 x ½"	50	$0.60	$5.00
6091	6 x ¼"	50	.60	5.50
6092	6 x ⅜"	50	.60	5.75
6093	6 x ½"	50	.60	5.90
6094	6 x ¾"	50	.60	5.75
6095	8 x ⅜"	50	.60	6.25
6096	8 x ½"	45	.60	7.50
6097	8 x 1"	40	.60	8.50
6098	10 x ⅜"	50	.60	7.50
6099	10 x ½"	45	.60	8.00
6100	10 x ¾"	40	.60	9.00

DISPLAYS AND ENVELOPES SHEET METAL SCREW ASSORTMENTS, INDIVIDUAL SIZES IN EACH PACKAGE.

Cat. No.	List Price
6091E—Env. 50, No. 6 x ¼" Screws	$0.40
6091E-D—Display 20 No. 6091E	8.00
6093E—Env. 40, No. 6 x ½" Screws	.40
6093E-D—Display 20 No. 6093E	8.00
6094E—Env. 40, No. 6 x ¾" Screws	.40
6094E-D—Display 20 No. 6094E	8.00
6095E—Env. 40, No. 8 x ⅜" Screws	.40
6095E-D—Display 20 No. 6095E	8.00
6096E—Env. 30, No. 8 x ½" Screws	.40
6096E-D—Display 20 No. 6096E	8.00
6097E—Env. 20, No. 8 x 1" Screws	.40
6097E-D—Display 20 No. 6097E	8.00
6099E—Env. 25, No. 10 x ½" Screws	.40
6099E-D—Display 20 No. 6099E	8.00
6100E—Env. 20, No. 10 x ¾" Screws	.40
6100E-D—Display 20 No. 6100E	8.00

G-C FIBRE WASHERS



No.	List Price
1716—Env. 60 Assorted Washers	$0.40
1716-D—Display 20 Env.	8.00
6634—Hardware Lab. Bottle 85 Assorted Washers	.60

Washers in Jars and Bulk

PLAIN FLAT WASHERS

Cat. No.	O.D.	I.D.	Screw Size	Quan. Per Jar	List Per Jar	List Per 1000
6513	¼"	.136"	No. 6	100	$.60	$2.00
6514	⅜"	11/64"	No. 8	100	.60	2.00
6515	⅜"	.196"	No. 10	80	.60	2.50
6516	½"	¼"	¼" Shaft	80	.60	2.50
6517	⅝"	.385"	⅜" Shaft	70	.60	2.75

EXTRUDED WASHERS

Cat. No.	Dimensions (inches) A	B	C	D	Screw Size	Quan. Per Jar	List Per Jar	List Per 1000
6525	5/16	.187	.140	.039	No. 6	75	$0.60	$6.00
6526	3/8	.250	.169	.031	No. 8	75	.60	6.00
6527	7/16	.255	.196	.032	No. 10	75	.60	6.00
6528	1/2	.375	.250	.032	¼" Shaft	65	.60	6.50
6529	5/8	.437	.380	.031	⅜" Shaft	60	.60	7.00

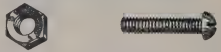
G-C HEXAGON NUTS

No.	List Price
293—Env. 60 Asst'd Nuts	$0.40
293-D—Display Card—20 Env.	8.00
6606—Hardware Lab. Jar 60 4-36 and 6-32 nuts	.60
6607—Hardware Lab. Jar 60 8-32 and 10-32 nuts	.60
6041—Env. 65 4-36 nuts	.40
6041-D—Display 20 Env. No. 6041	8.00
6041-A—Env. 65 4-40 Nuts	.40
6041-A-D—Display 20 Env. No. 6041-A	8.00
6042—Env. 55 6-32 nuts	.40
6042-D—Display 20 Env. No. 6042	8.00
6043—Env. 50 8-32 nuts	.40
6043-D—Display 20 Env. No. 6043	8.00
6044—Env. 35 10-32 nuts	.40
6044-D—Display 20 Env. No. 6044	8.00

NUTS PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity	List per Jar	List Bulk per 1000
6045	4-36	100	$0.60	$3.25
6045-A	4-40	100	.60	3.25
6045-B	5-40	90	.60	3.50
6046	6-32	90	.60	3.80
6047	8-32	80	.60	4.50
6048	10-32	50	.60	5.00

G-C MACHINE SCREW AND NUT ASSORTMENT



4-36; 6-32; 8-32; 10-32 Screws and Nuts

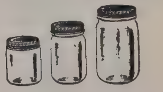
No.	List Price
6038—Env. 25 Screws—25 Nuts	$0.40
6038-D—Display—20 Env.	8.00

G-C PLAIN METAL WASHERS

For No. 4, 6, 8, and 10 Screws

No.	List Price	List Per 1000
6150—Env. 100 Asst'd Washers	$0.40	
6150-D—Display 20 Env.	8.00	
6612—Hardware Lab. Asst'd Jar 135 No. 4 and 6 washers	.60	
6613—Hardware Lab. Asst'd. Jar 100 No. 8 and 10 washers	.60	
6154—No. 4, Washers, Jar 150	.60	$1.75
6155—No. 6, Washers, Jar 125	.60	1.75
6156—No. 8, Washers, Jar 100	.60	2.00
6157—No. 10, Washers, Jar 100	.60	2.00

G-C HARDWARE AND PARTS GLASS JARS



Wide mouth jars, ideal for storing small Radio Parts, Screws, Nuts, etc. Complete with caps.

No.	List Price
4002—2 oz. jar	$0.12
4004—4 oz. jar	.20
4008—8 oz. jar	.25
4009—16 oz. jar	.35

12 each size to standard carton.

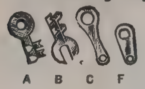
G-C CABLE EYELET TOOL

Inexpensive riveting tool for riveting parts to chassis and for turning eyelets on dial cables and assemblies. Kit consists of a base which can be inserted in a vise and clincher punch for turning the rivets.

No.	List Price
741	$1.00

GENERAL G-C CEMENT Electronic Hardware

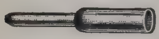
G-C Soldering Lugs



Best quality tinned lugs available for all types of repair work and manufacture of new equipment.

No.		List Price
1019	—50 Asst'd.	$0.40
1019-D	—Display 20 Env.	8.00
1020	—100 Asst'd.	.82
1021-A	—Jar 75 Lugs	.60
1021-AR	—Per 1000	6.00
1021-B	—Jar 75 Lugs	.60
1021-BR	—Per 1000	6.00
1021-C	—Jar 75 Lugs	.60
1021-CR	—Per 1000	6.00
1021-F	—Jar 75 Lugs	.60
1021-FR	—Per 1000	6.00
6618	—Hardware Lab. Jar 75 Asst'd Solder Lugs	.60

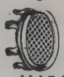
G-C Phone Tips



Brass nickel plated tips for ends of cords, headphones, testers, etc.

No.		List Price
6320	—16 Phone Tips	$0.40
6320-D	—Display 20 No. 6320	8.00
6320-R	—Phone Tips, 1000 Bulk	15.00
6629	—Hardware Lab. Jar 30 Phone Tips	.60

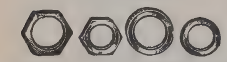
G-C Ventilating Plugs



Ventilating plug for amplifiers, racks, transmitters, etc. Just snaps in a 1" hole.

No.		List Price
1709	—Env. 4 Ventilating Plugs	$0.40
1709-D	—Display 20 Env. No. 1709	8.00

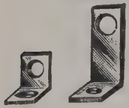
G-C Mounting Nut Assortment



Assorted nuts for switches, volume controls, shafts, etc.

No.		List Price
6050	—Env. 15 Assorted Nuts	$0.40
6050-D	—Display—20 Env.	8.00
6615	—Hardware Lab. Jar 25 Asst'd. Mounting Nuts	.60

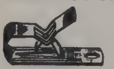
G-C Angle and Bracket Assortment



Assorted angles and brackets for radio and electrical repair and construction work.

No.		List Price
6260	—Env. 15 Angles & Brackets	$0.40
6260-D	—Display—20 Env.	8.00

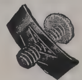
G-C Fahnestock Clips



Ideal clips for test equipment, battery connections and experimental work.

No.		List Price
6300	—Env. 20 Clips	$0.40
6300-D	—Display—20 Env.	8.00
6301-R	—Small Fahnestock Clips per 1000	15.00
6302-R	—Medium Fahnestock Clips per 1000	15.00
6303-R	—Large Fahnestock Clips per 1000	15.00
6639	—Hardware Lab. Jar 30 Asst'd Fahnestock Clips	.60

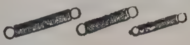
G-C Speed Nuts



Handy speed nut packages for No. 4, 6, 8, and 10 screws. Ideal for Radio Work.

No.		List Price
6051	—Env. 40, No. 4 Speed Nuts	$0.40
6051-D	—Display 20 Env. No. 4	8.00
6052	—Env. 40, No. 6 Speed Nuts	.40
6052-D	—Display 20 Env. No. 6	8.00
6053	—Env. 40, No. 8 Speed Nuts	.40
6053-D	—Display 20 Env. No. 8	8.00
6054	—Env. 40, No. 10 Speed Nuts	.40
6054-D	—Display 20 Env. No. 10	8.00
6055	—Env. 40, Asst'd. Speed Nuts	.40
6055-D	—Display 20 Env. Asst'd.	8.00
6630	—Hardware Lab. Jar, 60 Asst'd Speed Nuts	.60

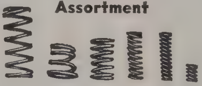
G-C Tension Springs



For Dial Drives, Condensers, Phono Turntable Motors, etc.

No.		List Price
	SMALL SPRING ASSORTMENT	
6420	—Env. 10 Springs	$0.40
6420-D	—Display 20 Env.	8.00
	LARGE SPRING ASSORTMENT	
6421	—Env. 10 Springs	.40
6421-D	—Display 20 Env.	8.00
6616	—Hdwe. Lab Jar 15 Ass'td. Springs	.60
6450	—Env. 10, ⅛"x½"	.40
6450-D	—Display 20 Env. 6450	8.00
6451	—Env. 10, ⅛"x1"	.40
6451-D	—Display 20 Env. 6451	8.00
6452	—Env. 10, 3/16"x1"	.40
6452-D	—Display 20 Env. 6452	8.00
6453	—Env. 10, 3/16"x1⅜"	.40
6453-D	—Display 20 Env. 6453	8.00
6454	—Env. 10, ¼"x1½"	.40
6454-D	—Display 20 Env. 6454	8.00
6455	—Env. 10, ¼"x2"	.40
6455-D	—Display 20 Env. 6455	8.00
6616	—Hardware Lab. Jar 15	.60

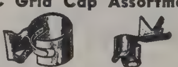
G-C Compression Spring Assortment



Used on dials, push button tuners, phono-motors, etc.

No.		List Price
	SMALL SIZE ASSORTMENT	
6430	—Env. 20 Springs	$0.40
6430-D	—Display—20 Env.	8.00
6643	—Hdwre. Lab. Jar 30 Asst'd. Compression Springs	.60
	LARGE SIZE ASSORTMENT	
6431	—Env. 15 Springs	$0.40
6431-D	—Display—20 Env.	8.00

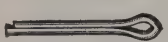
G-C Grid Cap Assortment



Assorted grid caps to fit all types of tubes. For Repairs and construction of new equipment.

NO.		List Price
6290	—Env. 16 Caps	$0.40
6290-D	—Display—20 Env.	8.00
6291-R	—Glass Tube Grid Caps per 1000	12.50
6292-R	—Metal Tube Grid Caps per 1000	12.50
6635	—Hardware Lab. Jar 25 Asst'd. Grid Caps	.60

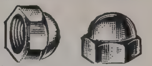
G-C Cotter Pins



Replacement Cotter Pins for all purposes in Radio, Electrical, and Mechanical work.

No.		List Price
6440	—60 Asst'd. Cotter Pins	$0.40
6440-D	—Display 20 Env. No. 6440	8.00
6440-R	—Cotter Pins per 1000	3.25
6642	—Hdwe. Lab. Jar 90 Asst'd. Pins	.60

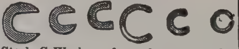
G-C Acorn Nuts



Acorn Nuts same as used on Racks and Panels as a finishing nut No. 6, 8, and 10 sizes.

No.		List Price
6030	—Env. 12 Acorn Nuts	$0.40
6030-D	—Display 20 No. 6030	8.00
6031E	—Env. 15, 6-32 acorn nuts	.40
6031E-D	—Display 20 No. 6031E.	8.00
6031-R	—6-32 acorn nuts, per 1,000	25.00
6032E	—Env. 15, 8-32 acorn nuts	.40
6032E-D	—Display 20 No. 6032E.	8.00
6032-R	—8-32 acorn nuts, per 1,000	25.00
6033E	—Env. 10, 10-32 acorn nuts	.40
6033E-D	—Display 20 No. 6033E.	8.00
6033-R	—10-32 acorn nuts, per 1,000	27.50
6627	—Hdwe. Lab. Jar 18 Asst. acorn nuts	.60

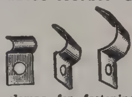
G-C C-Washers



Steel C-Washers for volume controls, condensers, shafts, etc.

No.		List Price
6180	—Env. 50 Washers	$0.40
6180-D	—Display—20 Env.	8.00
6181	—Jar 85 Small C Washers	.60
6181-R	—Small C Washer ⅛" ID per 1000	7.50
6182	—Jar 85 Medium C Washers.	.60
6182-R	—Medium C Washer 5/32" ID per 1000	7.50
6183	—Jar 85 Large C Washers	.60
6183-R	—Large C Washer 3/16" ID per 1000	7.50
6636	—Hardware Lab. Jar 85 Asst'd. C Washers	.60

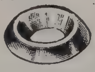
G-C Cables Holder Clamps



Assorted clamps for fastening cables on P. A., Intercommunicating systems, etc.

No.		List Price
6250	—Env. 25 Clamps	$0.40
6250-D	—Display—20 Env.	8.00
6251	—Jar 40 small Cable Clamps	.60
6251-R	—Small Cable Clamps per 1000	12.50
6252	—Jar 40 Medium Cable Clamps	.60
6252-R	—Medium Cable Clamps per 1000	12.50
6253	—Jar 35 Large Cable Clamps	.60
6253-R	—Large Cable Clamps per 1000	15.00
6644	—Hardware Laboratory Jar 40 Asst'd. Cable Clamps	.60

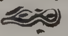
G-C Cup Washers



Nickel plated cup washers for panels, racks, and cabinets.

No.		List Price
6159	—Env. 40 Washers	$0.40
6159-D	—Display 20 Env.	8.00
6039	—Env. 15 screws & 15 washers	.40
6039-D	—Display 20 Env.	8.00
6161	—No. 6, Jar 60	.60
6161E	—Env. 50 No. 6 washers	.40
6161E-D	—Display 20 No. 6161E.	8.00
6161-R	—No. 6, bulk per 1,000	5.25
6162	—No. 8, Jar 55	.60
6162E	—Env. 40 No. 8 washers	.40
6162E-D	—Display 20 No. 6162E	8.00
6162-R	—No. 8, Bulk per 1,000	5.75
6163	—No. 10, Jar 50	.60
6163E	—Env. 40, No. 10 washers.	.40
6163E-D	—Display 20 No. 6163E.	8.00
6163-R	—No. 10, Bulk per 1,000.	5.75
6628	—Hdwe. Lab. Jar 25 ea. asst. rack screws and washers	.60

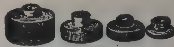
G-C Hair Pin Spring Clamps



Replacement spring clamps for Radio and Phono Turntable mechanisms.

No.		List Price
6475	—50 Asst'd. Hair Pin Springs	$0.40
6475-D	—Display 20 Env. No. 6475	8.00
6637	—Hdwr. Lab. Jar 75 Asst'd. Spring Clamps	.60

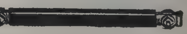
G-C Rubber Chassis Mounts



Live rubber mounts for floating chassis and speakers, to prevent microphonic noises.

No.		List Price
1038	—10 Asst. Small	$ .40
1038-D	—Display—20 Env.	8.00
1030	—Kit of 25 assorted	1.81
	Wide High	each
1031	—¾" x ⅜"	.04
1032	—¾" x 7/16"	.05
1033	—¾" x 11/16"	.09
1034	—1" x ⅜"	.06
1035	—1¼" x 11/16"	.12
1036	—1¼" x ⅜"	.11
1037	—¾" x 9/32"	.04

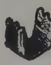
G-C Lead-In Window Strip



Best quality insulated lead in window strip for aerials, 12-inch length.

No. 1397—Lead in Strips...List $0.17

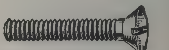
G-C Dial Cable Clips



Used on dial drive cord assemblies for all types of dial cable. Make your own special cords with these clips.

No.		List Price
6220	—Env. 50 Clips	$0.40
6220-D	—Display—20 No. 6220	8.00
6221E	—Env. 50 very small cord clips	.40
6221E-D	—Display 20 No. 6221E.	8.00
6221-R	—Very small clips, per 1,000	5.00
6222E	—Env. 50 Medium Cord clips	.40
6222E-D	—Display 20 No. 6222E.	8.00
6222-R	—Medium cord Clips, per 1,000	5.00
6223E	—Env. 50 Large cord clips	.40
6223E-D	—Display 20 No. 6223E.	8.00
6223-R	—Large cord clips, per 1,000	5.00
6621	—Hdwe. Lab. Jar 75 asst. cord clips	.60

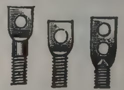
G-C Rack Screws



Popular type oval headed nickel machine screws for mounting panels, racks, electronic devices, etc.

No.		List Price
6039	—Env. 15 ea. rack screws and washers	$0.40
6039-D	—Display 20 Env. No. 6039	8.00
6541	—No. 6-32 x ¾", Jar 50	.60
6541E	—Env. 40, No. 6541 Screws	.40
6541E-D	—Display 20 No. 6541E	8.00
6541-R	—No. 6-32 x ¾" in bulk, per 1,000	5.50
6542	—No. 8-32 x ¾", Jar 45	.60
6542E	—Env. 30 No. 6542 screws.	.40
6542E-D	—Display 20 No. 6542E.	8.00
6542-R	—No. 8-32 x ¾" bulk, per 1,000	7.50
6543	—No. 10-32 x ¾", Jar 45	.60
6543E	—Env. 20 No. 6543	.40
6543E-D	—Display 20 No. 6543E.	8.00
6543-R	—No. 10-32 x ¾", bulk per 1,000	8.00
6628	—Hdwe. Lab. Jar Asst. 25 ea. rack screws and washers	.60

G-C Spade Bolt Assortment



Handy assortment for attaching coils, condensers, radio parts, etc. Stud size 6-32, hole for No. 6 screw.

No.		List Price
6080	—Env. 30 Asst. Bolts	$0.40
6080-D	—Display 20 No. 6080	8.00
6081-E	—Env. 30 ⅝" long bolts.	.40
6081E-D	—Display 20 No. 6081E.	8.00
6081-R	—⅝" Spade Bolts, per 1000	12.00
6082E	—Env. 30 ⅞" long bolts	.40
6082E-D	—Display 20 No. 6082E.	8.00
6082-R	—⅞" long Spade Bolts, per 1000	12.50

GENERAL G-C CEMENT Electronic Hardware

G-C KNOB SET SCREWS

No.		List Price
1062	—Env. 20 Asst'd. Screws	$0.40
1062-D	—Display Card—20 Env.	8.00

6605	—Hardware Lab. Jar 30 Screws	.60
6061	—Env. 20 6-32 Ass't. Length Screws	.40
6061-D	—Display 20 Env. No. 6061	8.00
6062	—Env. 20 8-32 Ass't. Length Screws	.40
6062-D	—Display 20 Env. No. 6062	8.00
6063	—Env. 20 10-32 Ass't. Length Screws	.40
6063-D	—Display 20 Env. No. 6063	8.00

G-C HARDENED SET SCREWS ARE PUT UP IN HANDY JARS

Cat. No.	Size	Quantity in Jar	List per Jar	List per 1000
6071	6-32 x ⅛"	30	$0.60	$18.00
6072	6-32 x 3/16"	30	.60	18.00
6073	6-32 x ¼"	30	.60	18.00
6074	8-32 x ⅛"	30	.60	18.00
6075	8-32 x 3/16"	30	.60	18.00
6076	8-32 x ¼"	30	.60	18.00
6077	8-32 x ½"	30	.60	18.00
6078	10-32 x 3/16"	30	.60	18.00
6079	10-32 x ¼"	30	.60	18.00

DISPLAYS AND ENVELOPES OF KNOB SET SCREWS, INDIVIDUAL SIZES

Cat. No.		List Price
6071E	—Env. 20, 6-32 x ⅛" set screws	$0.40
6071E-D	—Display 20 No. 6071E	8.00
6072E	—Env. 20, 6-32 x 3/16" set screws	.40
6072E-D	—Display 20 No. 6072E	8.00
6073E	—Env. 20, 6-32 x ¼" set screws	.40
6073E-D	—Display 20 No. 6073E	8.00
6073E	—Env 20, 6-32 x ¼" set screws	.40
6074E-D	—Display 20 No. 6074E	8.00
6075E	—Env. 20, 8-32 x 3/16" set screws	.40
6075E-D	—Display 20 No. 6075E	8.00
6076E	—Env. 20, 8-32 x ¼" set screws	.40
6076E-D	—Display 20 No. 6076E	8.00
6077E	—Env. 20, 8-32 x ½" set screws	.40
6077E-D	—Display 20 No. 6077E	8.00
6078E	—Env. 20, 10-32 x 3/16" set screws	.40
6078E-D	—Display 20 No. 6078E	8.00
6079E	—Env. 20, 10-32 x ¼" set screws	.40
6079E-D	—Display 20 No. 6079E	8.00

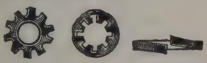
G-C WOOD SCREWS

Nickel plated round head screws in popular sizes.

No.		List Price	List Per 1000
6110	—Env. 40 Asst'd. Screws	$0.40	
6110-D	—Display 20 Env.	8.00	
6633	—Hardware Lab. Jar Asst'd. 60 Wood Screws	.60	
6114	—No. 4 x ½" Screw, Jar 70	.60	$5.50
6115	—No. 4 x ¾" Screw, Jar 65	.60	6.25
6116	—No. 6 x ¾" Screw, Jar 60	.60	7.15
6117	—No. 6 x 1" Screw, Jar 50	.60	8.40
6118	—No. 8 x ¾" Screw, Jar 50	.60	8.40

G-C LOCK-WASHERS

Steel Lock-Washers for No. 4, 6, 8, and 10 screws.

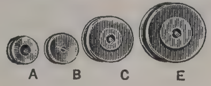


No.		List Price
1717	—Env. 65 Washers, asst'd.	$0.40
1717-D	—Display 20 Env.	8.00
6614	—Hardware Lab Bottle Asst'd. 90 Washers	.60

LOCK WASHERS IN HANDY JARS AND BULK

Cat. No.	Size	Quantity In Jar	List Per Jar	List Per 1000
6503	—No. 4 screw size	100	$.60	$3.50
6504	—No. 6 screw size	100	.60	3.75
6505	—No. 8 screw size	90	.60	3.75
6506	—No. 10 screw size	90	.60	3.75
6507	—¼ inch	80	.60	4.00
6508	—⅜ inch	60	.60	4.50

G-C BRASS DIAL PULLEYS



Handy assorted idler dial pulleys, several sizes included for replacements.

No.		List Price
6057	—Env. 8 Assorted Dial Pulleys	$0.40
6057-D	—Display 20 Env. No. 6057	8.00
6057-A-R	—⅜" diam. by ⅛" hole, per 1000	30.00
6057-B-R	—$\frac{7}{16}$" diam. by .203" hole, per 1000	35.00
6057-C-R	—.620" diam. by .165" hole, per 1000	50.00
6057-E-R	—.860" diam. by $\frac{5}{32}$" hole, per 1000	75.00
6638	—Hardware Lab. Jar, 12 Asst'd Dial Pulleys	.60

G-C KNURLED THUMB NUTS

BRASS TYPE, FOR POPULAR THREADS

No.		List Price
6655E	—Env. 15, 6-32 Nuts	$0.40
6655E-D	—Display 20 No. 6655E	8.00
6656E	—Env. 12, 8-32 Nuts	.40
6656E-D	—Display, 20 No. 6656E	8.00
6657E	—Env. 8, 10-32 Nuts	.40
6657E-D	—Display 20 No. 6657E	8.00

G-C WING NUTS

Handy steel wing nuts needed for many applications and experimental work.

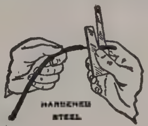
No.		List Price
6658E	—Env. 10, 6-32 Nuts	$0.40
6658E-D	—Display 20 No. 6658E	8.00
6659E	—Env. 10, 8-32 Nuts	.40
6659E-D	—Display 20 No. 6659E	8.00
6660E	—Env. 10, 10-32 Nuts	.40
6660E-D	—Display 20 No. 6660E	8.00

G-C THREADED STEEL RODS

Needed threaded steel rod for servicing, repairing, and designing new equipment. Package contains 6-32 and 8-32 threaded rod.

No.		List Price
6665	—Pkg. 6-32 and 8-32 rod	$0.40
6665-D	—Display 20 No. 6665	8.00

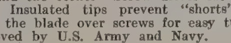
NEW! G-C WIRE STRIPPER



Sensational 5 in 1 tool made of hardened steel. Is a wire stripper, scraper, cutter, screw driver, and wire winder all in one. Save time by having one on your bench and one in your tool kit. A real tool!

No.		List Price
757	—Wire stripper	$0.25
757-D	—Display 24 strippers	6.00

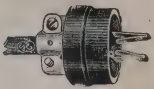
G-C FLEXI-DRIVER



"Around the corner" Screw driver for Radio work. Insulated tips prevent "shorts" and guide the blade over screws for easy tuning. Approved by U.S. Army and Navy.

No.		List Price
5019		$2.25
5019-D	—Display 6 Tools	13.50

G-C CORD CLAMP ATTACHMENT CAPS



"THE BEST CAP EVER MADE"

For those who want the best, an all purpose plug, made of bakelite. Ideal for radios, extension lights, vacuum cleaners, washing machines, motors, industrial equipment, etc. Strain relief clamp holds any size wire without slipping or moving.

No. 864—Cord Cap .... **List Price $0.75**

G-C SPRING ACTION CUBE TAP

Bakelite cube tap that will stay in place because of Spring action features.

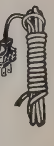
No.		List Price
862-Z	—Brown	$0.25

G-C CUBE CORD CONNECTOR

Bakelite cord connection to fit on end of cord. Make your own extensions.

No.	List Price
863Z	$0.25

G-C RADIO CORD SETS



Handy replacement cord sets ready to attach to Radio Sets and appliances. Made of approved Brown parallel wire with rubber plugs attached.

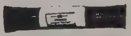
No.		List Price
886-P	—7½ ft. cord	$0.60

G-C LAMINATED BAKELITE

Genuinely laminated Bakelite. Needed by all experimenters, amateurs and Radio men for insulating parts, terminal strips, building sets, etc. 1/16" stock in black.

No.		List Price
590	— 6" x 6" x 1/16"	$0.50
591	— 6" x 12" x 1/16"	.95
592	—12" x 12" x 1/16"	2.20

G-C FYBEROID



"FISH PAPER"

No.		List Price
560	—.010"—240 sq. in.	$0.50
560-D	—Display 8 No. 560	4.00

G-C FUSE CLIPS

High quality clips for midget fuses, instruments, test equipment, etc.

No.		List Price
6310	—Env. 20 Clips	$0.40
6310-D	—Dsply—20 Env.	8.00

G-C RADIO FRICTION TAPE

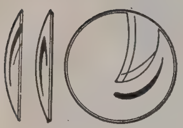
High quality friction tape specially made for Radio Work. Narrow cut eliminates tearing and waste.

No.		List Price
870	—⅜" narrow—65 ft.	$0.45
871	—¾" regular—½ lb.	.80

GENERAL G-C CEMENT Service Aids

G-C RADIO DIAL GLASS, CLOCK AND INSTRUMENT CRYSTALS

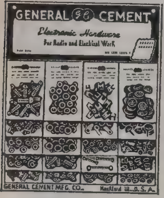
"For Replacement of All Glass Crystals"



Round convex replacement Glass Crystals for Radios, Clocks, Auto Radios, Instruments, Panels, Dash Boards, Thermostats, etc. Sixty-one sizes. Available individually or in assortments. Keep a couple assortments on hand.

No.	List Price
DC65—Assorted kit of 65 Crystals	$26.82
DC25—Assortment 25 most Popular Crystals	10.40

No.	Diam.	List Price	No.	Diam.	List Price	No.	Diam.	List Price	No.	Diam.	List Price
25	1¾″	$0.38	40	3¾″	$0.38	55	5⅝″	$0.49	70	7½″	$0.55
26	1⅞″	.38	41	3⅞″	.38	56	5¾″	.49	71	7⅝″	.55
26A	2″	.38	42	4″	.49	57	5⅞″	.49	72	7¾″	.55
27	2⅛″	.38	43	4⅛″	.49	58	6″	.49	73	7⅞″	.55
28	2¼″	.38	44	4¼″	.49	59	6⅛″	.49	74	8″	.55
29	2⅜″	.38	45	4⅜″	.49	60	6¼″	.49	75	8⅛″	.66
30	2½″	.38	46	4½″	.49	61	6⅜″	.49	76	8¼″	.66
31	2⅝″	.38	47	4⅝″	.49	62	6½″	.49	77	8⅜″	.66
32	2¾″	.38	48	4¾″	.49	62A	6⅝″	.49	78	8½″	.66
33	2⅞″	.38	49	4⅞″	.49	63	6⅞″	.49	79	8⅝″	.66
34	3″	.38	50	5″	.49	64	6¾″	.49	80	8¾″	.66
35	3⅛″	.38	51	5⅛″	.49	66	7″	.55	81	8⅞″	.66
36	3¼″	.38	52	5¼″	.49	67	7⅛″	.55	82	9″	.66
37	3⅜″	.38	53	5⅜″	.49	68	7¼″	.55	83	9⅛″	.66
38	3½″	.38	54	5½″	.49	69	7⅜″	.55	84	9¼″	.66
39	3⅝″	.38									


GENERAL G-C CEMENT
Electronic Hardware
For Radio and Electrical Work
GENERAL CEMENT MFG. CO. Rockford Ill. U.S.A.

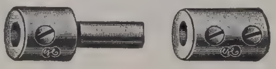
G-C SERVICEMAN'S HARDWARE ASSORTMENT

Inexpensive easy way to get a complete assortment of the necessary hardware items needed in everyday repair work. Two separate assortments similar to those supplied in larger Hardware Laboratory Assortments except smaller quantities. No. 1 assortment is similar to No. 6601 and No. 2 is similar to No. 6602 assortment. (See page 18). Items packaged in handy envelopes for easy accessibility.

No.		List Price
6603-D	No. 1 Assortment G-C Hardware	$8.00
6603-2-D	No. 2 Assortment G-C Hardware	8.00

G-C SHAFT COUPLINGS, EXTENSIONS AND REDUCERS

Accurately machined fittings made of brass and high grade insulating material for coupling and extending shafts of the same or different diameters. Made in as small dimensions as practical so as to use the minimum of space.



Brass Fittings

No.		List Price
6701	¼″ to ¼″ coupling	$0.20
6702	¼″ to ⅜″ coupling	.20
6703	¼″ to 3/16″ coupling	.20
6704	⅜″ to ⅜″ coupling	.20
6705	¼″ hole to ¼″ shaft extension	.20
6709	¼″ hole to ⅜″ shaft extension and increaser	.20
6710	⅜″ hole to ¼″ shaft extension and reducer	.20
6711	⅜″ hole to ⅜″ shaft extension	.20
6712	¼″ x 6″ Brass shaft	.20
6713	¼″ x 12″ Brass shaft	.40
6714	⅜″ x 6″ Brass shaft	.30
6715	⅜″ x 12″ Brass shaft	.55
6716	¼″ hole x ¼″ round shaft x 4″ long	.30

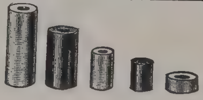
Insulated Fittings

No.		List Price
6721	¼″ to ¼″ coupling	$0.20
6722	¼″ to ⅜″ coupling	.20
6723	¼″ to 3/16″ coupling	.20
6724	⅜″ to ⅜″ coupling	.20
6725	¼″ hole to ¼″ shaft extension	.20
6731	¼″ hole to ⅜″ shaft extension and increaser	.20
6732	⅜″ hole to ¼″ shaft extension and reducer	.20
6733	⅜″ hole to ⅜″ shaft extension	.20
6734	¼″ x 6″ Fibre shaft	.30
6735	¼″ x 12″ Fibre shaft	.55
6736	¼″ x 6″ Bakelite shaft	.50
6737	¼″ x 12″ Bakelite shaft	.90
6738	⅜″ x 6″ Fibre shaft	.35
6739	⅜″ x 12″ Fibre shaft	.60

G-C KNOB BUSHINGS

Split Bushing to convert ¼″ shaft knob to fit 3/16″ and ⅛″ knob shafts such as are used in Auto Radio Knobs.

No.		List Price
6751	3/16″ to ¼″ Bushing	$0.15
6752	⅛″ to ¼″ Bushing	$0.15



G-C BRASS AND INSULATED SPACERS AND BUSHINGS

Spacers and Bushings needed for insulating and spacing of parts. Needed on chassis, sub panels, etc.

No.	Assortments	List Price
6617	Hardware Lab. Jar 12 Assorted Spacers and Bushings	$0.60
6760	25 Assorted Insulated Bushings and Spacers	1.25
6761	25 Assorted Brass Bushings and Spacers	1.25
6762	15 Asst. Threaded Brass Bushings 6-32 thread, ¼″ to ¾″ long	1.25
6763	15 Asst. Threaded Brass Bushings 8-32 thread, ¼″ to ¾″ long	1.25

Brass

No.	O. D.	Length	List Price Per 100
6765	¼″	¼″	$3.75
6766	¼″	⅜″	4.50
6767	¼″	½″	5.00
6768	¼″	¾″	5.50
6769	⅜″	¼″	5.00
6770	⅜″	½″	6.00
6771	⅜″	¾″	6.50

Insulated

No.	O. D.	Length	List Price Per 100
6775	¼″	¼″	$3.75
6776	¼″	⅜″	4.50
6777	¼″	½″	5.00
6778	¼″	¾″	5.50
6779	⅜″	¼″	5.00
6780	⅜″	½″	6.00
6781	⅜″	¾″	6.50

Threaded Brass Bushings

No.	O.D.	Thread Size	Length	List Price Per 100
6785	¼″	6-32	¼″	$5.00
6786	¼″	6-32	⅜″	6.50
6787	¼″	6-32	½″	7.50
6789	¼″	6-32	¾″	8.25

No.	O.D.	Thread Size	Length	List Price Per 100
6790	¼″	8-32	¼″	$5.00
6791	¼″	8-32	⅜″	6.50
6792	¼″	8-32	½″	7.50
6793	¼″	8-32	¾″	8.25

G-C SHAFT EXTENSIONS

Popular ¼″ shaft extension with flat shaft for spring type push on knobs.

No. 6755—¼″ shaft extension 4″ overall length ....List Price $0.30
(Also note brass extension under shaft coupling heading.)

GENERAL SERVICE KIT

G-C CARBON BRUSH KIT

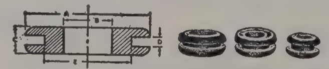
Here's a kit every Service Man, Electrician, Radio and Electrical Shop needs. A complete assortment of carbon replacement brushes for vacuum cleaners, washing machines, ironers, pumps, fans, mixers, office appliances, cash registers, drills, barber equipment, and other small motors.

Kit contains 92 Brushes and 18 Springs

No.		List Price
7000	Carbon Brush Kit	$8.25

G-C RUBBER GROMMETS

LIVE RUBBER GROMMETS FOR PROTECTING CABLES, WIRES, MOUNTING CONDENSERS, PHONO MOTORS, SOCKETS, ETC.

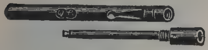


No.	A	B	C	D	E	List Price Per 100
1041	7/16	3/16	7/32	1/16	5/16	$1.80
1041-2	11/32	1/8	3/16	1/16	1/4	1.80
1042	9/16	1/4	1/4	1/16	3/8	2.15
1043	5/8	3/8	1/4	1/16	1/2	2.40
1043-1	7/8	7/16	5/16	3/32	5/8	2.70

No.		List Price
1039	Env. 15 Asst'd. Soft Grommets	$0.40
1039-D	Display 20 Env. No. 1039	8.00
1040	Kit of 50 Asst'd. Soft Grommets	1.04
1041-E	Env. 15 No. 1041 Grommets	$0.40
1041-D	Display 20 Env. No. 1041-E Grommets	8.00
1042-E	Env. 15 No. 1042 Grommets	.40
1042-D	Display 20 Env. No. 1042-E Grommets	8.00
1043-E	Env. 15 No. 1043 Grommets	.40
1043-D	Display 20 Env. No. 1043-E Grommets	8.00
1044	Env. 15 Asst'd. Hard Grommets	.40
1044-D	Display 20 Env. No. 1044 Grommets	8.00
1046-E	Env. 15 No. 1046 Hard Rubber Grommets for ¼″ hole 3/16″ ID	.40
1046-D	Display 20 Env. No. 1046-E Grommets	8.00
1047-E	Env. 15 No. 1047 Hard Rubber Grommets for ⅜″ hole 9/32″ ID	.40
1047-D	Display 20 Env. No. 1047-E Grommets	8.00
1048-E	Env. 15 No. 1048 Hard Rubber Grommets for ½″ hole ⅜″ ID	.40
1048-D	Display 20 Env. No. 1048-E Grommets	8.00
6625	Hardware Lab. Jar 25 Asst'd. Small Grommets	.60
6626	Hardware Lab. Jar 20 Asst'd. Large Grommets	.60

GENERAL CEMENT Radio Alignment Tools

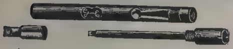
G-C No. 5014 Alignment Tool



Made of Bone fibre, combination tool. Consists of Screw Driver with metal nib. ¼" Hex Wrench slotted and 5/16" Hex Wrench on other end.

No. 5014 ....**List Price $1.00**
No. 5014-D—Display 12 Tools.. **12.00**

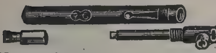
G-C No. 5015 Alignment Tool



Made of Bone Fibre, combination tool. Consists of Screw Driver with metal nib. 5/16" Hex Wrench, ¼" Hex Wrench slotted, with metal screw driver on one end.

No. 5015 .... **List Price $1.35**
No. 5015-D—Display 12 Tools.. **16.20**

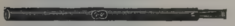
G-C No. 5016 Alignment Tool



Made of Bone Fibre combination tool that can be used for most purposes. Consists of Screw Driver with metal nib, 5/16" Hex wrench, ¼" Hex side wrench and ¼" hex end wrench slotted.

No. 5016 .... **List Price $1.35**
No. 5016-D—Display 12 Tools.. **16.20**

G-C Insulated Hex Wrench and Screw Driver



Combination hex wrench and insulated screw driver. The screwdriver may be extended from handle to provide extra long length.

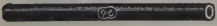
No.	List Price
5005—extends from 7-13"......	$.75
5005-D—Display 12 Tools........	9.00
5006—extends from 11-17"......	.95

Non-Extension Type

Same as above except screwdriver is permanently attached in wrench. Length not adjustable. Overall length 6 inches.

No.	List Price
5007 —Tool	$0.40
5007-D—Display 12 No. 5007 ...	4.80

G-C Insulated Aligning Wrenches



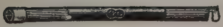
Made of Bone Fibre Tubing. Hexed full length inside, so end of wrench can be cut off when worn out, and tool is as good as new again.

No.	Length	Hex Size across flats	Diam.	List Price
5051	5"	5/16"	7/16"	$.30
5052	5"	¼"	⅜"	.25
5053	6"	¼"	⅜"	.25
5054	8"	¼"	⅜"	.30
5055	12"	¼"	⅜"	.40
5053-D—Display 12—5053 tools ..				3.00
5054-D—Display 12—5054 tools ..				3.60

Low-Loss Polystyrene Type

No.	List Price
5058—8" long ¼" hex. ⅜" diameter	$0.40
5058-D—Display 12 No. 5058..	4.80
5059 —8" long x 5/16" hex, 7/16" diameter	.40
5059-D—Display 12 No. 5059 ...	4.80

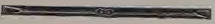
G-C Alignment Wrench for Philco, RCA, etc.



Excellent for neutralizing air trimmers on many models of RCA, Philco, Victor sets. Has 5/16 Hex Wrench on one end and metal hook on other end.

No.	List Price
5085	$ 1.50
5085-D—Display 12 Tools	18.00

G-C No-Metal Insulating Adjustment Screw Driver



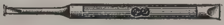
Made of Black Bone fibre. Indispensable for aligning all-wave sets. Will give long service. Ends can be reground.

No.	List Price
5004—7" long	$ .40
5004-D—Display 12 Tools	4.80

Low-Loss Polystyrene Type

No.	List Price
5008 7½" long	$0.40
5008-D—Display 12 No. 5008..	4.80

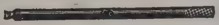
G-C Duplex No-Metal Alignment Screwdriver



Made of Hard Bone Fibre or Polystyrene—¼" blade on one end and ⅛" blade on other. 6" long.

No.	List Price
5009 —6" Bone Fibre Duplex Screwdriver	$0.40
5009-D—Display 20 No. 5009 ..	8.00
5010 —6" Polystyrene Duplex Screwdriver	.40
5010-D—Display 20 No. 5010 ..	8.00

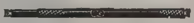
G-C Alignment Screw Driver



Low Inductance Metal Tip screw driver made of Genflex material—strong—durable, completely insulated, ¼" diameter x 6" long.

No. 5000 ....**List Price $0.40**
No. 5000-D—Display 12 Tools 4.80

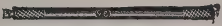
G-C Duplex Alignment Screw Driver



Low Inductance Metal Tip on both ends made of "Genflex" material. One end is ¼" and other end is turned down to 7/32" diameter for small holes. Strong — Durable — completely insulated tool.

No. 5001.............**List Price $0.75**
No. 5001-D—Display 12 Tools 9.00

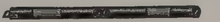
G-C RCA Aligning Tool



Made of ¼" Bone Fibre, narrow screw driver on one end and screw nib inserted on other end. Used on RCA sets and others.

No. 5003 ....**List Price $0.75**
No. 5003-D—Display 12 Tools 9.00

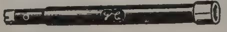
G-C R.F., I.F., and Push Button Alignment Tool For Bendix, R.C.A., Etc.



A new specially designed tool for adjusting iron core I.F. and R.F. transformers, coils, alignment condensers, and push button tuners. Used on Bendix, R.C.A. and others. Made of small diameter fibre. Metal tip on one end, other end recessed tip.

No.	List Price
5087	$0.75
5087-D—Display 12 Tools	9.00

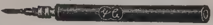
G-C Duplex Insulated Wrench Alignment Tool



Made of Bone Fibre with ¼" Hex Metal Wrench on one end and 5/16" Hex Metal Wrench on other end.

No. 5017 .... **List Price $1.25**
No. 5017-D—Display 12 Tools.. **15.00**

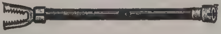
G-C Test Prods "Solderless Type"



Handle is made of Red or Black "Genflex" material. Tip is made of brass nickel plated.

No.	Size and Color	List Price
5041	5¼" — Red	$0.40
5042	5¼" — Black	.40
5043	7¼" — Red	.50
5044	7¼" — Black	.50

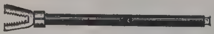
G-C Alligator and Wrench Aligning Tool



Made of 7/32" Bone Fibre with alligator on one end and ¼" metal Hex Wrench on other end.

No. 5012 ....**List Price $0.50**
No. 5012-D—Display 12 Tools 6.00

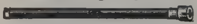
G-C Alligator Wrench and Screw Driver



For RCA-Philco and others. Made of 7/32" Bone Fibre and strong metal wrench on one end and metal screw driver tip on other end.

No. 5011 ....**List Price $0.50**
No. 5011-D—Display 12 Tools 6.00

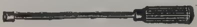
G-C Wrench and Screw Driver Aligning Tool



Made of 7/32" Bone Fibre with ¼" Hex Wrench on one end and Screw Driver with metal nib on other end.

No. 5013 ....**List Price $0.75**
No. 5013-D—Display 12 Tools 9.00

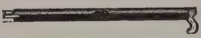
G-C Aligning Tool for Push Button Tuners



Socket Screw driver made of best steel. Handle made of Bone Fibre.

No. 5018 .... **List Price $0.75**
No. 5018-D—Display 12 Tools.. 9.00

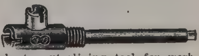
G-C Alignment Tool for Philco, RCA, etc.



For Neutralizing Air Trimmer Condensers on all model sets. Made of 7/32" Fibre. Metal Clip on end.

No.	List Price
5086	$0.60
5086-D—Display 12 Tools	7.20

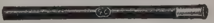
G-C Balancing Tool



A short neutralizing tool for work in close quarters. Sets can be adjusted without removing from cabinets.

No.	List Price
5084	$ .50
5084-D—Display 12 Tools	6.00

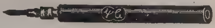
G-C "Strato" Tuning Wand



Made of "Genflex" rod with Brass cylinder on one end and Iron core on other end. used for adjusting and checking coils. By inserting iron core end you increase the inductance and inserting brass end lowers inductance.

No. 5002 ....**List Price $ 1.00**
No. 5002-D—Display 12 Tools. **12.00**

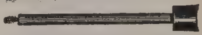
G-C Low Loss Deluxe Test Prods



New low-loss Test Prods made of low-loss material, moisture resistant. Excellent for high voltage, low inductance. Solderless type.

No.	List Price
5045—Red	$ .50
5046—Black	.50
5045-D—Display 18 Prods—9 Red 9 Black.......	9.00

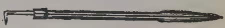
G-C Test Mallet and Screw Driver



Handy tool made with insulated screw driver on one end and rubber mallet on other end.

No.	List Price
5081	$ .65
5081-D—Display 12 Tools......	7.80

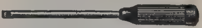
G-C Test Probe



Handy new test probe to "dig in" and find the trouble. Fibre point on one end. Metal hook on other end.

No.	List Price
5082	$ .50
5082-D—Display 12 Tools......	6.00

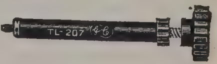
G-C Screw Drivers



Insulated screw drivers for radio work. No. 5056 for radio knobs, No. 5057 regular type.

No.	Blade	List Price
5056—	3"x⅛" (small)	$ .25
5056-D—Display 12 No. 5056...		3.00
5057—	3"x3/16" (large)	.75

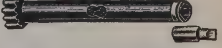
G-C Bakelite Neutralizing Tool—U.S. Army TL-207



Made of Bakelite. Combination Screw driver and 5/16" Hex wrench. Approved by U.S. Army Signal Corps.

No. 5027 .... **List Price $2.25**

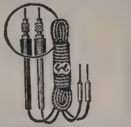
G-C Bakelite 5/16" Hex Wrench and Screw Driver



Molded Bakelite Insulated Wrench for Radio Work. 5/16" Hex has reinforced brass collar to prevent breakage.

No.	List Price
5083	$ 1.00
5083-D—Display 12 Tools......	12.00

G-C Master Test Leads



6,000 volt, heavy duty test prods, solderless type. Extra flexible leads run through the handles and are fastened under the knurled collar on the tips. Wire 50" long, best quality. Extra heavy insulation.

No.	List Price
5050—Master Test Leads	$1.50

GENERAL G-C CEMENT *Alignment Tools-Service Aids*

G-C No. 5025 PROFESSIONAL ALIGNMENT KIT

A Complete Alignment and Neutralizing Kit in Steel Box

Kit contains every tool necessary to service any set.

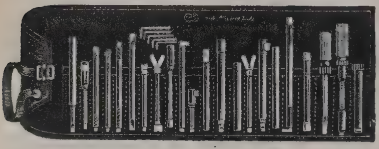
KIT CONTAINS THE FOLLOWING TOOLS

1—5000
1—5001
1—5002
1—5003
1—5004
1—5005
1—5011
1—5012
1—5013
1—5015
1—5016
1—5017
1—5018
1—5019
1—5031
1—5032
1—5033
1—5034
1—5035
1—5051
1—5053
1—5056
1—5057
1—5081
1—5082
1—5083
1—5084
1—5085
1—5086
1—5087
1—Steel Box

Cat. No. 5025—Professional Alignment Kit in Steel Box .... **List Price $19.95**

G-C No. 5024 PROFESSIONAL ALIGNMENT KIT

A Complete Alignment and Neutralizing Kit in Leatherette Case



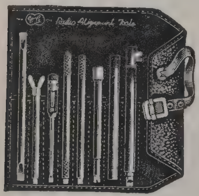
Kit contains all tools necessary to service any set. Handy to carry in roll type case.

KIT CONTAINS THE FOLLOWING TOOLS

1—5000
1—5001
1—5002
1—5003
1—5004
1—5005
1—5011
1—5012
1—5013
1—5015
1—5016
1—5017
1—5018
1—5019
1—5031
1—5032
1—5033
1—5034
1—5035
1—5051
1—5053
1—5056
1—5057
1—5081
1—5082
1—5083
1—5084
1—5085
1—5086
1—5087
1—Leatherette Case

Cat. No. 5024—Professional Alignment Kit in Roll type Case ....**List Price $19.95**

G-C No. 5023 Alignment Kit



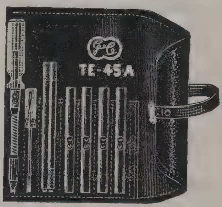
A very complete kit that will take care of most sets. Easy to carry in roll type case.

KIT CONTAINS

1—5001 Tool	1—5017 Tool
1—5003 Tool	1—5053 Tool
1—5004 Tool	1—5056 Tool
1—5011 Tool	1—5057 Tool
1—5016 Tool	1—Leatherette Case

No. 5023—Kit ...... **List Price $6.25**

G-C TE-45A Neutralizing Kit

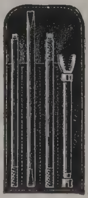


Approved by U.S. Army Signal Corps. The all purpose kit used extensively by Signal Corps. Kit contains . . .

1 5″ Small Screw driver
1 No. 5019 Flexi-Driver
1 No. 5003 Tool
1 No. 5000 Tool
2 No. 5051 Tool
2 No. 5052 Tool
1 Leatherette Case

No. 5021—Kit ....**List Price $7.50**

G-C Vest Pocket Aligning Kit



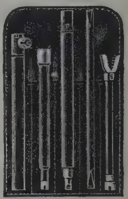
A very handy all purpose aligning kit.

Kit contains . . .

1 5012 Alligator and Hex Wrench
1 5000 Screw Driver
1 5003 RCA Screw Driver
1 5004 Screw Driver
1 Leatherette Case

No. **List Price**
5022—Kit $3.00

G-C NX-Aligning Kit



Approved by U.S. Army and Navy. Very Handy all purpose aligning and Neutralizing kit. Kit contains . . . .

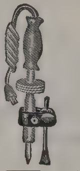
1 5004 Screw Driver
1 5011 Alligator Wrench
1 5017 Double End Wrench
1 5015 Combination Tool
1 5016 Combination Tool
1 Leatherette Case

No. 5020—Kit........**List Price $6.50**

G-C SOLDERING COOLANT AND FLUX ATTACHMENT

Cools and Sets Solder Instantly

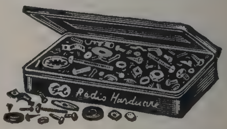
(Patent Pending)



Here's a handy attachment that you can put on any soldering iron and speed up production and repairs. No waiting for solder to cool. Dip the brush in a coolant of water or alcohol and cool the solder instantly. Also can be used for soldering flux or paste. With this attachment it's just like having a helper to solder.

No.	List Price
720—Coolant Attachment	$0.35
720-D—Display of 24 No. 720	8.40

G-C HELL BOX



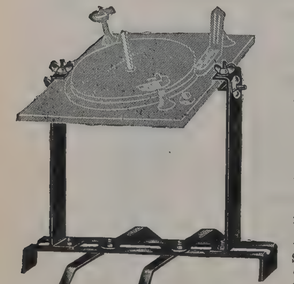
A grand assortment of screws, nuts, lugs, clips, washers, clamps, caps, and all types of Radio Parts that you need in your every day work. Just dig in and find it. Thousands of pieces in a box.

No.	List Price
6500—Hell Box Asst'd. in Metal Box	$4.00

ENVELOPE ASSORTMENTS

6056—Env. Asst'd. Hdwe., as above except smaller quantities	0.40
6056-D—Display 20 Env. No. 6056	8.00

NEW G-C PHONO TURNTABLE SERVICE STAND



Here is just what you have been looking for. An adjustable, inexpensive stand to hold phono-turntables while you are making repairs and adjustments. The new stand raises the turntable about 15 inches above the bench so you can easily look under the mechanism to check it while in operation. Then the unit can be easily pivoted on the swivel joints so that repairs can be made without removing the turntable from the stand. Easily adjusted to all sizes and types of phono-turntables. Sturdily made of steel. Every service shop needs several of these stands.

List Price
No. 5205—Phono Turntable Stand **$6.65**

ICA INSULINE ICA
RADIO PRODUCTS

ICA Bakelite Double Phone Plug

No. 24B—Black ....Net $.36
No. 24R—Red ....Net .36

ICA Midget Phone Plug

Overall length—2⅝″. Diameter of barrel 9/16″.

No. 29B—Black ....Net $.36
No. 29R—Red ....Net .36

ICA Stubby Shielded Phone Plug

Barrel Measures 11/16″ diameter x 1″ long.
No. 27 Net $.48

ICA Midget Shielded Phone Plug

Diameter of Barrel 9/16″. Overall size of Plug 2¼″
No. 30 Net $.42

ICA 3-Wire Microphone Plug

The ICA 3-Wire Microphone Plug has solder connections for cable or microphone use. Barrel molded of bakelite with brass parts, nickel plated.
No. 1901 ....Net $.66

ICA Shielded Double Phone Plug

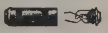
Nickel Barrel
Brass Shell
Nickel Plated

Supplied with pure gum rubber insulating bushing.
No. 25 ....Net $.60

ICA Shielded 3-Wire Microphone Plug Shielded Nickel Barrel

No. 1900..........................Net $.93

ICA Shielded 3-Way Portable Microphone Jack



For all types of microphones. Sturdily constructed of brass parts with phosphor bronze springs. Nickel plated and thoroughly insulated.
No. 1904.............................Net $.90

ICA Bakelite Portable Jacks

Single Open Circuit

No. 1911—Overall Size 1¾″ Diameter ¾″ ....Net $.42

No. 1903—Portable Jack, black Bakelite barrel....... Net $.66

ICA Shielded Portable Jack

Single Open Circuit

No. 1913—2¼″ Long, 11/16″ Diameter ....Net $.75

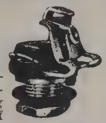
ICA 3-Way Microphone Jack

Small compact size where minimum space is important. Excellent insulation and positive contact.
No. 1902..........................Net $.60

ICA De Luxe Phone Jacks

New Design

Greater Efficiency



New design. Tension fatigue minimized. — Spring members made of phosphor bronze. Hooked type soldering lugs—Cannot turn or short. In three styles. For standard ¼″ plug.

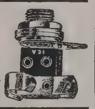
No.	Net
1920—Single Open Circuit	$.75
1921—Single Closed Circuit	.90
1922—Three-Way Microphone Jack	1.20

ICA Panel Mounting Jacks

Small and Compact

No.	Net
325—Single Open Circuit	$.30
1905—3-Way Microphone Jack	.45

ICA Single Open Circuit Jack



No. 362......Net $.30
Single Closed Circuit
No. 363......Net $.36

ICA Insulated Tip Jacks

With receptacle for standard phone tips.

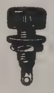
No.	Net
889B—Black	$.11
889R—Red	.11

Insulated Banana Jacks

With receptacle for banana plugs.
No. 888B—Black ....Net $.11
No. 888R—Red ....Net .11

ICA Bakelite Insulated Tip Jacks

Moulded of Low-Loss Bakelite



No.	Net
1889—Black	$.13
1890—Red	.13

Bakelite Banana Type Jacks

No. 1891—Black ....Net $.13
No. 1892—Red ....Net .13

ICA Combination Banana Plug or Phone Tip Jack

Made to take banana plug or standard phone tips interchangeably. Insulated cap in black and red — Complete with washers and nuts.
No. 528R—Red ....Net $.18
No. 528B—Black ....Net .18

ICA Insulated Binding Posts with Jack for Banana Type Plug

Length 1⅜″ overall when top is up. Extends ⅝″ above panel when top is screwed down. Fitted with 8/32 screw 9/16″ long, and two hex nuts.

No.	Net
622—Red	$.18
623—Black	.18

ICA All Metal Binding Post

Designed for high amperage use and where low resistance connections are necessary on test equipment, etc. Nickel plated brass. Dimensions same as No. 617 below.
No. 620........Net $.15

ICA Bakelite Binding Posts

9/16″ Diameter Head with Brass Threaded insert, Nickel Plated Screw and Knurled nut.

No.	Net
617—Red	$.11
618—Black	.11

ICA Vise-Grip Binding Post

Engineered on principle of a vise. Can cause no damage to even finest wire strands. Wire hole and designating symbol always in alignment. Two styles.

No. 630 Series—Has 6/32 Male Threaded Shank..........Net $.36
No. 690 Series—Has 6/32 Female Thread ....Net $.45

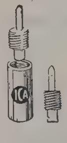
No.	Marking	No.	Marking
630	ANT	690	ANT
631	GND	691	GND
632	A	692	A
633	G	693	G
634	+	694	+
635	—	695	—
636	Rec.	696	Rec.
637	PLAIN (No Marking)	697	PLAIN (No Marking)

Bakelite Binding Post Heads

Bakelite Heads only with Brass Threaded Insert for 8/32 Screw.

No. 628—Red ....Net $.15
No. 629—Black ....Net .15

ICA Insulated Midget Phone Tip Plug

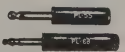


Fits all standard jacks. Tip is threaded. Overall length 1⅛″.

No.	Net
876R—Red	$.12
876B—Black	.12

ICA Midget Sharp Point Threaded Phone Tip Non-Insulated
No. 365........Net $.09

U. S. Army and Navy Specification Plugs



Manufactured to meet the very exacting specifications of the U. S. Army Signal Corps and U. S. Navy. Will fit all standard jacks.

No. P.L. 55—2 Conductor Plug (long) ....Net $ .81
No. P.L. 68—3 Conductor Microphone Plug ....Net $1.80

ICA Insulated Solderless Plug

2¼″ long —fits all standard phone tip jacks.
No. 885B—Black ....Net $.13
No. 885R—Red ....Net .13

ICA Sr. Solderless Plugs

1 11/16″ overall length.
No. 358
Net $9.00 per 100

ICA Jr. Solderless Plugs

1 3/16″ overall length.
Tip ½″.
No. 359
Net $7.80 per 100

ICA Brass Tip Jacks

Nickel Plated
No. 357
Net $9.00 per 100

ICA Insulated Needle Point Tip Plug

886B — Black
Net $.13
886R — Red
Net $.13

ICA Alligator Clips

Good firm grip. Ideal for work in tight places. Overall length 2″.
No. 364.................................Net $.07

ICA Insulated Alligator Clips

No. 884B—Black ....Net $.15
No. 884R—Red ....Net .15

ICA Insulated Alligator Clip with Phone Tip Jack

Has standard phone tip jack in insulated sleeve. Will accommodate phone tip or solderless plug tips.
No. 525R—Red ....Net $.33
No. 525B—Black ....Net .33

ICA Insulated Solderless Split Banana Plugs

Set screw provided at side of barrel to fasten screw without soldering.

1½″ Long
No. 883B—Black ....Net $.15
No. 883R—Red ....Net .15

2½″ Long
With sleeve covering set screws.
No. 882B—Black ....Net $.27
No. 882R—Red ....Net .27

4″ Long
With sleeve covering set screws.
No. 881B—Black ....Net $.36
No. 881R—Red ....Net .36

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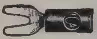
ICA INSULINE ICA
RADIO PRODUCTS

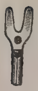
Insulated Spade Lug



Insulated Spade Lug with banana plug receptacle on lead end.

No. 887B—Black ....Net $.12
No. 887R—Red ....Net .12
10 in Standard Carton

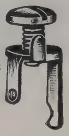
ICA Spade Lug



Can be used on any size screw or terminal up to size 10. Receptacle fits all I.C.A. and other make Banana Plugs.

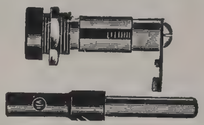
No. 879.....................Net $4.20 C
100 in Standard Package

ICA Terminal Lugs



Terminal Lugs
(less Screws)
No. 2425 Net $4.50 C
Terminal Screws
⅜″ long
No. 2426 Net $1.50 C

Giant Insulating Transmitting Plugs and Jacks

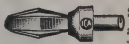


A new line of heavy duty transmitting plugs and jacks. Plug-in type with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. currents. Supplied with large hex nuts for panel mounting.

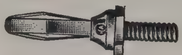
Handle 1,000 Volts at 10 Amps

No.		Net
450	Medium Plug-RED	$.33
451	Medium Plug-BLACK	.33
452	Medium Jack-RED	.57
453	Medium Jack-BLACK	.57
454	Giant Plug-RED	.45
455	Giant Plug-BLACK	.45
456	Giant Jack-RED	.69
457	Giant Jack-BLACK	.69

Beryllium Banana Plugs



Approved by the Signal Corps and other government agencies. These plugs are used in all government equipment. Made of Beryllium copper and guaranteed for its spring and durability. Threaded plug accommodates 6/32 nuts.

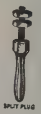


No. 419—Overall size $\frac{13}{16}$″ long. Shank length ¼″ long. Diameter of shank ⅛″.

No. 420—Overall size 1⅛″ long. Threaded shank length ⅜″ long threaded for 6/32 nuts.

No. 419...........................Net $.12
No. 420...........................Net .21

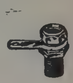
ICA Split Banana Plugs



For positive and durable spring action. Allows spring to fit into jack, cannot bend out of shape — Complete with two nuts.

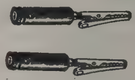
No. 403............Net $.09

ICA Transmitting Banana Jacks



No. 402
Nickel Plated Brass
Net $.09

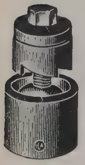
ICA Insulated Combination Jack Alligator Clip



An insulated alligator clip with a dual purpose Jack in catalin sleeve —Equipped with the new combination Jack which takes either solderless phone tip or Banana plug. Overall length—2⅜″.

No. 520R—Red ....Net $.36
No. 520B—Black ....Net .36

ICA SHEARING PUNCHES



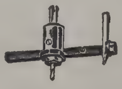
Now! No Hammering Necessary to Punch Chassis Holes

Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.

No.	Size of Hole	Net
725	¾″	$2.55
726	1.170	3.00
727	1⅛″	3.00
728	$1\frac{3}{16}$″	3.00
729	1¼″	3.00
730	1⅜″	3.30

ICA IMPROVED ALL-PURPOSE CIRCLE CUTTER

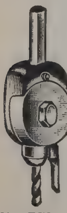
Will Cut Holes from ¾ to 8 Inches



Cutting bar holder is 1″ in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is ⅜″ square and is arranged to hold a $\frac{3}{16}$″ high speed cutting bit.

No. 775...Net $3.96

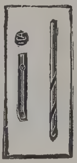
ICA UNIVERSAL MULTI-PURPOSE CUTTING TOOL



This handy tool can be used for counter-sinking, beading, drilling or cutting holes. Equipped with $\frac{3}{16}$″ holes from $\frac{7}{16}$″ diameter up to 3″ diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.

No. 780...Net $2.40

REPLACEMENT DRILLS AND CUTTERS



Used as replacement on ICA No. 775 and No. 780 circle cutters as well as on other make cutters.

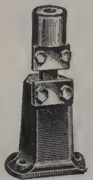
No. 776—Replacement drill for No. 775 Circle Cutter
Net $.36

No. 777—Replacement cutter for No. 775 Circle Cutter
Net .51

No. 781—Replacement drill for No. 780 Circle Cutter
Net $.36

No. 782—Replacement cutter for No. 780 Circle Cutter
Net $.54

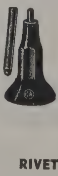
ICA SQUARE HOLE SHEARING PUNCH



This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.

No. 790..................Net $9.90

ICA RIVET AND EYELET PUNCH SET



A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexagonal sides, thus permitting the tool to be placed in a vise without slipping.

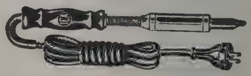
No. 785—Complete with ample assortment of eyelts and rivets.
Net $2.40

RIVET AND EYELET ASSORTMENT

Additional eyelets and rivets can be purchased separately.

No. 5265—(Assortment of 100)......Net $.48

ICA SOLDERING IRONS



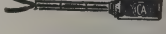
ICA Highest Quality Soldering Irons are "Best By Test". Each model is submitted to the most severe tests and results prove conclusively that ICA irons are equal, if not superior, to any soldering iron on the market today.

60 WATT IRON
No. 1960-A—110-115 Volts..........Net $3.00

85 WATT IRON
No. 1962-A—110-115 Volts..........Net $3.90

115 WATT IRON
No. 1961-A—110-115 Volts..........Net $4.50

REPLACEMENT ELEMENTS FOR ICA SOLDERING IRONS



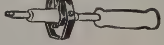
Due to the construction of the ICA Soldering Irons, burnt out elements can be easily removed and replaced by anyone.

110-120 Volts

No.	Watts	Net
1985	60	$1.80
1986	85	2.10
1987	115	2.10

ICA SNAP-ON SOLDERING IRON HOLDER

No. 1956



Fits on all makes and size irons. Can be snapped on to the barrel of any soldering iron so that iron and stand become a single unit, and iron can be left on constantly. Raises iron about 2″ from work bench. Prevents fire damage.
Net $.27

ABOVE PRICES INDICATE SUGGESTED DEALER NET PRICES.
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

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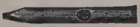
ICA INSULINE ICA
RADIO PRODUCTS

REPLACEMENT TIPS For ICA Soldering Irons



Available in All Sizes

Made of a special copper alloy. Electrolytically pure. For replacement in ICA Soldering Irons. Can also be used in American Beauty and irons of similar construction.

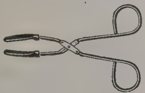
No.	Watts	Tips	Diam.	Length	Net
1970	60	Flat	3/8"	3"	$.36
1972	85	Point	3/8"	3 1/2"	.48
1971	115	Point	7/16"	3 1/2"	.60

ICA GENERAL REPLACEMENT TIPS
For All Makes Soldering Irons

Made of special copper alloy, with a high conductivity. Electrolytcially pure and oxygen free.

No.	Tips	Diam.	Length	Net
1941	Flat	5/16"	2 7/8"	$.36
1942	Flat	3/8"	2 3/4"	.48
1943	Flat	1/2"	3 1/4"	.54

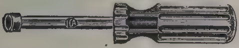
ICA TUBE EXTRACTOR
Originally Designed for U. S. Signal Corps



Skillfully made of sturdy spring steel, cadmium plated. Molded soft neoprene cushion over the two claws offers the maximum in tube protection. Suitable for removing all makes and sizes of tubes. Will not damage tube socket or shield.

No. 1001 .... Net $1.20

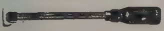
ICA UNBREAKABLE "TURN-TITE" SOCKET WRENCHES



7 1/2" long. Handle is of ribbed shockproof unbreakable material.

No.	Net
940—3/16" socket	$.57
941—1/4"	.57
942—5/16"	.57
943—11/32"	.57
944—3/8"	.57
945—7/16"	.57
946—1/2"	.57
949—(Set of 7 Wrenches as above)	3.99

ICA "TURN-TITE" SOCKET WRENCHES



HOLLOW SHAFTS

Made of hardened steel, cadmium plated, with sturdy Black japanned wooden handles.

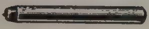
6 Inches Long

No.	Net
898—3/16"	$.30
890—1/4"	.30
891—5/16"	.30
892—3/8"	.30
893—7/16"	.30
899—1/2"	.30
910—Set of 6 Wrenches	1.80

9 Inches Long

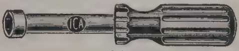
No.	Net
900—3/16"	$.36
894—1/4"	.36
895—5/16"	.36
896—3/8"	.36
897—7/16"	.36
901—1/2"	.36
911—Set of 6 Wrenches	2.16

RIVET & EYELET SETTING TOOL



No. 786 .... Net $.54

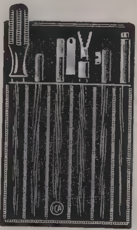
ICA UNBREAKABLE VOLUME CONTROL WRENCH



Socket is 9/16" diameter.

No. 937 .... Net $1.05

ICA DE LUXE NEUTRALIZING AND ALIGNING TOOL KIT

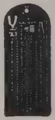


Complete for Every Service Need

Consists of fourteen tools, most of which telescope into one another, forming six units when assembled into the attractive black leatherette case.
The complete kit in carrying case can be kept in the pocket. Tools complete with carrying case.

No.	Net
994	$4.50

ICA NEUTRALIZING AND ALIGNING TOOL KIT

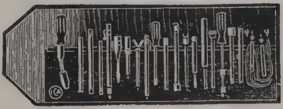


The Kit consists of twelve separate and distinct parts, some of which can be employed for several operations. These units telescope into each other, forming four separate tools when assembled.

No. 998 .... Net $3.90

Complete with Carrying Case

ICA COMPLETE NEUTRALIZING TOOL KIT

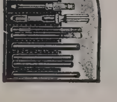


The kit consists of one of each of the following ICA tools, described herein:—Nos. 382, 1008, 987, 1015, 976, 996, 992, 985, 990, 1024, 1019, 1026, 1022, 1004, 1013, 1028, 1039, 1029, 1033, 935, 937.
Total list of tools if purchased individually $18.50.

No. 995—Kit, Complete with Carrying Case Net $12.00

ICA NEUTRALIZING AND ALIGNMENT TOOL KIT — SIGNAL CORPS No. TE45-A

ICA Catalog No. 993

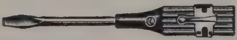


This versatile kit, designed for and used by the Signal Corps, is also strongly recommended for general service use. Compact, and contained in a handsome leatherette case, this kit consists of the following:

1—No. 935 Screw Driver
1—5" Screw Driver
1—Insulated Screw Driver
1—Bone Fibre No. 1015 Neutralizing Tool
2—No. 980—Hex Tools, 1/4" I.D.
2—No. 981—Hex Tools, 5/16" I.D.

No. 993 .... Net $4.50

ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER

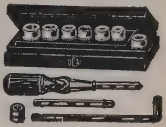


Particularly shaped to fit into set screws of knobs. Complete with pocket clip. Length 4 5/8".

No. 1013 .... Net $.15
No. 1017—Length 6" .... Net .18

ICA LOCK SOCKET WRENCH AND SCREW DRIVER SET

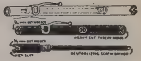
Actually a set that will take care of all socket wrench requirements, either radio or electrical, ignition or mechanical needs.
All parts are steel cadmium plated. The set includes:



1—Screw Driver and Handle
1—1/4" Hex Handle and Extension Ell Shaped —5" long
1—1/4" Hex "Staright" Extension—3" long
1—Socket which holds the extensions to screw drivers
1—3/16" Socket
1—11/32" Socket
1—3/8" Socket
1—7/16" Socket
1—Internal Knurled Socket to fit any 12 point Double Hex nut between size 3/16" and 3/8".
1—1/4" Socket

No. 999 .... Net $1.50

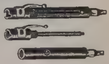
ICA 4-in-1 NEUTRALIZING TOOLS, SCREW DRIVER AND WRENCH



Made of Fenoline Fully Insulated

No.	Net
1019—Complete, as shown	$.60

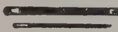
ICA 5-in-1 NEUTRALIZING AND COMPENSATING TOOL



Same features as the 4-in-1 tool described above with an additional all metal screw driver.

No. 1022 .... Net $.90

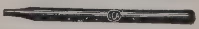
ICA Neutralizing Tools with Metal Nibs



Patent No. U.S. 83,321. Sturdy, unbreakable, will outlast all other type neutralizing tools.

No. 996 .... Net $1.05

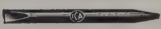
ICA BONE FIBRE SCREW DRIVER



Made entirely of 5/16" bone fibre rod with a sturdy blade.

No. 1029 .... Net $.48

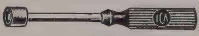
ICA BONE FIBRE SCREW DRIVER



Double Edged—No Metal—Fully Insulated
Made of 1/4" Bone Fibre Rod

No. 1039 .... Net $.33

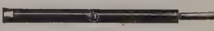
ICA NEUTRALIZING TOOL
For Push Button Tuners



The Socket is 7/32" in diameter, and contains a screw driver blade.

No. 1003 .... Net $.45

ICA SET TRIMMER NEUTRALIZING TOOLS
For Philco, Zenith, RCA, etc.



Fits the smallest size trimmer condensers. Trimmer end is 7/32" diam. to fit 1/4" hole.

No. 992— 6" long .... Net $ 75
No. 933—10" long .... Net .90

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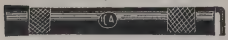
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

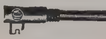
ICA INSULINE ICA
RADIO PRODUCTS

ICA ALIGNMENT WRENCH
For RCA, Philco, etc.



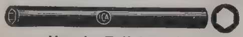
Used on all makes Air Trimmer. Made of ⅜″ Fenoline Rod—8½″ long—one end has hollow shaft hexagon wrench—other end has an especially shaped hook.
No. 1008..**Net $1.05**

ICA BALANCING TOOL



Fits into No. 1019 Neutralizing Tool.
No. 1026...........**Net $.36**

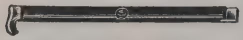
INSULATED NEUTRALIZING WRENCHES



Hexed—Full Length

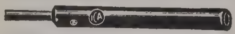
For Philco, Majestic and Other Receivers ⅜″ Diameter
No. 985—6″ long............................**Net $.21**
No. 986—8″ long............................**Net .24**

ICA Alignment Tool for Philco Receivers
For Air Trimmer Sets



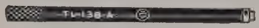
Has specially designed metal clip for air trimmers. Made of narrow fine rod, $\frac{7}{32}$″ diam. by 6″ long.
No. 1033..**Net $.39**

ICA Insulated Adjustable Neutralizing Tools



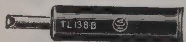
Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.
No. 990—Extending from 6 to 11″ **Net $.60**
No. 991—Extending from 10 to 18″ **Net .75**

ICA NEUTRALIZING AND ALIGNING TOOL



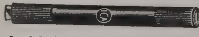
U. S. Army No. TL138A — ICA No. 1011
Used for general radio tuning and aligning. Approved by U. S. Army and Navy.
No. 1011..**Net $.90**

ICA BAKELITE NEUTRALIZING TOOL



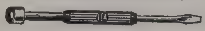
U. S. Army No. TL138B — ICA No. 1010
Neutralizing tool used by U. S. Army Signal Corps and Bendix Co. 2⅝″ overall; ⅛″ tip.
No. 1010..**Net $.90**

ICA NEUTRALIZING AND ALIGNING TOOL



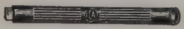
Machined of bakelite rod 9/32 inch diameter. Designed for Western Electric Co. Approved by U. S. Army and Navy.
No. 1006..**Net $.90**

ICA ALL PURPOSE ALIGNING TOOL



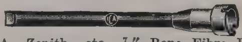
Handle is of ⅜″ Fenoline. End has Socket Screw Driver for neutralizing all iron core tuning systems.
No. 1002..**Net $.45**

ICA ALIGNMENT TOOLS
For RCA Receivers



Narrow shaft Neutralizing Tools made of Bone Fibre—$\frac{7}{32}$″ wide. Has screw nib inserted in Brass Collar on end.
No. 1015..**Net $.57**

ICA NARROW SHAFT ALIGNMENT TOOL

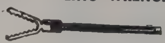


RCA—Zenith—etc. $\frac{7}{32}$″ Bone Fibre Rod.
No. 987..**Net $.51**

ICA MAGIC TUNING ALIGNMENT TOOL

Consists of a Bakelite rod with a Brass cylinder at one end, and a special finely divided iron core at the other end.
No. 977..**Net $.81**

ICA FORK TYPE NEUTRALIZING WRENCH and SCREW DRIVER
For RCA and Other Sets

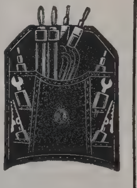


No. 1024..**Net $.36**

ICA Fenoline Neutralizing Screw Drivers

Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.
No. 1028..**Net $.30**

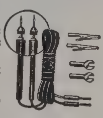
ICA ALL-PURPOSE TEST LEAD KIT
Complete For Every Testing Need



Equipped with one pair of test leads which have 60″ of red and black kinkless live rubber wire. One end has insulated removable banana-type plugs.
Included in this test kit:
- 1 pr. test leads.
- 1 pr. insulated alligator clips—red and black.
- 1 pr. insulated spade plugs—red and blcak.
- 1 pr. insulated needle points—red and black.

No. 1005—Kit, complete **Net $2.10**

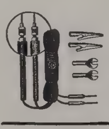
ICA PHONO-NEEDLE POINT TEST LEADS
With Slim Bone-Fibre Handles and Flexible Wire



Flexible rubber-covered, kinkless wire, 50″ long. Fenoline handles 4″ long.

No. **Net**
382—With Phone Tips.......$.60
381—With Spade Terminals.. .60
379—With Alligator Clips.... .60

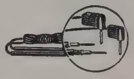
ICA DE LUXE EXTRA-FLEXIBLE TEST LEADS



Slim Handles & Solderless Plugs
50″ Extra-Flexible Test Leads with 4″ Bone Fibre handles. New non-kinking, rubber insulated wire.

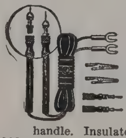
No. **Net**
355—With Phone Tips.....$.60
356—With Spade Terminals. .60

ICA PENCIL TYPE TEST LEADS
Finger-Grip Molded Tips



All connections are properly soldered providing low resistance connections vital in all precision tests. The Molded Finger Grip Tips are provided with rivets for easy removal of wire. Length of test leads is 65″. Handles are 5″ long.
No. 373..**Net $1.05**

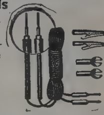
ICA HEAVY DUTY LABORATORY TEST LEADS



Long Slim Handles and Removable Phono Needle Chuck
Extra long slim red and black handles knurled at end for finger grip ease. Handles 6″ long. 50″ of heavy duty kinkless, flexible rubber wire.

No. **Net**
400—With knurled grip handle. Insulated solderless plug........$.99
388—With alligator clip........................ .90
391—With spade lugs........................ .84
392—With non insulated phone tips............ .84

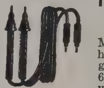
ICA Slim Handle Test Leads



Made of sturdy Bone-Fibre Handles. 50″ of Kinkless Live Rubber wire. Handles 6″ Long—Overall Length 7″. Prods have pointed large phone tip plugs.

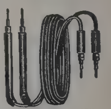
No. **Net**
313—Phone Tips on end....$.75
314—Spade Lugs on end.... .75
315—Alligator Clips on end. .84

ICA HIGH VOLTAGE HEAVY DUTY TEST LEADS
10,000 VOLTS



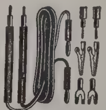
Made of large diameter Bakelite handles with guards to prevent fingers from slipping. Cable 18 gauge, 67/36 tinned copper, with heavy walled rubber covering. Prods 6″ long with 50″ red and black cable and 2″ Bakelite Prods on either end.
No. 475..........................**Net $2.40 per pair**

ICA UNBREAKABLE TEST PRODS
Long Metal Prod with Shock-proof Rubber Handles



One end has standard needle point Tips. Other end has Insulated Solderless Plugs. Supplied with 50″ Kinkless Rubber Wire.
No. 332—With Phone Tips Non Insulated...**Net $.60**
No. 331—Insulated Solderless Plug Ends......**Net $.69**

ICA ALL PURPOSE TEST LEADS

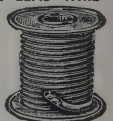


Made of sturdy Bone Fibre Tubing. Slim handles, 6″ long. Overall length 7¼″. Rubber covered wire 50″ long.

With Interchangeable Tips

No. **Net**
312—Complete Kit $1.50

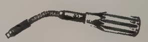
NON-KINK FLEXIBLE TEST LEAD WIRE



Flexible rubber covered wire that will not kink or wear down in service. Consists of very fine tinned stranded copper wire with a heavy wall of live rubber insulation.

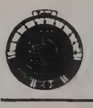
No. **Net**
307—100 ft. coils, Black $2.40
309—100 ft. coils, Red.. 2.40

ICA FLEXIBLE SCREW DRIVER
For the Hard to Reach Spots



Allows access to screws in hard to reach and out of the way places. Can go under objects or around corners.
No. 935..**Net $1.35**

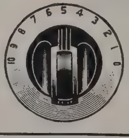
ICA CHROME SILVER DIALS
With Finger Grip Flange Knobs



Beautiful dial plates accurately Etcho-engraved with black numerals and calibrations.

No	Size	Degrees	Calibr.	Net
2170	2¾″	325	0-100	$1.26
2171	2¾″	180	0-100	1.26
2168	4″	325	0-100	1.65
2169	4″	180	0-100	1.65

ICA MINIATURE DIALS



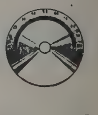
Beautiful Chrome Silver dials with black etched numerals. Finger grip black knob. Only 1⅝″ diameter. Fit ¼″ shafts.

No. **Net**
2164—0-10 180 ......$.51
2165—0-10 270 ...... .51

ICA CHROME SILVER DIAL PLATES

Attractive grain satin finish. Black Etcho Engraving on Chrome Silver Background Plates.

No.	Degrees	Dia. Dial	Calib.	Net
2294	180	2″	0-100	$.48
2295	325	2″	0-100	.48
2296	180	3½″	0-100	.75
2297	180	3½″	0-100	.75
2298	180	4″	0-100	.84
2299	325	4″	0-100	.84



Additional Dial Plates on Following Page

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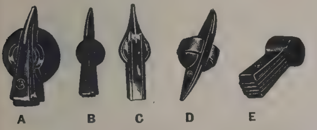
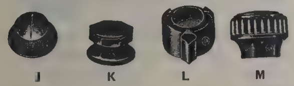
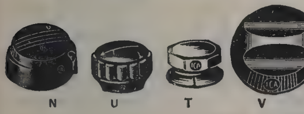
ICA INSULINE ICA
RADIO PRODUCTS

RADIO REPLACEMENT AND INSTRUMENT KNOBS



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1125	A	Black	1¼″	$.12	$1.20
1127	A	Red	1¼″	.13	1.30
1126	B	Black	2¼″	.13	1.30
1128	B	Red	2¼″	.15	1.50
1155	C	Black	1¼″	.13	1.30
1156	C	Black	2¼″	.15	1.50
1161	C	Red	1¼″	.15	1.50
1162	C	Red	2¼″	.17	1.70
1143	D	Black	2⅛″	.15	1.50
1144	D	Walnut	2⅛″	.17	1.70
1153	E	Black	2⅛″	.21	2.10
1154	E	Walnut	2⅛″	.21	2.10





No.	Type	Color	Size	Net Each	Net Price Lots of 10
248	J	Black	1″	$.12	$1.20
249	J	Black	1½″	.13	1.30
1076	K	Walnut	1⅜″	.13	1.30
1080	K	Walnut	1″	.15	1.50
1049	L	Walnut	13/16″	.12	1.20
1050	L	Walnut	1″	.13	1.30
1174	M	Black	15/16″	.13	1.30
1089	N	Walnut	13/16″	.13	1.30
1090	N	Walnut	1″	.15	1.50
1147	U	Black	⅞″	.12	1.20
1148	U	Walnut	⅞″	.13	1.30
1077	T	Walnut	¾″	.11	1.10
1078	T	Walnut	⅞″	.13	1.30
1272	V	Black	¾″	.13	1.30
1273	V	Walnut	¾″	.13	1.30

ICA KNOB ASSORTMENTS

ASSORTED
ICA
KNOBS

Walnut Bakelite

JUNIOR ASSORTMENT

No. 1048—50 Knobs. Contains 5 each of 10 popular type knobs listed above.

Net $5.70

MASTER ASSORTMENT

No. 1043—100 Knobs. Contains 12 different type popular knobs including pointer knobs.

Net $11.10

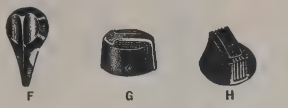
ICA ETCHED DIAL PLATES

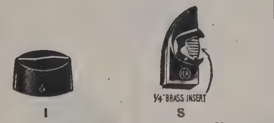
RECTANGULAR TYPES

Made of brass—finished in black with etched silver markings. Calibrated for 300 degree rotation. Marked 1 to 10. Will fit on ⅜″ bushing. Size 2¼″ x 1-11/16″.

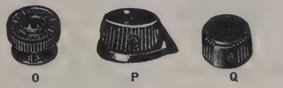
1
2
3
4
5
6
7
8
9
10
RECORD

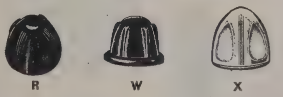
No.	Marking	Net
2244	Record	$.24
2245	Microphone	.24
2246	Gain	.24
2247	Tone	.24
2248	Plain (Calibrated but not worded)	.24





No.	Type	Color	Size	Net Each	Net Price Lots of 10
1270	F	Black	1⅝″	$.18	$1.80
1271	F	Black	2½″	.21	2.10
1137	G	Walnut	⅝″x¾″	.12	1.20
1138	G	Walnut	¾″x½″	.11	1.10
1139	G	Walnut	1″x½″	.13	1.30
1087	H	Walnut	1″	.12	1.20
1088	H	Black	1″	.12	1.20
1133	I	Walnut	¾″x½″	.11	1.10
1134	I	Walnut	1″x½″	.13	1.30
1274	S	Black & Red	1¼″x⅝″	.17	1.70
1275	S	Black	2¼″x⅝″	.18	1.80





No.	Type	Color	Size	Net Each	Net Price Lots of 10
1072	O	Walnut	13/16″	$.13	$1.30
1073	O	Walnut	½″	.13	1.30
1081	P	Black	½″	.12	1.20
1082	P	Red	½″	.12	1.20
1083	P	Green	½″	.12	1.20
1084	P	Brown	½″	.12	1.20
1085	P	White	½″	.12	1.20
1116	Q	Walnut	⅞″	.13	1.30
1117	Q	Walnut	1″	.15	1.50
1135	R	Walnut	¾″	.10	1.00
1136	R	Walnut	⅞″	.13	1.30
1310	W	Black	¾″	.11	1.10
1311	W	Walnut	¾″	.12	1.20
1312	W	Ivory	¾″	.13	1.30
1320	W	Black	15/16″	.11	1.10
1321	W	Walnut	15/16″	.12	1.20
1322	W	Ivory	15/16″	.13	1.30
1330	X	Black	¾″	.10	1.00
1331	X	Walnut	¾″	.11	1.10
1332	X	Ivory	¾″	.12	1.20

ICA FINGER-GRIP POINTER KNOBS

A

Moulded of black bakelite with ¼″ hole. Pointer type knobs have white indicators, flange type knobs have white indicating line.

B

With ¼″ Brass Inserts

TYPE A—With Pointer

No. 1166—1⅛″ **Net $.39** **No. 1168**—1⅝″ **Net $.51**
No. 1170—2⅜″ **Net $.60**
No. 1165—1⅛″ **Net $.30** **No. 1167**—1⅝″ **Net $.42**
No. 1169—2⅜″ **Net $.48**
No. 1171—2-1/16″ **Net $.48** **No. 1172**—3″ **Net $.54**

NOTE: Above Knobs furnished with 2 set screws, as follows:

No. 1166-2S—Net $.45	**No. 1167-2S—Net $.48**
No. 1168-2S—Net .57	**No. 1169-2S—Net .54**
No. 1170-2S—Net .66	**No. 1171-2S—Net .54**
No. 1165-2S—Net .36	**No. 1172-2S—Net .60**

ICA NAME PLATES

1 INCH ROUND

MICROPHONE

No. 2237—For "Microphone"
No. 2238—For "Phono"
No. 2239—For "On Off"

Net $.15

ICA CHROME SILVER DIAL PLATES

2¾″ and 4″ diameter. Two types, calibrated 180 degrees 0-100 and 325 degrees, 0-100.

No.	Degrees	Dia. Dial	Calib.	Net
2196	325	2¾″	0-100	$.69
2197	180	2¾″	0-100	.69
2194	325	4″	0-100	.84
2195	180	4″	0-100	.84

ICA BLACK BAKELITE DIAL PLATES

Made of genuine Bakelite, individually engraved in white. For transmitters, test and other laboratory equipment. Can be used with ICA Pointer Knobs.

No.	Degrees	Dia. Dial	Calib.	Net
2250	180	3/8″	0-100	$.75
2252	180	9/16″	0-100	.90

ICA BRASS BLACK SATIN FINISH DIAL PLATES

Witch Etched Silver Numerals

No.	Degrees	Dia. Dial	Calib.	Net
2230	325	3⅛″	0-100	$.36
2231	180	3½″	100-0	.36
2232	180	3½″	0-100	.36
2233	180	2″	100-0	.27
2234	325	2″	0-100	.27
2235	325	2″	100-0	.27
2236	180	2″	0-100	.27

ICA INDICATING PLATES

Made of heavy brass with black satin background. Silvered "Etcho Gravured" numerals and lettering. 13/32″ center mounting hole. 1½″ Diameter.

No.	Degrees	Net
2259—Marked 1 to 6	180	$.21
2450—Marked 1 to 5 (Volume)	325	.21
2451—Marked 1 to 5 (Tone)	325	.21
2452—Marked 1 to 10	325	.21
2453—Marked Off-On—with arrow	325	.21

ICA VERNIER DIAL MARKER

Complete with self-tapping screws for mounting on metal, wood, bakelite or brass panels.

No. 2189—For 2¾″—325° Dials	Net $.30
No. 2190—For 2¾″—180° Dials	Net .30
No. 2191—For 4″ —325° Dials	Net .30
No. 2192—For 4″ —180° Dials	Net .30

ICA TOGGLE SWITCHES

Furnished in Nickel or Antique Bronze. Capacity 1 Amp. 250 Volts, 3 Amps. 125 Volts. Mfd. by H & H for ICA.

No.	Shank Length	Description	Finish	Net
1230	⅜″	S.P.S.T.	Nickel	$.33
1232	⅜″	S.P.S.T.	Bronze	.33
1233	¾″	S.P.S.T.	Bronze	.36
1235	¾″	S.P.S.T.	Nickel	.36
1236	⅜″	S.P.D.T.	Nickel	.45
1237	¾″	S.P.D.T.	Nickel	.48
1238	⅜″	D.P.S.T.	Nickel	.60
1365	⅜″	D.P.D.T.	Nickel	.75
1366	¾″	D.P.D.T.	Nickel	.78

ICA ROTARY SWITCHES

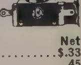
Rated 3 Amps. at 125 Volts. Overall Length of shafts 1½″. Made by H & H for ICA. Underwriters Approved.

No.	Threaded Shank	Description	Net
1228	⅜″	S.P.S.T.	$.36
1229	1″	S.P.S.T.	.42
1286	⅜″	S.P.D.T.	.48
1287	1″	S.P.D.T.	.60
1288	⅜″	D.P.D.T.	.84
1289	1″	D.P.D.T.	.93

BAT-HANDLE TOGGLE SWITCH

Made by H & H. Identical to toggle switches listed above, except that handle is longer and shaped like a baseball bat.

Less on and off plate.
Nickel plated only—7/16″ shank.
Packed 5 in a standard carton.



No.	Description	Net
1296	S.P.S.T.	$.33
1297	S.P.D.T.	.45
1298	D.P.S.T.	.60
1299	D.P.D.T.	.75

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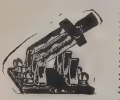
ICA INSULINE ICA
RADIO PRODUCTS

ICA BAKELITE KNIFE SWITCHES

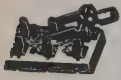
Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of Black BAKELITE. Firm contact assured.



No.	Description	Net
1216	S.P.S.T.	$0.51
1217	S.P.D.T.	.60
1218	D.P.S.T.	.69
1219	D.P.D.T.	.81
1360	3.P.S.T.	1.11
1220	3.P.S.T.	1.20
1221	4.P.S.T.	1.50
1222	4.P.D.T.	1.80
1364	5.P.D.T.	2.10

ICA PORCELAIN KNIFE SWITCHES

Moisture-proof base. Recommended for outdoor use. Hardware of brass, heavily nickel plated.

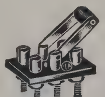


No.	Description	Base Size	Net
235	S.P.S.T.	1¾"x1"	$.24
236	S.P.D.T.	2⅝"x1"	.27
237	D.P.S.T.	1¾"x1⅝"	.33
238	D.P.D.T.	2⅝"x1½"	.48
239	3.P.D.T.	2⅝"x2¼"	.66

MINIATURE BAKELITE SWITCHES

Can be mounted on panel or base. Black Bakelite base—highly nickel-plated brass parts with insulated handles.

No.	Description	Base Size	Net
2223	S.P.S.T.	1¼"x½"	$.30
2224	S.P.D.T.	1¼"x½"	.36
2225	D.P.D.T.	1¼"x1"	.45
2226	D.P.S.T.	1¼"x1"	.42

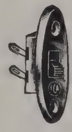


ICA SLIDER SWITCHES

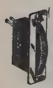
Small — Compact

S.P.S.T. Switch furnished with chrome mounting plate. Switch dimensions 1½" x ½" x ¼".

No.	Description	Net
1255	S.P.S.T.	$.30
1259	S.P.D.T.	.33
1260	D.P.D.T.	.39



ICA SLIDING LEVER SWITCHES



The Modern slider switch for all electrical appliances, panels, analyzers, etc. Replacement for analyzers, tube checkers. Complete with plate. Rated 3 amps. at 125 volts.

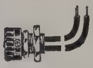
No.	Dscription	Net
1265	S.P.S.T.	$.90
1266	D.P.D.T.	1.17

ICA ROTARY CANOPY SWITCH

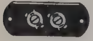
Single pole switch ¼" shank with brown bakelite knob and 6" leads—1 ampere—250 volts.

No. 1257..........Net $.30

10 in Standard Package



ICA TERMINAL STRIPS

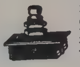


Made of 3/32" heavy black Bakelite engraved in white. Terminals are brass cadmium plated with non-removable collars.

No.	Terminals	Marking	Size	Net
2420	2	Plain	⅞ x 2¼	$.15
2419	2	A & G		.18
2418	2	Output		.18
2417	2	Input		.18
2414	3	Plain	⅞ x 2¾	.21
2415	3	1,2,3		.24
2413	4	Plain	⅞ x 3⅜	.30
2408	4	1,2,3,4		.33
2405	5	Plain	⅞ x 4	.33
2406	5	1,2,3,4,5		.33
2404	6	Plain	⅞ x 4⅝	.36
2402	6	1,2,3,4,5,6		.39
2412	7	Plain	⅞ x 5¼	.42
2411	7	1,2,3,4,5,6,7		.51
2410	8	Plain	⅞ x 5¾	.54
2409	8	1,2,3,4,5,6,7,8		.60
2424	9	Plain	⅞ x 6⅜	.60
2423	9	1,2,3,4,5,6,7,8,9		.69
2422	10	Plain	⅞ x 7	.69
2421	10	1,2,3,4,5,6,7,8,9,10		.75

ICA HI-POWER SWITCH

Push Button Type

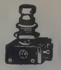


Designed to break primary circuit when rack door is open. D.P.S.T. Made by H & H for ICA. Capacity 12 Amp. 125 Volt. Overall size 1¾" long, ¾" wide, ¾" high, 7/16" shank.

No. 1280..........Net $1.65

ICA PUSH BUTTON SWITCH

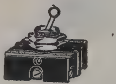
Single pole 2 circuit momentary switch. One circuit is "ON"; other normally "OFF." One Amp., 125 Volt, made by H & H for ICA. Shank ⅝" long.



No. 1282..........Net $.66

ICA EXTRA HEAVY DUTY SWITCH

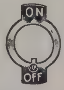
D.P.D.T. With Neutral Center



An extra large heavy duty, Double Pole, Double Throw Switch with neutral position in the center for use in heavy current circuits such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 Amps., 125 Volts. Size of switch case, 2" long, 1" high, 1¼" wide. Mounting sleeve diameter ⅝".

No. 1283..........Net $3.30

"ON-OFF" PLATE



No. 1300

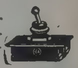
For Toggle Switch

Net $.04

ICA POWER SWITCH

(Toggle Type)

Characteristics and dimensions same as No. 1280 described above.



No. 1281
Net $1.02

ICA Rubber Insulated Grid Caps

For Receiving Tubes
For 866 Type Tubes

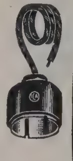
No.		Net
870	With leads	$.18
871	Without leads	.15

For Receiving Tubes

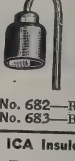
No.		Net
872	With 12" lead	.12

For New Metal Tubes

No.		Net
874	With 12" lead	.12



ICA FENOLINE INSULATED GRID CAPS



Supplied with 12" wire.

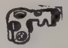
For Standard Glass Receiving Tubes

No.		Net
680	Red	$.15
681	Black	.15

For 866 Transmitting Tubes

No. 682—Red..........Net $.30
No. 683—Black..........Net .30

ICA GRID CAPS



No. 1550
Standard Glass Tubes
Net $1.50 per C

No. 1551
Metal Tubes
Net $1.50 per C

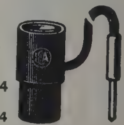
ICA Insulated Dual Grid Caps

For Metal and Glass Tubes

Equipped with 12" lead

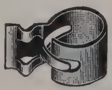
No. 877—Black
Net $.24

No. 878—Red
Net .24

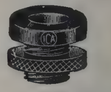


ICA GRID CAPS

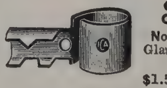
No. 1553
Glass Tubes
Net $1.50 per C



ICA INSULATED BUSHINGS



No. 670—Black ⅛" Hole ⅜" Diam. ⅜" Long..Net $.12
No. 671—Red ⅛" Hole ⅜" Diam. ⅜" Long..Net .12
No. 672—Black ¼" Hole ½" Diam. 7/16" Long..Net .15
No. 673—Red ¼" Hole ½" Diam. 7/16" Long..Net .15

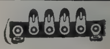


ICA GRID CAPS

No. 1554
Glass Tubes
Net
$1.50 per C

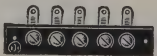
ICA BAKELITE TERMINAL MOUNTING STRIPS

For fastening Resistors, Condensers, etc.



No.		Net—in Lots of 10	No.		Net—in Lots of 10
2434	1 Terminal	$0.18	2437	4 Terminals	$0.54
2435	2 Terminals	.27	2438	5 Terminals	.63
2436	3 Terminals	.42	2439	6 Terminals	.78

ICA BAKELITE TERMINAL STRIPS



Brown Bakelite, 1/16" Thick

No. 2520—2 Terminals........Net, Each $0.12
No. 2521—3 Terminals........Net, Each .15
No. 2522—4 Terminals........Net, Each .18
No. 2523—5 Terminals........Net, Each .21
No. 2524—6 Terminals........Net, Each .21

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ICA INSULINE ICA
RADIO PRODUCTS

ICA FENOLINE PHONO. NEEDLE POINT TEST PRODS

With Removable Chuck

5 Inch Test Prod

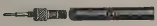
No. 389R—Red ....Net $.30
No. 389B—Black ....Net .30

7 Inch Test Prod

No. 334R—Red ....Net .36
No. 334B—Black ....Net .36

ICA SOLDERLESS PLUG TEST PRODS

With Solderless Plug Chuck



5¼ Inch Long Prods

No. 390R—Red ....Net $.30
No. 390B—Black ....Net .30

7¼ Inch Long Prods

No. 335R—Red ....Net .36
No. 335B—Black ....Net .36

ICA HEAVY-DUTY TEST PRODS

Slim tapped fenoline handle fitted with threaded heavy-duty phone tip. Length 5".

No. 387R—Red ....Net $.30
No. 387B—Black ....Net .30

HIGH VOLTAGE ICA HEAVY-DUTY BAKELITE TEST PROD HANDLES

No. 480—Black Bakelite....Net $.69

HIGH VOLTAGE HEAVY-DUTY BAKELITE TEST PRODS

Measures 2" overall

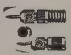
No.	Net
485—Black Bakelite	$.33

ICA GRIP-RITE MOLDED PHONE TIP PLUG

Replacement for ICA and Weston — as well as other make Test Leads.

No.	Net
868—Red	$.30
869—Black	.30

ICA PHONO NEEDLE CHUCKS



Push on type can be forced into handles — Threaded type can be screwed into handles. Machined of brass, nickel plated with needle point.

No.	Net
508—Push-on Type, Overall size 1"	$.09
509—Threaded Type, Overall size 1⅛"	.11

HEAVY-DUTY PHONE TIP

Made of high quality heavy brass with nickel plated finish. Used on test leads, prods, etc. (Overall length is 1½".)

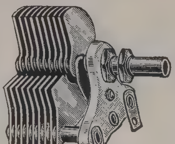
No. 361....Net $7.80 per C

25 in Standard Package

ICA FUSE MOUNTINGS

No. 2340—Flush Mounting ....Net $.15
No. 2341—Panel Type ....Net .15

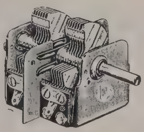
ICA MIDGET CONDENSERS
LO-LOSS CERAMIC INSULATION



Highly efficient, compact and rugged condensers for short wave receivers and transmitters. Employ non-corrosive plates, wiping phosphor bronze rotor contacts. Single Hole Mounting — Shaft is of Brass and ¼" in Diameter; plated to resist corrosion — Complete with mounting nuts.

No.	Plates	Max. Cap.	Min. Cap.	Net
6302	3	15 mmfd.	3 mmfd.	$.72
6304	4	25 mmfd.	3.5 mmfd.	.78
6305	7	50 mmfd.	4 mmfd.	.81
6306	11	80 mmfd.	6 mmfd.	.90
6303	14	100 mmfd.	6 mmfd.	.96
6301	19	140 mmfd.	7 mmfd.	1.05
Double-Spaced Condenser				
6300	10	35 mmfd.	6.5	1.05

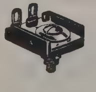
ICA MIDGET PRECISION CONDENSERS



Better mechanical design insures constancy of calibration and uniformity between units. Ball - bearings on both ends of shaft insure long life without wear or side play. Heavy brass springs make direct contact with rotor shaft, insuring a clean wiping contact at all times.

No.		Net
Single Gang Condenser		
533	140 mmfd.	$1.80
542	350 mmfd.	1.80
Two Gang Condenser		
538	140 mmfd.	2.64
534	350 mmfd.	2.64
Three Gang Condenser		
532	140 mmfd.	3.87
531	350 mmfd.	3.87

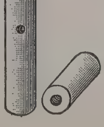
ICA CERAMIC PADDING CONDENSERS



Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Springs contacts.

No.	Min. Cap.	Max. Cap.	Net
611	4.0 mmfd.	50 mmfd.	$.30
612	12.0 mmfd.	120 mmfd.	.30
613	130.0 mmfd.	450 mmfd.	.33
614	160.0 mmfd.	500 mmfd.	.33

CERAMIC RODS



Made of Alsimag. Suitable for mounting insulators, condensers, coils, etc.

Available in two lengths.

No.	Lgth.	Dia.	Tap.	Net
2310	1¼"	½"	6-32	$.17
2311	3¼"	½"	6-32	.24

INSULEX INSULATORS

Made of WHITE Glazed Insulex. This new line of insulators meets the demand for a perfect, non-porous low loss product. Used by broadcasters, amateurs, experimenters and set-builders. Available in various sizes and types. All feed-thru have cork washers.

STAND OFF INSULATORS

No.	Description	Height	Base Size	Net
2300	Little Pete	1"	½" x ⅞"	$.07
2301	Junior Pete	1⅜"	¾" x ⅛"	.09
2302	Big Pete	1¾"	1" x 1½"	.11
2303	Beehive	2⅜"	2" Diam.	.15
2304	Jack Type	1¼"	1" x 1½"	.15

FEED-THRU INSULATORS

No.	Description	Ht.	Base Diam.	Mtg. Hole Size	Net
2305	Sub-Panel	¾"	⅝"	5/16"	$.12
2306	Sub-Panel	1"	¾"	7/16"	.15
2307	Sub-Panel	1¼"	⅞"	7/16"	.17
2334	Large Sub-Panel	2⅞"	1½"	11/16"	.42
2320	Jack Type	1"	¾"	7/16"	.21
2321	Jack Type	1⅜"	⅞"	7/16"	.24

GIANT INSULEX INSULATORS

Heavy Huty—Will Withstand 10,000 Volts

No.	Description	Ht.	Base Diam.	Mtg. Hole Size	Net
*2330	Stand Off	4½"	3½"	¼"	$.57
**2331	Stand Off	4½"	3½"	¼"	.54
*2332	Feed thru	4"	2"	⅞"	.57
**2333	Feed thru	4"	2"	⅞"	.54

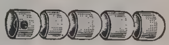
*With Wing Nuts **With Screws and Nuts

ICA AIRCRAFT TYPE INSULATOR

A strain insulator made of Insulex. Particularly adaptable for aircraft, automobile and boat installation. Two ¼" mounting holes. Distance between holes ¾".

No. 2325....Net $.09

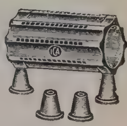
CERAMIC BEAD INSULATORS



5/16" Diam. Used for construction of short concentric link lines.

No. 2315—(100 beads)....Net $.60

ICA GROOVED INSULEX TRANSMITTING FORMS



Suited for winding low loss Inductors for Oscillators, R.F. Amplifiers, Short Wave Diathermy Machines, etc. Grooved for 25 and 28 turns respectively with .143" spacing.

No.	For 20 and 40 Meters	Net
2650	—Minus supporting legs	$1.05
2651	—With mounting legs and hardware	1.44
	For 80 and 160 Meters	
2652	—Minus supporting legs	1.80
2653	—With supporting legs	2.14

ABOVE PRICES INDICATE SUGGESTED DEALER NET PRICES.
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

ICA INSULINE ICA
RADIO PRODUCTS

FILTERVOLT NOISE FILTER

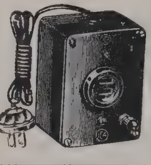
An efficient filter for disturbances caused by electrical appliances. For use with any all-wave or broadcast receivers.

Rated conservatively at 250 watts for 32, 110 and 220 volt AC or DC circuits. Can be installed either at the radio or at the source of disturbance.

Contains heavy duty R.F. chokes, large filter capacitor, and has a "PI" Filter circuit arrangement.

No. 338 .... Net $4.50

ICA FILTERVOLT



Eliminates extremely noisy radio reception due to interruptions in power line caused by electrical appliances, lights, etc.

No. 394
Net $2.70

DUPLEX FILTERVOLT

Eliminates Radio Noises Caused By—

- Electric Shavers
- Refrigerators
- Fans
- Elevators
- Motors, etc.

Unit is equipped with Dual outlet, both sides being filtered for noise elimination.

Packed 25 to a standard carton with attractive Counter Display Card.

No. 90 .... Net $.90

UNIVERSAL VOLTAGE REGULATOR

ICA UNIVERSAL VOLTAGE REGULATOR

Voltage fluctuation often occurs not gradually but suddenly, thus bringing a tremendous strain on the tubes. This regulator protects tubes through scientific regulation of current fluctuations. Housing body and end rings are neatly constructed and of perforated japanned metal. For all Radio Sets, AC, DC or Battery operated.

No. 92 .... Net $.90

ICA 3-IN-1 RADIO TUNER

Functions as either an Antenna Tuner, Wave Trap, or Aerial Eliminator. Operates on any make or model radio set.

As an Antenna Tuner, it will improve the reception of a weak station. As a Wave Trap, it will separate interfering stations and improve selectivity. As an Aerial Eliminator, it makes unnecessary the outdoor aerial. Easily installed within a few minutes.

50 to a standard package

No. 93—Complete with instructions Net $.60

ICA DELUXE SIGNA-TONE
AUDIO OSCILLATOR — CODE PRACTICE SET — KEYING MONITOR

No. 4300

No. 4301

The ICA Signatone is a perfected Audio Oscillator, having 3 different output frequencies and a continuously variable volume control. The Audio notes are similar to those of high quality commercial CW stations.

1. CODE PRACTICE SET—A number of phones and keys may be connected for intercommunication or for classroom or radio club instruction in code.

2. KEYING MONITOR—An invaluable aid in improving any ham's "fist". Will follow the "bug" at all speeds. No well-equipped station should be without this keying monitor.

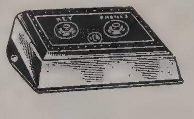
3. MODULATION SIGNAL—The steady note of the Signatone is ideal for adjusting both the Modulator and modulated stages of your transmitter for a maximum modulation percentage of not over 100.

4. SIGNAL TRACER—By feeding the output of the Signatone into each stage of your modulator and listening to the output of that stage, defects and "bugs" can easily be located.

Complete with tube and self-contained speaker, for 110 V AC-DC.

No. 4300—*Dealer Net Cost $12.00
No. 4301—Classroom Model (No Speaker)—Dealer Net Cost 9.00

ICA STATION TERMINAL BOX



Consists of Key and Phone Jacks mounted in a neat, compact container. Makes for quick and neat wiring of multiple station code instruction classes.

No. 4302 .... Net $1.50

ICA EAR PHONES

Complete With Head Bands

Made of molded Bakelite and light-weight nickel-plated metal. 2000 ohms.

No. 23—Double Head Phone .... Net $2.85

EAR CUSHIONS

Made of soft rubber. Ideal for the amateur wireless operator, etc. Used by all leading air lines.

No. 195 .... Net $.66 pr.

DOUBLE PHONE CORDS

No.		Net
192	Tips on both ends	$.45
193	Spades on one end, tips on other	.45

LINGUAPHONE MORSE CODE RECORDS

INTERNATIONAL MORSE CODE
MORSE CODE

Learn the International Morse Code Quickly, Easily — Uses EYE - EAR Method. The Complete Linguaphone Code Equipment consists of 5 Double-faced, electrically transcribed records in durable album. Contents: 3 Tables, 10 Lessons.

No. 1800—Complete .... Net $9.00

ICA "TRIPLEX"

Radio & Telegraph Code Practice Set
Blinker Light
Radio Signal—Telegraph

CODE PRACTICE SET

No.		Net
70	Single Unit (less batteries)	$1.95
71	Double Unit (50 ft. wire)	4.11

ICA RECORD-PLAYER SWITCH

Replacement for RCA Switch 9824A

Recommended for quickly connecting Record Players, F.M. attachments, Television attachments, Microphones and similar devices into the audio amplifier of existing radio receivers.

No. 1740B $1.35

ICA UNIVERSAL RESISTOR CORD

From 22 to 330 Ohms on One Cord

Replacement Resistor Cord for all makes Receivers. Simplifies stock problems. With the new Universal Cord—one can service almost all receivers now in use. Complete table of instructions supplied with each cord.

No. 205 .... Net $.90

SPECIAL MANUFACTURERS' SERVICE

We provide an extensive manufacturing service on contract basis, comprising Engraving, Machining, Punching, Stamping, Drilling, Finishing, Etching, and Assembling; Screw Machine Work. The materials used may be of any plastic or metal composition. Our Engineering Department is available for co-operation in the design and development of special products and parts; and estimates will be submitted promptly.

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ICA INSULINE ICA
RADIO PRODUCTS

INDIVIDUAL RADIO HARDWARE ITEMS

The following sizes and types of hardware can be purchased in individual jars, either for refilling the assortment racks or as a refill for your own hardware stock. Each jar contains the amount mentioned.

Individual types and sizes. Packed in handsome glass display jars.

NET 39c PER JAR

Round Head Machine Screws

No.	Quantity	Size
5000	100	4—36 x ¼" long
5001	100	4—36 x ½" long
5002	75	4—36 x ¾" long
5007	90	6—32 x ¼" long
5008	80	6—32 x ½" long
5009	70	6—32 x ¾" long
5010	50	6—32 x 1" long
5014	75	8—32 x ⅜" long
5015	70	8—32 x ½" long
5016	65	8—32 x ¾" long
5017	40	8—32 x 1" long
5022	60	10—32 x ½" long
5023	50	10—32 x ¾" long
5024	35	10—32 x 1" long

Parker-Kalon Self-Tapping Screws
No Tapping Necessary—No Nut Required

5051	50	No. 4 x ½"
5052	50	No. 6 x ¼"
5053	45	No. 6 x ⅜"
5054	40	No. 7 x ½"
5055	35	No. 10 x ¾"
5056	45	No. 10 x ⅜"

Nickel Plated Hexagon Nuts

5070	100	4—36 x ¼" Diam.
5071	90	6—32 x ¼" Diam.
5072	80	8—32 x 5/16" Diam.
5073	50	10—32 x ⅜" Diam.
5074	80	6—32 x 5/16" Diam.

Kant-Link Lock Washers

5080	125	For 6-32 Screws
5081	125	For 8-32 Screws
5082	100	For 10-32 Screws

Shakeproof Lock Washers

5085	00	For 6-32 Screws
5086	90	For 8-32 Screws
5087	80	For 10-32 Screws

Plain Steel Plated Washers

5090	100	For 6-32 Screws
5091	100	For 8-32 Screws
5092	100	For 10-32 Screws

Escutcheon Plate Screws

5182	100	No. 1—¼" length

Fahnestock Clips—Spring Brass N.P.

5190	40	¾" long
5191	40	1" long

Rack Screws and Washers

5120	20 each (10/32x⅝) (10/32)	Oval Bend Screw Cup Washer

Flexible Rubber Grommets

No.	Quantity	Size Diam.	Thick.	Hole
5120	15	½"	x 9/32"	x 7/64"
5121	12	21/32"	x ¼"	x ⅜"
5122	15	½"	x ¼"	x ¼"
5124	10	13/16"	x ⅜"	x ⅜"
5125	10	¾"	x ⅜"	x ⅜"

Plain Fibre Washers

		Diam.	Hole	Thick.
5100	125	5/16"	x ⅛"	x 1/16"
5101	100	⅜"	x 3/16"	x 1/16"
5102	90	½"	x ⅛"	x 3/64"

Shoulder Fibre Washers

		Over-all Diam.	Shoulder Diam.	Hgt.
5110	100	⅜"	x ¼"	x 5/64"
5111	90	7/16"	x 13/64"	x 3/32"
5112	75	½"	x 23/64"	x 3/64"
5113	50	⅝"	x ½"	x 3/32"

Brass Tinned Terminal Lugs

No.	Quantity	Type	Length	Size of Hole
5135	125	Flat	¼"	No. 6
5136	100	Flat	⅞"	No. 10
5141	75	Flat	1"	No. 8 or 5/16"
5137	75	Link	1"	No. 8
5138	100	Spade	¾"	9/64" Slot
5139	75	Cord	⅞"	¼"
5140	50	H.D. Battery Cable	1¼"	¼"

Nickel Plated Rivets

		Length	Diameter
5160	100	3/16"	x ⅛"
5161	80	¼"	x ⅛"
5162	70	5/16"	x ⅛"

Nickel Plated Eyelets

5170	100	⅛"	x 3/16"
5171	90	5/16"	x ⅛"
5172	80	5/16"	x 7/64"
5173	75	5/16"	x 11/64"

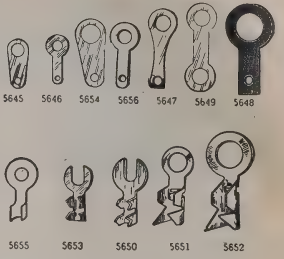
Cable Clamps

5200	35	¾" long x 5/16" Bend
5201	30	1" long x ½" Bend

Angles and Brackets

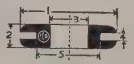
5207	25	7/16" x 7/16" x 5/16" wide
5205	16	⅝" x 1" x ⅜" wide
5206	15	½" x 1⅜" x ⅜" wide

BRASS TINNED TERMINAL LUGS



No.	Length	Size of Hole	Net
5645	17/32"	# 8	$0.45C - $3.60M
5654	13/16"	¼"	.48C - 3.60M
5646	½"	# 6	.36C - 2.70M
5656	11/16"	# 6	.42C - 3.00M
5647	⅞"	#10	.39C - 3.00M
5649	15/16"	# 8	.60C - 4.80M
5648	1"	5/16"	.60C - 4.80M
5655	11/16"	# 8	.48C - 3.90M
5653	9/16"	# 6	.51C - 4.50M
5650	¾"	# 8	.60C - 4.80M
5651	13/16"	#10	1.05C - 6.60M
5652	13/32"	¼"	1.50C - 9.60M

ICA FLEXIBLE RUBBER GROMMETS

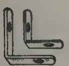


No.	Width (1)	Thickness (2)	Hole (3)	Slots (4)	Mounting Width (5)	Net per C
5633	½"	9/32"	7/64"	3/32"	19/64"	$3.00
5634	21/32"	¼"	⅜"	1/16"	7/16"	3.00
5635	½"	¼"	¼"	5/32"	21/64"	3.00
5636	13/16"	⅜"	⅜"	⅛"	⅝"	4.20
5637	¾"	⅜"	⅜"	1/16"	31/64"	3.00
5638	1"	⅝"	9/16"	⅛"	13/16"	5.40
5639	7/16"	3/16"	7/32"	1/16"	11/32"	3.00
5640	⅝"	11/32"	⅜"	1/16"	17/32"	3.30
5641	1"	⅜"	5/16"	⅛"	¾"	4.20
5642	⅝"	9/32"	5/16"	1/16"	½"	3.00

ICA SET SCREWS

Set Screws to fit all type knobs, soldering irons, insulated tools, flexible couplers, and hundreds of other uses. Available in the following sizes. **Net $1.80 per C.**

No. 318— 8/32" x 7/16"
No. 319— 6/32" x 1/8"
No. 320— 8/32" x 3/16"
No. 321—10/32" x 1/4"



ICA ANGLES AND BRACKETS

An assortment of Angles and Brackets commonly used in the radio and electrical fields.

No.	Size	Width	Description	Net per C
5702	9/32x9/32"	5/16"	Angle Bracket	$1.50
5703	⅜x¾"	⅜"	Angle Bracket	1.80
5704	9/32x1⅛"	⅜"	Angle Bracket	3.60
5705	5/16x5/16"	½"	One hole tapped for 8/32—other plain	3.60

100 in standard package

ICA MASTER SCREW AND NUT ASSORTMENT

Contains a substantial quantity of all the popular sizes machine screws, wood screws, Parker-Kalon self-tapping screws and nuts to match.

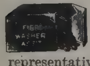
No. 5252..**Net $3.30**

ICA ALL-PURPOSE RADIO HARDWARE AND ESSENTIAL EQUIPMENT

Packed in a handy indestructible metal utility case.

This De Luxe assortment includes such items as knob set screws — escutcheon screws — Parker-Kalon self-tapping screws — rubber grommets — screws — nuts, etc.

No. 5251..**Net $2.85**

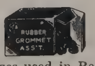


ICA FIBRE WASHER ASSORTMENT

A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts.

No. 5805..**Net $.51**

Contains 100 assorted washers



ICA RUBBER GROMMET ASSORTMENT

Assortment contains popular sizes used in Radio and Electrical Work.

No. 5810..**Net $.51**
Contains 28 Rubber Grommets
No. 5811..**Net $.90**
Contains 60 Rubber Grommets

ANGLE
BRACKET
ASS'T

ICA ANGLE AND BRACKET ASSORTMENT

A complete assortment of 30 popular angles and brackets, nickel plated finish.

No. 5800..**Net $.51**

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ICA INSULINE ICA
RADIO PRODUCTS

DISPLAY "SALESMAN" MERCHANDISER OF HARDWARE AND RADIO ESSENTIALS

HARDWARE
ICA
ASSORTMENT
E-50

With this ICA display assortment you can now sell hardware in a packaged form. This assortment includes — all sizes Round Head Machine Screws — Nickel plated nuts to match — Parker-Kalon self-tapping screws — Kant-Link lock washers — Shake-Proof washers — plain washers — flat fibre washers — flexible grommets — lugs — eyelets — rivets — escutcheon plate screws — midget fuse clips — spade bolts — Fahnestock clips — clamps — angles — rack screws — and washers, etc.

EACH ITEM INDIVIDUALLY PACKED IN A GLASS DISPLAY JAR. Each jar contains an ample quantity of individual type and size hardware used by dealers, servicemen and amateurs. A complete radio hardware assortment, beautifully put up in these jars and stacked in a handsome durable metal rack which holds 36 jars.

No. 5275—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware, such as screws — nuts — bolts — washers — grommets, etc.....................Net $14.04

No. 2576—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware and essentials such as fibre washers — lugs — metal washers — grommets — Fahnestock clips — fuse clips — angle brackets, etc.....................Net $14.04

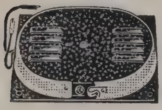
No. 5405—METAL DISPLAY AND UTILITY RACK—Consists of 4 shelves for storing 36 hardware jars — small parts and miscellaneous items. Measures 12" high by 16" wide by 8" deep. ....Net $3.30

EVERYMAN'S 1000-PIECE RADIO HARDWARE ASSORTMENT No. 5250

An assortment of hardware commonly used by dealers, servicemen, amateurs, experimenters, etc. Contains 1000 pieces of assorted machine screws — wood screws — nuts — bolts — rivets — eyelets — lugs — lock washers — rubber grommets, etc.

No. 5250
Net $1.80

ICA TENNA-SCOPE



A new style built-in tuned radio antenna. Easily connected. Eliminates use of outside aerial and ground. Features: Better selectivity — Higher signal to noise ratio —Easily connected, no soldering.

No. 4380.....................Net $1.80

ICA UTILITY GLASS JARS

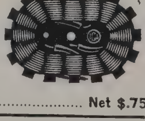
For use on service bench to store hardware, resistors, condensers, etc. Size 2½" high by 1½" deep.

No. 5400.....................Net $.11 ea.

12 to standard carton

ICA TENNA-SCOPE LOOP

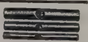
For Midgets or Portables



Eliminates necessity of outdoor or indoor antenna. Replaces the antenna coil in portable or midget sets. Easily assembled.

No. 4385 .... Net $.75

ICA "INSULOID" RODS



No.	Color	Size	Net
2175	Black	12" x ¼"	$.27
2176	Black	24" x ¼"	.48
2179	Black	12" x ⅜"	.36
2180	Black	24" x ⅜"	.72

BAKELITE RODS FENOLINE RODS

Lengths of 18" to 24"

No.	Diam.	Net	No.	Diam.	Net
175	¼"	$.78 ft.	168	¼"	$.48 ft.
176	⅜"	1.08 ft.	169	⅜"	.66 ft.
177	½"	1.50 ft.	170	½"	.84 ft.

ICA FLEXIBLE SPAGHETTI TUBING

20 Foot Lengths

VARNISHED SPAGHETTI
TUBING

A flexible tubing, heavily varnished, in attractive colors. Average dielectric strength, 5000 volts. Will accommodate from No. 10 to No. 18 wires

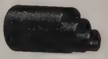
Furnished in one length —20 feet long on handy spools.

No.	Color		Net
210	Red	Per Spool	$.75
211	Yellow	Per Spool	.75
212	Brown	Per Spool	.75
213	Green	Per Spool	.75
214	Black	Per Spool	.75

500 Foot Spools, spaghetti tubing, same grade and colors as above. Specify color per spool.

No. 197.....................Net $17.10

BAKELITE AND FENOLINE TUBING



ICA tubing is strong mechanically, has extremely low electrical absorption and is highly resistant to moisture. Absolute perfection in winding of coils is assured by the use of ICA tubing—thus affording relief from complaints or failure in performance.

Finished in Natural and Black Colors
Small sizes up to one inch in Black only.
$\frac{1}{16}$" Wall Thickness, Full Lengths.
Approximately 36 to 48"

BAKELITE			FENOLINE		
No.	O.D.	Per Ft.	No.	O.D.	Per Ft.
100	¼"	$.57	161	¼"	$.51
101	⅜"	.69	162	⅜"	.54
102	$\frac{7}{16}$"	.72	163	$\frac{7}{16}$"	.60
103	½"	.78	164	½"	.63
104	⅝"	.84	165	⅝"	.66
105	¾"	.93	166	¾"	.69
106	⅞"	.99	167	⅞"	.75
147	1"	1.05	134	1"	.69
148	1¼"	1.17	135	1¼"	.81
149	1½"	1.23	136	1½"	.84
150	1¾"	1.35	137	1¾"	.93
151	2"	1.50	138	2"	1.02
152	2¼"	1.62	139	2¼"	1.11
153	2½"	1.89	140	2½"	1.23
154	2¾"	2.10	141	2¾"	1.47
155	3"	2.40	142	3"	1.59
156	3¼"	2.52	143	3¼"	1.71
157	3½"	2.70	144	3½"	2.01
158	3¾"	2.70			
159	4"	3.30			

ICA GIANT SLEEVING

Made of high voltage insulation saturated cambric material. Inside diameter ⅜". For Insulating Resistors, Small Condensers, Wire Cables, Leads, etc. 36" lengths.

No. 198.....................Net $.36

ICA INSULATED AND BRASS SPACERS AND BUSHINGS

Used for raising sub panels, chassis, condensers, etc. For manufacturers, experimenters and laboratory use.

Made of High Quality Brass

No.	Diameter	Length	Net per C
5760	¼"	¼"	$2.40
5761	¼"	⅜"	3.00
5762	¼"	½"	3.30
5763	¼"	¾"	3.60
5764	⅜"	¼"	3.30
5765	⅜"	½"	3.90
5766	⅜"	¾"	4.20

25 in Standard Package

Made of Fenoline Insulation

No.	Diameter	Length	Net per C
5775	¼"	¼"	$2.40
5776	¼"	⅜"	3.00
5777	¼"	½"	3.30
5778	¼"	¾"	3.60
5779	⅜"	¼"	3.30
5780	⅜"	½"	3.90
5781	⅜"	¾"	4.20

25 in Standard Package

Threaded Brass Bushings—¼" Diameter

No.	Size	Length	Net per C
5785	for 6/32 screw	¼"	$3.30
5786	"	⅜"	4.20
5787	"	½"	4.80
5788	"	¾"	5.40
5790	for 8/32 screw	¼"	3.30
5791	"	⅜"	4.20
5792	"	½"	4.80

25 in Standard Package

ICA SPAGHETTI TUBING

For No. 10 to No. 18 gauge wire. Guaranteed not to crack. Furnished in 30" lengths.

No. Color	Net per length
182—Red	$.11
183—Yellow	.11
184—Brown	.11
185—Green	.11
186—Black	.11

SMALL SIZE SPAGHETTI TUBING

200—Red	$.11
201—Yellow	.11
202—Black	.11

LARGE SIZE SPAGHETTI TUBING

Supplied in 36" lengths. Diameter 9/64" I.D. x 15/64" O.D.

No. 196—Supplied in black only
Net—per length $.30

STOCK SIZES OF BLACK AND BROWN FENOLINE TUBING

Individual lengths tubing in following diam.: 1"; 1¼"; 1½"; 1¾"; 2"; 2¼"; 2¾"; 3"; Wall thickness 1/16".

No.		Net
2131	3" long—1" O.D. to 3" O.D.	$.39
2132	4" long—1" O.D. to 3" O.D.	.48
2133	6" long—1" O.D. to 3" O.D.	.69

When ordering, specify exact diameter.

SPECIAL LENGTH BAKELITE TUBING

Cut to Order — Wall Thickness to 1/16"

Outside Diam.	Outside Diam.
1" or 1¼"	2½" or 2¾"
1½" or 1¾"	3" or 3¼"
2" or 2¼"	3½" or 3¾" or 4"

Prices on other sizes quoted on request.

ABOVE PRICES INDICATE SUGGESTED DEALER NET PRICES.
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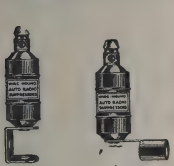
ICA INSULINE ICA
RADIO PRODUCTS

AUTO RADIO CONDENSERS AND SUPPRESSORS

ICA WIRE WOUND SUPPRESSORS
LOW RESISTANCE 30 OHMS. D. C.



2351B 2354B 2353B

These suppressors have an extremely low D.C. resistance and thus definitely do not affect the intensity of the ignition spark or cut down the speed of the car.

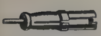
No.		Net
2351B	Spark Plug Suppressor	$.39
2353B	Distributor Suppressor	.39
2354B	1938-1939 Slip-On Suppressor; Will Also Fit Older Type Cars	.39

ICA AUTO ANTENNA CONNECTORS AND ADAPTERS

No. 2347
Antenna Connector
Net $.06 ea.

No. 2348
Standard Fuse Holder
Net $.09 ea.

No. 2349
Jumbo Fuse Holder
2½ long x ½ wide
Net $.18 ea.



No. 2372 — Lead-in Adapter — converts standard leads to Motorola Fittings.
Net $.18 ea.

No. 2375
Motorola Pin Plug
Net $.07½ ea.

No. 2378
Motorola Shielded Jack
Net $.13 ea.

No. 2395 — Lead-in Adapters — converts Motorola lead to Delco Fittings.
Net $.18 ea.

ICA FORD V8 CONDENSERS FOR 1939-1940 MODELS

Equipped with Special Bracket.
Capacity ½ mfd.

No. 1246 Net $.45

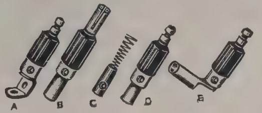
ICA WHEEL HUB STATIC ELIMINATOR

Used under hub of front wheel. An essential on all cars to eliminate front wheel static. Less Back Plate and screw.

No. 4476—Per pair Net $.18

ICA SUPER-TEST AUTO RADIO IGNITION SUPPRESSORS

Made of Moulded Bakelite—All Metal Parts Made of Rugged Machined Brass



Type No.		Net
E—349B	Spark Plug Slip-on Suppresor. Fits 1939-40 cars	$.18
E—349F	Slip-on Spark Plug Suppressors for New Model Ford cars	.18
D—350B	Spark Plug Suppressors with Dual Threaded Inserts	.18
D—351B	Spark Plug Suppressors for Ford cars up to 1939	.18
A—377	Bracket type Suppressor	.18
B—352B	Distributor Suppressor for all cars	.21
C—4461	Ford Early Models	.21
C—4463	Ford Late Models	.21

MASTER DIST. CARBON SUPPRESSOR — 10,000 OHMS

For use on new type cars where only one suppressor is needed. Master Suppressor is guaranteed to eliminate all motor noise—making unnecessary the use of individual suppressors.

No. 330 Net $.45

ICA AUTO BY-PASS CONDENSER

For by-passing ammeter, dome light or generator. Capacity ½ mfd.

No. 1244 Net $.30

ICA GENERATOR SILENCER

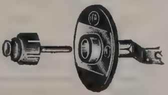
Heavy duty generator condenser eliminates generator, ammeter, distributor noises. Capacity 1 mfd.

No. 1243 Net $.45

ICA FORD V8 NOISE SILENCER

No. 1245
Net $.48

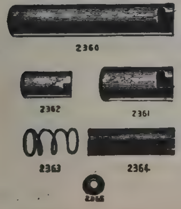
ICA PLUG AND JACK



Used on RCA recording units, receivers and auto sets.

No.		Net
2383	Pin Plug	$.09
2385	Socket & Shield	.15

REPLACEMENT PARTS FOR ANTENNA AND FUSE RETAINERS



No.		Net
No. 2360	Female sleeve of fuse connector	$4.20 per C
No. 2361	Female sleeve of antenna connector	$3.60 per C
No. 2362	Male part of antenna connector	$3.00 per C
No. 2363	Spring for both antenna and fuse connectors	$.90 per C
No. 2364	Fiber insulator for auto fuse holder	$.75 per C
No. 2365	Bakelite eyelet bushing	$1.11 per C

ICA GLOVE-TITE TUBE SHIELDS

No. 1720 TYPE A—For Dome type (ST-12 short).
No. 1720 TYPE C—With Ring. (ST-12 short).
No. 1722 TYPE B—For Dome type (ST-12 long).
No. 1722 TYPE C—With Ring (ST-12 long).
No. 1718 TYPE C—For Dome type (ST-12 med.).
No. 1721 TYPE C—For Dome type (ST-14).

All Types, each Net $.15

ICA G T, BANTAM and MINIATURE SHIELDS

Designed for the new 1½ Volt Bantam glass tubes or T9 Bulbs. Available with or without grid cap.

No.		Net
1729	GT-Octal Shield	$.12
1726	Shielded cap—one piece—grounds automatically	.12
1727	Same as 1726—with grid lead cap	.15
1735	Miniature Tube Shield—with Base Clip	.12

ICA ALUMINUM TUBE SHIELD

For 55, 57, 68, etc. type tubes

No.		Net
1708	1$\frac{11}{16}$" mounting centers	$.27
1709	1½" mounting centers	.27

ICA ALUMINUM TUBE SHIELD

Will fit all standard Screen Grid Tubes. Supplied with base. 1¾" mounting center.

No.	Net
1541	$.24

ICA 807 TUBE SHIELD

For use with Transmitter Pentodes, and Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39 and 804 tubes.

No.	Net
1545	$.36

ICA COIL SHIELDS
With Detachable Base

A sturdy coil shield made of aluminum with a detachable base.

No.		Net
1539	2$\frac{1}{16}$" x 3" High	$.36
1540	2½" x 3½" High	.42
1549	3" x 3½" High	.45

ICA GRID CAP SHIELDS
(For Metal Tubes)

Fits firmly over grid cap of metal tubes affording complete shielding. Slotted cap permits passage of grid wire.

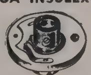
No.		Net
1552		$.12
1552-A	With Moulded Insulation Inside Cap	$.15

ICA BAKELITE FLEXIBLE SHAFT COUPLING

Flexible phosphor bronze spring contact mounted on a round bakelite disc. 1" diameter. Has ¼" bushing.

No. 2142 Net $.39

ICA INSULEX FLEXIBLE SHAFT COUPLING



Flexible phosphor bronze spring contact mounted on Insulex disc for efficient low-loss coupling. 1" diam. Has ¼" bushing.

No. 2143 Net $.48

ICA PANEL BEARING ASSEMBLY

Will fit on panels up to 5/16" thickness.

No.		Net
No. 1248	Over-all length 3"	$.30
No. 1249	Over-all length 6"	.36
No. 1250	Bearings only	.15

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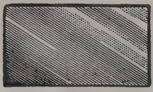
ICA INSULINE ICA
RADIO PRODUCTS

ICA BAKELITE RADIO PANELS

Black, Polished Mirror Finish



⅛" Thickness No.	Size	Net	$\frac{3}{16}$" Thickness No.	Size	Net
832	7 x 10	$0.93	842	7 x 10	$1.35
833	7 x 12	1.11	843	7 x 12	1.65
834	7 x 14	1.20	844	7 x 14	1.95
835	7 x 18	1.80	845	7 x 18	2.46
836	7 x 21	1.86	846	7 x 21	2.79
837	7 x 24	2.10	847	7 x 24	3.30
840	7 x 30	2.70	850	7 x 30	4.05
860	10 x 12	1.65	863	10 x 12	2.49
861	10 x 18	2.19	864	10 x 18	3.39

ICA FULL SIZE BAKELITE SHEETS

Black Glossy Finish

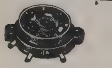
No.	Size	Thickness	App. Wt.	Net
852	38" x 49"	$\frac{1}{16}$"	6 lbs.	$12.90
853	38" x 49"	$\frac{3}{32}$"	8 lbs.	16.20
854	38" x 49"	⅛"	12 lbs.	26.40
857	38" x 49"	$\frac{3}{16}$"	16 lbs.	33.00
858	38" x 49"	¼"	20 lbs.	39.60

Prices on other sizes or thicknesses quoted on request

ICA ALUMINUM PANELS

ICA Aluminum panels and sheets have a bright silver finish and are supplied in the following sizes:

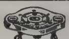
No.	Size	Net	No.	Size	Net
1194	7 x 10	$0.81	1200	7 x 24	$2.10
1195	7 x 12	.96	3157	10 x 12	1.65
1196	7 x 14	1.05	3158	10 x 18	1.89
1198	7 x 18	1.41	3159	10 x 24	3.30
1199	7 x 21	1.71			



ICA BASE-MOUNTING BAKELITE SOCKETS

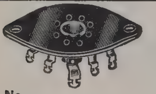
No.	Net
2480—4 Prong	$.27
2481—5 Prong	.30
2482—6 Prong	.33
2483—7 Prong comb. large and small	.36
2489—8 Prong OCTAL	.39

ICA "INSULEX" WAFER SOCKETS



An ideal low loss socket designed for ultra high frequency reception.

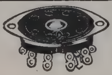
No.	Net
2600—4 Prong	$.39
2601—5 Prong	.39
2602—6 Prong	.42
2603—7 Prong, large	.42
2604—7 Prong, small	.42
2605—8 Prong OCTAL for new metal tubes	.51



ICA BAKELITE WAFER SOCKETS

No.	Net
1118—4 Prong	$.10
1096—5 Prong	.10
1095—6 Prong	.10
1119—7 Prong, small	.10
1120—7 Prong, large	.10
1121—8 Prong OCTAL	.12
1123—Loktal Wafer	.12

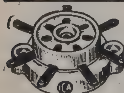
ICA MOLDED BAKELITE SNAP-ON SOCKETS



Octal—Loktal

Mounted in cadmium plated steel "Saddle." Equipped with 4 grounding lugs on saddle—Positive grip contacts.

No. 2470—Octal Socket **Net $.11**
Mtg Center 1½"
Chassis Hole 1⅛"
No. 2471—Loktal Socket **Net** .12
Mtg Center 1$\frac{5}{16}$";
Chassis Hole 1"

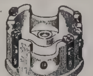


ICA "INSULEX" BASE MOUNTING SOCKETS

Especially adapted for ultra short-wave work and transmitters.

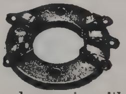
No.	Net
290—4 Prong	$.54
291—5 Prong	.54
292—6 Prong	.60
294—Comb. 7 Prong, large and small	.60
300—8 Prong OCTAL	.60

ICA "INSULEX" ACORN TUBE SOCKET



For 954, 955 and 956 acorn tubes. The perfect socket for U.H.F. and micro wave transmitters and receivers. 1⅛" in diameter, ⅝" high.
No. 959....................**Net $.90**

ACORN TUBE WAFER SOCKET



Of Navy approved ceramic with silver plated contacts. Can be easily inserted and removed and no amount of vibration will cause the tube to become loose.
No. 961....................**Net $.60**

ICA SHAFT COUPLINGS AND EXTENSION RODS

Brass Couplings and Reducers

No.	Length	Hole	O.D.	Net
2105	¾"	¼" coupler	½"	$.15
2106	¾"	⅜" coupler	9/16"	.15
2107	¾"	⅜" to ¼" coupler	9/16"	.15
2111	1⅛"	¼" to ¼" shaft	½"	.15
2112	1⅛"	⅜" to ¼" shaft	9/16"	.15
2113	1⅛"	¼" to ⅜" shaft	9/16"	.15

2125—Brass Split Bushing ⅝" long x ⅜" O.D. x ¼" I.D. .09

ICA Fenoline Couplings and Reducers

No.	Length	Hole	O.D.	Net
2116	¾"	¼" coupler	½"	$.15
2108	¾"	⅜" coupler	9/16"	.15
2109	¾"	⅜" to ¼" coupler	9/16"	.15
2110	1⅛"	¼" to ¼" shaft	½"	.15

Long Extension Couplings

Made of Brass with extra long extension

No.	Material	Length	I.D.	O.D.	Net
2123	Brass	¾"	¼"	½"	$.21

ICA SPACER AND BUSHING ASSORTMENTS

Brass and Insulated

Assortment of 25 spacers and bushings in ¼ & ⅜. Diameters from ¼" to ¾" long. Ideal for raising sub panels, chassis, etc.

No.	Net
5260—Insulated Assortment	$.84
5261—Brass Assortment	.84
Threaded Brass Bushing Assortments	
5262—16 Assorted Brass bushings. Threaded for 6/32 from ¼" to ¾"	.84
5263—16 Assorted Brass bushings Threaded for 8/32 from ¼" to ¾"	.84

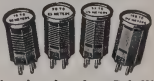
ICA BRASS EXTENSION RODS

No. 2117 6" Length ¼" O.D. **Net $.15**

FENOLINE EXTENSION RODS

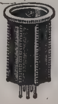
No. 2120 6" Length ¼" O.D. **Net $.21**

ICA SHORT WAVE AND BROADCAST PLUG-IN COILS



Wound on Low-Loss Bakelite Rubber Forms

No.	4 PRONG—2 WINDINGS	Net
1471	Set of 4 short wave coils—covering 9½ to 217 Meters	$1.89
1473	Set of 2 Broadcast coils covering 190 to 550 Meters	1.50

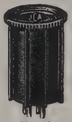


ICA TRANSMITTING COIL FORMS

Made of Low - Loss RX-47 Dielectric. Rugged and durable. Amber color. Size of body affords 3¼" of winding space.

No 2670—1 Prong..........Net $.54
No. 2671—5 Prong..........Net .57
No. 2672—6 Prong..........Net .66

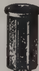
ICA GROOVED TRANSMITTING COIL FORMS



2¼" diam., 3½" high

Ribs grooved for Precision Space Winding with a right hand thread — 20 grooves per inch, cut at 99° per "V" .025 deep.

No. 2675—4 Prong..........Net $.81
No. 2676—5 Prong..........Net .84
No. 2677—6 Prong..........Net .90



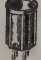
ICA LARGE LOW-LOSS RIBBED COIL FORMS

AMBER BAKELITE
1⅝" Diameter
3⅝" High

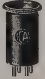
No.	Net
1051—4 Prong	$.30
1052—5 Prong	.30
1053—6 Prong	.33

ICA SMALL RIBBED COIL FORMS

Made of Amber Color Bakelite
1⅜" diam., 2¼" high



No.	Net
2158—4 Prong	$.24
2159—5 Prong	.24
2160—6 Prong	.24

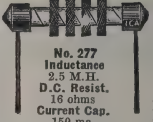


ICA SMALL BAKELITE COIL FORMS

1¼" diam., 2¼" high

No.	Net
1108B—4 Prong	$.21
1113B—5 Prong	.21
1114B—6 Prong	.21

SPECIAL SIZE TERMINAL STRIPS, TEST PRODS AND PLASTIC INSULATED PARTS MADE TO SPECIFICATIONS. . . . SEND US PRINTS FOR QUOTATIONS.



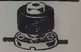
No. 277
Inductance
2.5 M.H.
D.C. Resist.
16 ohms
Current Cap.
150 ma.
Net $.30

ICA "Insulex" R.F. CHOKE COIL

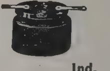
Silk Wire Wound

Supplied with wire leads for mounting.

ICA "INSULEX" R.F. CHOKES



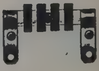
Cat. No.	Inductance	D.C. Resis.	Current Cap.	Net
1777	2.5	30	150	$.36
1775	5.5	57	150	.45
1774	10	73	150	.48
1772	30	136	125	.54
1773	60	196	125	.69
1771	80	222	125	.75



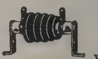
IRON CORE HIGH "Q" R.F. CHOKES

No.	Ind. M.H.	D.C. Res. ohms	Net
6200	2.5	17	$.51
6201	3.5	22	.54
6202	5.5	28	.60
6203	10	55	.69
6204	30	83	.75
6205	60	142	.84
6206	80	168	.96
6207	125	214	1.20

ICA INSULEX R.F. CHOKES



No.	Ind. M.H.	D.C. Res. Ohms	Cur. Cap. Ma.	Net
2277	2½	24	150	$.39
2279	5	62	150	.51
2280	10	78	150	.69
2282	60	195	125	.75
2283	80	250	125	.84



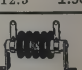
ICA TRANSMITTING R.F. CHOKES

Tapered Sections

Wound on Insulex low-loss core. Has a continuous universal winding in five tapered sections. Designed for maximum impedance in amateur bands from 160 meters downward.

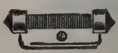
No.	Ind. M.H.	Cur. Ma.	Res. Ohms	Net
266	2.8	1000	5	$1.65
267	5.3	600	12.5	1.50

HEAVY DUTY TRANSMITTING CHOKES



No.	Ind. M.H.	Cur. Cap. Ma.	D.C. Res. Ohms	Net
280	2.5	1000	5	$1.50
278	5.6	600	12	1.35

ICA 2½ and 5 METER R.F. CHOKE



A compact, efficient R.F. choke for use in transmitters and receivers at ultra-high frequencies. Single layer spaced winding on pig-tailed Insulex low-loss form. Small enough to be wired directly into the smallest transceivers. Inductance 5.4 Mic.-Henries; Resistance 0.45 ohms; maximum current 1000 M.A. $\frac{5}{16}$" Diameter x 1¾" long.
No. 1645....................**Net $.30**

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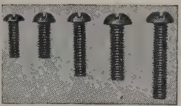
WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

ELECTRONIC HARDWARE
Uniformly Priced—Attractively Packaged

The 40 Line

WALSCO STEEL MACHINE SCREWS



Round head, cadmium-plated, steel machine screws, available in all sizes used for radio and electronic work . . . in assortments or individual sizes . . . conveniently packaged for experimenters, servicemen and amateurs.

WALSCO Standard Machine Screw Ass'tm't

All the standard sizes used in electronic and similar work are combined in this handy, inexpensive assortment. It contains Nos. 6, 8, 10 screws—¼ to 1″ long.

Cat. No.	List Price
†3560—Approx. 50 assorted screws	$0.40

WALSCO Small Machine Screw & Nut Ass'tm't

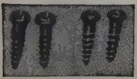
A special assortment of extra small screws (Nos. 2 and 4), and nuts so often needed in electronic and experimental work for fastening small parts, to replace rivets, etc.

Cat. No.	List Price
†3360—Approx. 40 assorted screws and 40 assorted nuts	$0.40

SINGLE SIZE PACKAGES OF STANDARD SCREWS

Cat. No.	Size	Approx. No. of screws per pkg.	List Price per pkg.
†3100	6-32 x ¼	60	$0.40
†3110	6-32 x ⅜	60	0.40
†3120	6-32 x ½	50	0.40
†3130	6-32 x ¾	40	0.40
*3135	8-32 x ¼	60	0.40
†3140	8-32 x ⅜	50	0.40
†3150	8-32 x ½	40	0.40
†3160	8-32 x ¾	30	0.40
*3165	10-32 x ½	30	0.40
*3167	10-32 x ¾	25	0.40
*3169	10-32 x 1	20	0.40

WALSCO SMALL ESCUTCHEON AND WOOD SCREW ASSORTMENT



This assortment contains all the extra small sizes of wood, brass and steel screws, sizes #1 to #3, up to ⅜″ long. Needed by radio men, model builders, etc., for fastening name plates, escutcheons and numerous other devices.

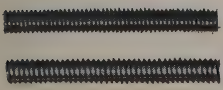
Cat. No.	List Price
†3550—Approx. 60 assorted screws	$0.40

WALSCO Standard Wood Screw Assortment

Handy assortment for workshop or home. Contains round and flathead screws of popular sizes in brass and steel.

Cat. No.	List Price
†3553—Approx. 30 screws	$0.40

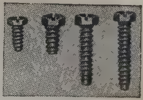
WALSCO THREADED STEEL RODS



These rods have many uses in service and repair work and are made from the finest cold rolled steel to give maximum strength. Each package contains one each of 6-32 and 8-32 threaded rod. Both 8 inches long.

Cat. No.	List Price
†2640	$0.40

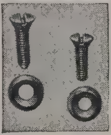
WALSCO SHEET METAL AND SELF-TAPPING SCREWS



These screws cut their own threads in either metal or plastic, and "drive home" as accurately as a machine screw in a machine thread. Just drill a hole and drive in the screw—no nut or tapping required. Ideal for mounting parts to chassis, replacing rivets and eyelets and numerous other purposes. All screws are hex head and slotted—type "Z" and Cadmium plated.

Cat. No.	Size	Approx. No. of screws per pkg.	List Price per pkg.
†3470	Assorted	30	$0.40
†2910	6 x ¼	45	0.40
*2911	6 x ⅜	40	0.40
*2912	6 x ½	40	0.40
†2914	6 x ¾	35	0.40
*2916	6 x 1	30	0.40
†2920	8 x ⅜	35	0.40
*2922	8 x ½	30	0.40
†2924	8 x ¾	25	0.40
*2926	8 x 1	20	0.40
*2930	10 x ⅜	30	0.40
*2932	10 x ½	25	0.40
*2934	10 x ¾	20	0.40

WALSCO RACK SCREWS & CUP WASHERS



For mounting panels in racks and cabinets, fastening record-players and recording chassis, etc. Enhances appearance of any assembly. The oval head screws are nickel plated—so are the cup washers.

Cat. No.	Size	Approx. No. of units ea. pkg.	List Price per pkg.
†3540	Assorted Screws & Washers	15	$0.40
*3543	6-32 x ⅝ Screws	40	0.40
*3541	8-32 x ⅝ Screws	30	0.40
*3542	10-32 x ¾ Screws	20	0.40
*3544	#6 Washers (7/16″ O.D.)	50	0.40
*3545	#8 Washers (½″O.D.)	40	0.40
*3546	#10 Washers (9/16″ O.D.)	40	0.40

WALSCO ORNAMENTAL HEAD SCREWS

Antique bronze finished rosette head For mounting of speakers, etc.

Cat. No.	List Price
†2950—15 assorted screws	$0.40
*2951—20 screws, 6-32 x ¾″	0.40
*2952—20 screws, 6-32 x 1″	0.40
*2953—15 screws, 8-32 x 1¼″	0.40

WALSCO STEEL SET SCREWS

Precision, hardened steel set screws in all popular sizes for radio knobs, record changers, home and automobile radios, or wherever set screws are needed.

Cat. No.	Size	Approx. No. of screws per pkg.	List Price per pkg.
†3480	Assorted	20	$0.40
*3205	6-32 x ⅛	20	0.40
†3210	6-32 x 3/16	20	0.40
*3212	6-32 x ¼	20	0.40
*3215	8-32 x ⅛	20	0.40
†3220	8-32 x 3/16	20	0.40
†3230	8-32 x ¼	20	0.40
*3235	10-32 x 3/16	20	0.40
*3237	10-32 x ¼	20	0.40

WALSCO products

Help The Radio Man

WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

ELECTRONIC HARDWARE

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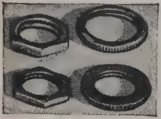
The 40 Line

WALSCO MACHINE SCREW NUTS

Walsco nuts are "Small Pattern" as preferred in the electronic and electric trade. Precision made of steel, cadmium plated.

Cat. No.	Size	Approx. No. of nuts per pkg.	List Price per pkg.
†3520	Assorted	50	$0.40
†3180	6-32	50	0.40
†3190	8-32	40	0.40
*3195	10-32	35	0.40

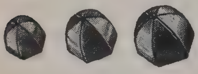
WALSCO SPECIAL MOUNTING NUTS



Various kinds of nuts used on volume controls, switches, jacks, potentiometers, etc. A "must" for every radioman and electrician. All nuts are cadmium or nickel plated.

Cat No.	Description	Approx. No. of nuts per pkg.	List Price per pkg.
†3530	Assorted	15	$0.40
*3531	⅜" x 32 Volume Control Hex Nut	25	0 40
*3532	15/32" x 32 Toggle Switch Hex Nut	15	0.40
*3533	15/32" x 32 Toggle Switch Ring Nut	10	0.40

WALSCO ACORN NUTS



Greatly improves the appearance on panel assemblies, test instruments, cabinets, etc. These PAL type steel nuts are self-locking and bright cadmium plated.

Cat. No.		List Price
†2960	12 assorted nuts	$0.40
*2961	15 nuts, 6-32	0.40
*2962	15 nuts, 8-32	0.40
*2963	10 nuts, 10-32	0.40

WALSCO KNURLED THUMB NUTS

Precision made, Brass Nuts.

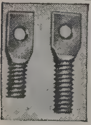
Cat No.		List Price
*2971	Approx. 15 nuts, 6-32	$0.40
*2972	Approx. 12 nuts, 8-32	0.40
*2973	Approx. 8 nuts, 10-32	0.40

WALSCO WING NUTS

Handy for experimental work and hobby craft. Made of Steel polished and plated.

Cat. No.		List Price
*2975	10 Nuts, 6-32	$0.40
*2976	10 Nuts, 8-32	0.40
*2977	10 Nuts, 10-32	0.40

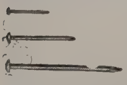
WALSCO SPADE BOLTS



Indispensable for attaching condensers, coils, cans, and similar items. For Experimenters, Servicemen and Manufacturers of electronic equipment. Stud size 6-32. Hole size for No. 6 screw.

Cat. No.	Size	Approx. No. of bolts per pkg.	List Price per pkg.
†3270	Assorted	25	$0.40
*3271	⅝" overall length	25	0.40
*3272	⅞" overall length	25	0.40

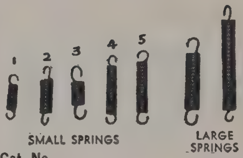
WALSCO ESCUTCHEON PIN ASSORTMENT



Brass finished pins in various sizes and lengths from ¼" to 1".

Cat. No.		List Price
†3555	Approx. 100 ass'ted pins	$0.40

WALSCO DIAL DRIVE SPRINGS



Made of fine music wire for greater flexibility and available in all standard sizes. Carefully looped at each end and rust-proofed.

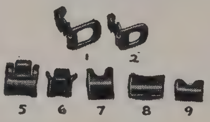
Cat. No.		List Price
†3400	Assortment of 10 springs	$0.40
†3410	Assortment of 10 small springs	0.40

Cat. No.	Dimensions Overall Length	Diam.	Wire Thickness	Picture Number	No. of springs per pkg.	List Price
*3411	½"	⅛"	.016"	1	12	$0.40
*3412	⅝"	5/32"	.018"	2	10	0.40
*3413	9/16"	3/16"	.020"	3	10	0.40
*3414	¾"	⅛"	.016"	4	8	0.40
*3415	¾"	5/32"	.020"	5	8	0.40

Other sizes upon request

Illustration Approximately two-thirds actual size

WALSCO RADIO KNOB SPRINGS



The modern method of fastening knobs to shafts. Available in all regular sizes and shapes. The assortment is complete and most useful to radio shops. Finest grade of selected steel is used in the manufacture of these springs.

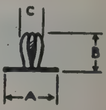
Cat. No.	Picture No.	Approx. No. of springs per pkg.	List Price
†3450	Assorted	20	$0.40
*3451	1	15	0.40
*3452	2	15	0.40
*3455	5	20	0.40
*3456	6	20	0.40
*3457	7	25	0.40
*3458	8	25	0.40
*3459	9	25	0.40

WALSCO SNAP-IN TRIMOUNTS

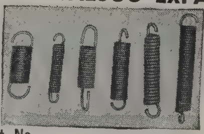
Faster than screws. Use them on all modern radio sets, on back covers, dial scales, chassis, built-in antennae, etc., to speed assembly and repairs.

Cat. No.		List Price
†3460	Approx. 25 assorted Trimounts	$0.40

Cat. No.	Dimensions A	B	C	For Hole		List Price
†3461	9/32"	11/64"	9/64"	⅛"	25 pcs.	0.40
*3462	9/32"	13/64"	9/64"	⅛"	25 pcs.	0.40
*3463	11/32"	17/64"	5/32"	9/64"	25 pcs.	0.40
†3464	23/64"	9/32"	3/16"	5/32"	20 pcs.	0.40
†3465	⅜"	⅝"	5/32"	⅛"	20 pcs.	0.40



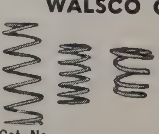
WALSCO EXPANSION SPRINGS



Very handy for radio and electrical shops, laboratories, etc. The assortments contain various sizes of springs for untold applications: record changers—to name one of a thousand.

Cat. No.		List Price
†3290	10 assorted large springs	$0.40
†3390	10 assorted small springs	0.40

WALSCO COMPRESSION SPRINGS



A hard-to-get item. The Walsco assortments contain all of the springs often needed for repair work on radio and electronic equipment, motors, appliances, etc. Available in two assortments.

Cat. No.		List Price
†3370	20 assorted small springs	$0.40
†3380	15 assorted large springs	0.40

WALSCO *products*
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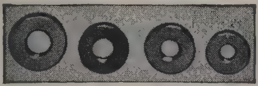
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

ELECTRONIC HARDWARE
Uniformly Priced—Attractively Packaged

The WALSCO *Line*

WALSCO METAL WASHERS

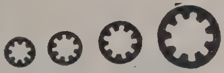
Precision steel washers, Cadmium plated, in standard small sizes for innumerable uses.



Cat. No.	For Screw Size	Dimensions I.D.	Dimensions O.D.	Dimensions Thick.	Approx. No. of washers per pkg.	List Price per pkg.
†3510	Assorted	....	......	......	100	$0.40
*3511	#4	.125"	5/16"	1/32"	150	0.40
*3512	#6	.149"	⅜"	1/32"	100	0.40
*3513	#8	.175"	⅜"	1/32"	100	0.40
*3514	#10	.203"	7/16"	1/32"	75	0.40
*3515	¼"	.265"	½"	1/32"	75	0.40

WALSCO LOCK WASHERS

These lock washers are made of special steel and are rust-proofed. The sizes listed below are the most popular ones in the radio and electrical appliance field.



Cat. No.	For Screw Size	Approx. No. of washers per pkg.	List Price per pkg.
†3590	Assorted	65	$0.40
*3592	#6	65	0.40
*3593	#8	55	0.40
*3594	#10	50	0.40
*3595	¼"	50	0.40
*3596	⅜"	35	0.40

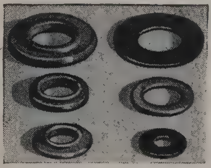
WALSCO KNOB FELT WASHERS

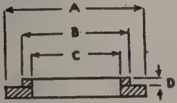
Keeps cabinets from being scratched and makes knobs work smoothly. Made of tough brown felt with ¼" hole to fit standard control and condenser shafts. O. D. is approx. ¾" and thickness 1/32".

Cat. No.		List Price
†3490	75 felt washers in cellophane bag	$0.40

WALSCO INSULATING WASHERS

Made of high grade insulating material. Ideal for countless uses on metal panels where insulating washers are required. The assortment contains both plain and shoulder type washers to fit all standard size screws and bolts, jacks, controls, etc.





Overall thickness of extruded washers is approximately 3/32" and of the flat washer 1/32".

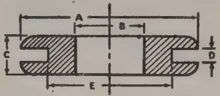
Cat. No.		List Price
†3430	60 Assorted extruded and flat washers	$0.40

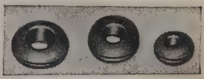
Cat. No.	Dimensions A	Dimensions B	Dimensions C	Dimensions D	Fits Screw Size	‡Washers per pkg.	List Price per pkg.
*3431	¼	3/16	.136	1/16	6	80	$0.40
*3432	⅜	.246	11/64	1/16	8	70	0.40
*3433	⅜	.308	.196	1/16	10	60	0.40
*3434	½	5/16	¼	1/16	¼"	50	0.40
*3435	⅝	½	.385	1/16	⅜"	40	0.40

‡50% extruded washers and 50% flat washers to match

WALSCO RUBBER GROMMETS

For protecting cables from abrasion when passing through chassis or similar holes. Also used for vibrationless mounting of parts. Made of new oil-and-solvent- resistant synthetic rubber. Five popular sizes.



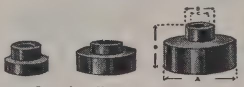


Cat. No.		List Price
†3340	15 assorted grommets	$0.40

SINGLE SIZE GROMMETS

Cat. No.	Dimensions A	Dimensions B	Dimensions C	Dimensions D	Dimensions E	Approx. No. of Grommets per pkg.	List Price per pkg.
†3341	11/32	⅛	3/16	1/16	¼	16	$0.40
†3342	7/16	3/16	7/32	1/16	5/16	15	0.40
†3343	9/16	¼	¼	1/16	⅜	12	0.40
†3344	⅝	⅜	¼	1/16	½	10	0.40
†3345	13/16	½	9/32	1/16	⅝	8	0.40

WALSCO CHASSIS MOUNTS



Made of long lasting resilient synthetic rubber to give chassis or other components a floating effect and to reduce "microphonics." Essential for all portable electronic equipment and where vibration will affect operation.

Cat. No.	Dimensions A	Dimensions B	Dimensions C	Dimensions D	No. of Mounts per pkg.	List Price per pkg.
†2740	Assorted				10	$0.40
*2742	¾"	½"	¼"	⅜"	6	0.40
*2744	1"	½"	¼"	17/32"	4	0.40
*2746	1¼"	½"	¼"	9/16"	4	0.40

WALSCO RUBBER WASHER AND BUMPER ASSORTMENT

An assortment of the various kinds of rubber washers, bumpers, and spacers used in the electronic and radio industry for shockless, vibrationless mounting, for eliminating rattles and microphonics, etc.

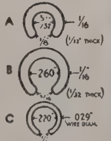
Cat. No.		List Price
†3440	20 assorted washers and bumpers	$0.40

WALSCO CORD STRAINRELIEFS
FOR POSJ WIRE

Provides a grommet and strain relief in one piece. For use on appliance cord sets. Use WALSCO Rubber Cement (Cat. No. 112) for attaching to cord. Will prevent the insulation of wire from being cut or damaged by sharp-edged holes in metal chassis or cabinets.

Cat. No.		List Price
*3348	4 Strainreliefs	$0.40

WALSCO RETAINING RINGS & 'C' WASHERS



Standard types and sizes of Retaining Rings and 'C' Washers required for radio, electrical and electronic repair work. A necessity in the servicing of volume controls, record changers, etc. The rings are tempered spring steel. The washers are annealed. The assortment contains sizes for shafts from ⅛" to 5/16" Diam.

No.	Description	Picture Number	Approx. No. of units per pkg.	List Price per pkg.
†3420	Asst. Rings & Washers	....	40	$0.40
*3421	Ring for ¼" Shaft	C	50	0.40
*3422	C Washer for ¼" Shaft	B	30	0.40
*3423	C Washer for 3/16" Shaft	A	35	0.40

WALSCO *products*

Help The Radio Man

WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

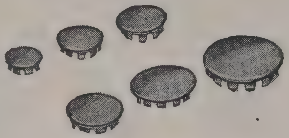
ELECTRONIC HARDWARE

Uniformly Priced—Attractively Packaged

The 40 Line

WALSCO SNAP-HOLE PLUGS

A round, flat head, metal button with spring flanges that snap right into the hole. Holds securely—yet can be easily removed. Used to seal adjustments, cover unused holes, etc.



Cat. No.	List Price
†3500—8 assorted plugs	**$0.40**
*3501—For ¼" hole, 10 plugs	0.40
*3502—For ⅜" hole, 10 plugs	0.40
*3503—For ½" hole, 8 plugs	0.40
*3504—For ⅝" hole, 6 plugs	0.40
*3505—For ¾" hole, 6 plugs	0.40
*3506—For 1" hole, 4 plugs	0.40

WALSCO VENTILATING HOLE PLUGS

For amplifiers, transmitters, portable radios, amateur equipment, etc., wherever ventilation of equipment is required. Fine wire screen permits free circulation of air. The assortment contains 2 plugs each for ½" and 1" hole.

Cat. No.	List Price
†3320—4 assorted plugs	$0.40

WALSCO CABLE CLAMPS

Heavy gauge steel, Cadmium plated, ⅜" wide. Perfectly punched and formed with No. 6 or No. 8 mounting holes. Available in 3 sizes for cables from ⅛" to $\frac{5}{16}$" in diameter.

Cat. No.	For cables	Approx. No. of Clamps per pkg.	List Price per pkg.
†3330	Assorted clamps	25	$0.40
*3331	⅛" to $\frac{3}{16}$" Diam.	40	0.40
*3332	$\frac{3}{16}$" to ¼" Diam.	30	0.40
*3333	¼" to $\frac{5}{16}$" Diam.	25	0.40

WALSCO GRID CAP ASSORTMENT

An assortment of Grid Caps for all standard metal and glass tubes. Made of high quality spring brass, or steel and plated.

Cat. No.	List Price
†2600—Approximately 20 assorted caps	$0.40

WALSCO SPRING CONNECTOR CLIPS

(FAHNESTOCK TYPE)

For fast connection and good electrical contact. No tools required for connecting or disconnecting. Ideal for experimental jobs. An old standby with a record of years of proven uses. Made of spring brass or phosphor bronze.

Cat. No.	List Price
†2730—Approx. 12 assorted clips	**$0.40**
*2731—Approx. 20 small clips (for wire gauges of #16 & smaller)	0.40
*2732—Approx. 12 clips (for wire gauges of #12 to #18)	0.40
*2733—4 double clips (for wire gauges of #16 & smaller)	0.40

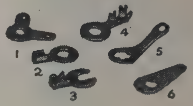
WALSCO FUSE CLIPS

Made of spring brass, nickel plated for single hole mounting.

Cat. No.	List Price
†2720—12 assorted clips	**$0.40**
*2721—16 clips for ¼" diameter fuses	0.40
*2722—10 clips for $\frac{9}{32}$" diameter fuses	0.40

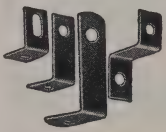
WALSCO TERMINAL LUGS

Available in the six popular sizes which meet most of the requirements of the radio and electronic field. Accurate forming facilitates easy handling. Made of tinned brass.



Cat. No.	Figure No.	Approx. No. of Lugs per pkg.	List Price per pkg.
†3280	Assorted	40	$0.40
*3281	1	30	0.40
*3282	2	30	0.40
*3283	3	30	0.40
*3284	4	30	0.40
*3285	5	30	0.40
*3286	6	40	0.40

WALSCO ANGLE BRACKET ASSORTMENT



Handy brackets of various lengths and shapes as needed by every repairman, experimenter, "ham", etc. Precision made, of steel, or brass and plated.

Cat No.	List Price
†2610—Approximately 15 assorted brackets	$0.40

WALSCO RIVET ASSORTMENT

Various sizes of hollow, solid and split rivets in brass, copper and aluminum as used in everyday repair and experimental work. Sizes range approximately from $\frac{1}{16}$" to $\frac{3}{16}$" in diam. and up to ¾" in length.

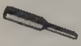
Cat. No.	List Price
†2620—Approximately 60 assorted rivets	$0.40

WALSCO EYELET ASSORTMENT

Brass eyelets of various diameters and lengths. A handy item for every repair shop.

Cat. No.	List Price
†2630—Approximately 55 eyelets	$0.40

WALSCO PHONE TIPS



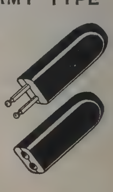
Fits all standard tip jacks. Easy to solder. Made of brass, nickel-plated. These are the conventional tips so often needed by both experimenters and service men.

Cat. No.	List Price
†2725—Approximately 16 tips per pkg.	$0.40

MINIATURE PLUG AND JACK

TWO-CONDUCTOR PRECISION ARMY TYPE

Ideal for hearing aids, speaker extensions, carbon microphones, and numerous other installations. Needs no screws; molded plastic case cements together. Illustration shown approximately one-half actual size.



Cat. No.	Description	List Price
†2590	1 plug (type PL-291)	$0.40
†2591	1 jack (type JK-48)	0.40

WALSCO PHONO-MOTOR RUBBER DRIVES

Exact replacements for all standard motor drives. Precision made to assure constant uniform speed and made of abrasion-resistant synthetic rubber to assure long wear. For attaching, use WALSCO Rubber Cement.

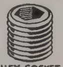
Cat. No.	I.D.	O.D.	Thick	No. of Units per pkg.	Used on	List Price per pkg.
†2560-16	2"	2⅜"	$\frac{5}{32}$"	2	General Industries Alliance	$0.40
†2560-17	1½"	1¾"	$\frac{3}{16}$"	2	Motorola	0.40
†2560-18	⅞"	1⅛"	$\frac{3}{16}$"	3	RCA	0.40
†2560-19	⅛"	⅜"	¼"	4	Philco, RCA, etc.	0.40
†2560-20	5¾"	6"	$\frac{3}{16}$"	1	Detrola	0.40

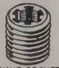
2560-D—Special display card holding 5 packages each of Cat. Nos. 2560-16, 17, 18, 19 ....$8.00

WALSCO KEY WRENCHES

FOR HEX AND SPLINE SOCKET SCREWS

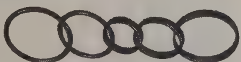
Walsco features three sets of socket wrenches made of special alloy steel to fit all standard socket screws used in radio and electronic equipment.


HEX SOCKET


SPLINE SOCKET

Cat. No.	Description	List Price
†3580	Assortment of 5 small HEX wrenches .... Fits set screws No. 4 to ¼" and cap screws No. 2 to 8.	$0.40
†3581	Assortment of 4 medium HEX wrenches.... Fits set screws ¼" to $\frac{7}{16}$" and cap screws No. 8 to $\frac{5}{16}$".	$0.40
†3584	Assortment of 4 small SPLINE wrenches.. Fits all set screws up to ¼" and cap screws up to No. 8.	$0.40

WALSCO VACUUM CLEANER REPLACEMENT BELTS



An "additional profit "item" for every radio service shop. Most radio customers are potential prospects for vacuum cleaner belt replacements. Always carry a set with you when making service calls and have the attractive WALSCO cards displayed in your store and window.

WALSCO vacuum cleaner belts come to you in the popular sizes for all standard brands of vacuum cleaners. They are made of the finest materials.

Cat. No.	Approx. I.D.	No. Belts per pkg.	Used on Models	List Price per pkg.
2751	3¾"	1	Hoover Nos. 102, 105, 541, 543........	$0.40
2752	3⅝"	1	Hoover Nos. 25, 26, 150, 305, 543, 575, 700, 725, 750, 800, 825........	0.40
2753	3 "	1	Hoover for all late models	0.40
2756	2⅛"	2	Eureka G; Kenmore Std.; GE late model; Premiere Nos. 20, 21, 22, 30, 40, 42, 154, 155; Hamilton Beach; Universal	0.40
2757	2⅜"	2	Premiere Nos. 37, 41, 47, 48, 53, 99, 109, 162; GE older models; Apex; Royal; Westinghouse; Eureka M & R.	0.40
2758	3¾"	1	Kenmore Delux; Premiere Grand and Model 107; Hoover 425............	0.40

BELTS ARE PUT UP ON DISPLAY CARDS AS FOLLOWS:

†2750-D—Display Card of popular Hoover Belts holding 5 each No. 2751 and No. 2752 and 10 No. 2753.
List Price $8.00

†2755-D—Display Card holding 5 packages each No. 2756 and No. 2758 and 10 packages No. 2757........... $8.00

WALSCO PHONOGRAPH PICKUP SET SCREWS

Precision knurled head steel screws, antique bronze finished for all popular pickups and recording heads. The assortment contains several each of the popular numbers and one each of the other sizes.

Cat. No.	Approx. No. Units per pkg.	Used On	Size	List Price
†2570	10	Assorted	7 diff. sizes	$0.40
*2571	10	Shure and others	2-56 x ⅝"	0.40
*2572	10	Most Astatic & Webster	2-64 x ¾"	0.40
*2573	10	Astatic B1, 2, 3, 4, some Stromberg- Carlson & Webster, etc.	1-56 x ¾"	0.40
*2576	6	Most RCA, etc.	1-72 x 1"	0.40

WALSCO SPEAKER ADJUSTMENT SHIMS

- MADE OF MONEL METAL
- NON-MAGNETIC
- STRONG AND FLEXIBLE, SPRING TEMPER
- CORROSION-RESISTANT

4 Shims of each of 4 sizes supplied in handy plastic case with screw top and pencil clip. As easy to carry as a fountain pen. Color marked for easy identification. Sizes supplied—.004", .006", .008" and .010". Indispensable to the serviceman in adjusting voice coils of speakers.

Cat. No.	List Price
†2550—16 Assorted Shims—4 of each size............	$0.40

WALSCO RUBBER FEET

Made of oil resistant synthetic rubber. Wood screws are supplied with all screw-type feet but machine or selftapping screws may be used. The rubber tack feet have steel tack securely molded in.

Cat. No.	List Price
†3350—12 Assorted rubber feet (screw type)......	$0.40

SINGLE SIZES SCREW TYPE FEET

Cat. No.	Diam.	Height	No. of units per pkg.	List Price per pkg.
*3351	⅜"	$\frac{7}{32}$	12	$0.40
*3352	½"	$\frac{9}{32}$	10	0.40
*3353	¾"	⅜	8	0.40

†3355—Assorted Rubber tack feet $0.40
†3495—50 Felt Feet (Discs—¾" Diam. $\frac{1}{32}$" Thick) 0.40

WALSCO GLASS JAR

WALSCO
ELECTRONIC
and
ELECTRICAL
HARDWARE

Empty glass jar—2 oz. content—with attractive decal and wide mouth screw top. Handy for storing small hardware items to keep them clean and rust-free.

Cat. No.	List Price
999	$0.12

(Standard Package . . . 36)

WALSCO *products*
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

STAPLE DRIVER — CHECK-O-VOLT — ALIGNMENT TOOLS —

WALSCO STAPLE DRIVER

PATENT No. 2285384

PAYS FOR ITSELF ON THE FIRST JOB

WALSCO
STAPLE DRIVER

- **TRIGGER CONTROL FEED**
- **CAN BE REGULATED FOR DRIVING DEPTH**
- **STAPLES COLORED TO MATCH WIRE**
- **RELOADS IN 10 SECONDS**
- **FOR USE BY RADIOMEN, SOUNDMEN, TELEPHONE AND BURGLAR ALARM COMPANIES, ELECTRICIANS AND FOR GENERAL STAPLING.**

A real time and trouble-saving tool for stapling wire into corners, into moldings, behind pipes, and on to hard surfaces, such as plaster, cement, and even soft concrete. For Radio, Public Address, and Inter-Communication installation and service. Useful also for general stapling, sign-posting, refrigeration gasket work, etc. The WALSCO Staple driver has met the test in the field and has proved itself a real aid to maintenance men. This handy device automatically positions the staple—then one or two strokes with the palm of the hand and the staple is driven home neatly, quickly, and accurately. A small trigger regulates the feeding mechanism to enable the operator to strike the handle on hard surfaces as often as necessary before a second staple leaves the magazine. Staples come in strips, can be loaded in a few seconds and are large enough for cables and wires up to ¼″ diameter. An adjustable regulator controls the depth to which the staple is driven into surface, thus preventing damage to the insulation of the wire.

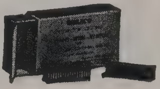
Cat. No. 500 .... **List Price $7.10**
Dealers Net 4.26

No. 507—Rubber Cap—Fits over the head of the stapler. Makes it easier to drive staples into hard surfaces.................. **List Price $0.37**
Dealers Net 0.22

Carbon Steel Staples—Made of tool steel. Come in strips and are especially made for the WALSCO Staple Driver.

No. 550—250 WALSCO Staples
List Price $0.55
Dealers Net 0.33

No. 552—1,000 WALSCO Staples
List Price $2.12
Dealers Net 1.27



No. 553—5,000 WALSCO Staples
List Price $9.58
Dealers Net 5.75

COLORS: PLAIN, BROWN, IVORY.

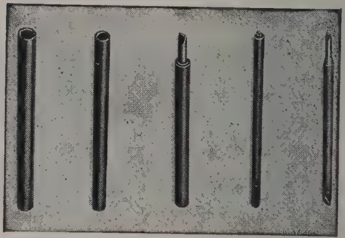
PLEASE SPECIFY COLOR WHEN ORDERING.

WALSCO CHECK-O-VOLT

This modernly designed, streamlined tester indicates voltages from 90 to 500 volts AC and DC. Quickly locates trouble in electric and electronic circuits. Can be used for testing lines and polarity, checking blown fuses, locating breaks in wires, testing transformers, tubes, switches, cords and innumerable other items. Indispensable to anyone working with electrical and electronic devices.

Cat. No.—702 .... **List Price $0.85**
(20 units per Display Card—Catalog No. 702-D)

WALSCO ALIGNMENT TOOLS



These tools have won wide acceptance among radio men everywhere. They are precision made of the highest quality materials. Indispensable for work bench or tool kit. With a set of these tools the radio technician has the proper instruments to align almost any set.

Most of the tools are available either in sturdy bone fibre or in special Polystyrene plastic. The fibre tools are tougher than the plastic tools and are recommended for alignment of broadcast and intermediate band circuits, whereas the Polystyrene tools are for adjustments on high and ultra-high frequency circuits. Polystyrene is recognized by the radio profession as one of the finest low-loss insulating materials available today. Definitely needed on FM and television sets.

WALSCO ¼" HEX I. D. NEUTRALIZING WRENCH.

This tool is very durable and can be cut if corners become rounded from wear as the internal hex shape extends through the entire length. Overall length—7½″, O. D.—⅜″ round.

Cat. No.	Picture No.	List Price
§2500—Bone Fibre Wrench	2	$0.40
§2503—Polystyrene Wrench	2	0.40

WALSCO 5/16" HEX I. D. NEUTRALIZING WRENCH.

Same construction as ¼″ wrench listed above. Overall length—7½″, O. D.—$\frac{7}{32}$″.

Cat. No.	Picture No.	List Price
§2505—Bone Fibre Wrench	1	$0.40
§2508—Polystyrene Wrench	1	0.40

WALSCO COMBINATION FIBRE HEX WRENCH AND SCREW DRIVER.

Standard ¼″ hex wrench combined with a fibre screw driver to fill the need for a handy combination tool in factories and radio repair shops.

Cat. No.	Picture No.	List Price
°2510—Combination Tool	3	$0.40

WALSCO DUPLEX ALIGNMENT SCREWDRIVER.

Precision made tool accurately ground or molded to fit large or small screws. Width of blade on large end—¼″; on small end—⅛″. Thickness to conform to standard slot dimensions. Overall length of tool—6″.

Cat. No.	Picture No.	List Price
°2520—Fibre Screwdriver	5	$0.40
°2521—Polystyrene Screwdriver	5	0.40

WALSCO METAL TIP ALIGNMENT SCREWDRIVER.

Made with Polystyrene handle in which a small metal screwdriver blade is rigidly inserted, thereby making the effect of inductance negligible. This tool combines the low capacity effect of an alignment tool with the mechanical strength of a metal screwdriver. Diameter—¼″; overall length—6″.

Cat. No.	Picture No.	List Price
°2525—Alignment Screwdriver	4	$0.40

WALSCO TUNING WAND.

For checking alignment of tuned circuits without disturbing the setting of the trimmer condensers. Made from Polystyrene rod with inductance increasing powdered iron core on one end and inductance reducing brass piece on opposite end. Overall length—6″.

Cat. No.	List Price
°2540—Tuning Wand	$0.40

(Picture not shown, but similar to Picture #1.)

WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

CEMENTS—SOLVENTS COIL DOPE

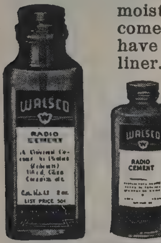
WALSCO RADIO CEMENT

Vibration-Proof **Heat Resisting**
Unsurpassed Adhesive Power

WALSCO
RADIO CEMENT

An elastic cement especially made for the manufacture and repairing of speakers and for general radio work. Unaffected by vibration, dries fast and will never become brittle with age. ● The latest developments in synthetic resins and gums are incorporated in Walsco Radio Cement.

● In addition to its use for speaker repair, Walsco Radio Cement can be used for repairing cabinets, loose tube bases, grid caps, etc. It will provide a strong bond between almost any materials and is not affected by high temperature, moisture or oil. All bottles come with built-in brush and have an evaporation-proof cap liner.



Cat. No.	List Price
51—1¾ oz. tube	$0.45
52—2 oz. bottle	.55
54—4 oz. bottle	.95
58—8 oz. bottle	1.60
59—1 pt. bottle	3.00
50-GL—1 gal. can	12.50

Also available in 5, 15, 50 gal. containers.

WALSCO PLASTIC CEMENT

(Formerly "Multi-Use Cement")

WALSCO
PLASTIC CEMENT

Especially made to repair broken plastic cabinet knobs, grid caps, etc. Waterproof, heat-resisting, and heavier in substance than Walsco Radio Cement. Unexcelled as "Household Cement," "Model Airplane Cement," etc. Cements Plastics, Metal, Wood, Glass, etc. Dries fast and forms an exceedingly strong bond.

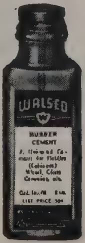
Cat. No.	List Price
41—1¾ oz. tube	$0.45
42—2 oz. bottle	.55
44—4 oz. bottle	.95
48—8 oz. bottle	1.60

WALSCO VINYLITE CEMENT

This adhesive uses the new Vinylite plastic resin as a base and has remarkable properties such as high tackiness, extreme flexibility when dry and excellent adhesion to metals, plastics, leather, cardboard and paper. Fast drying. Also an excellent thermoplastic cement for joining nonporous materials (e.g. metals). In this case the cement is applied to both surfaces and dried after which the parts are pressed together and bond established by heating with flatiron, soldering iron, etc.

Cat. No.	List Price
25—2 oz. bottle	$0.70

WALSCO RUBBER CEMENT



For cementing rubber parts to metal or wood, rubber mounts to chassis, rubber cushions to lids, etc.—gives an especially strong bond. A Radio Serviceman should always have a bottle on his work bench.

Cat. No.	List Price
112—2 oz. bottle	$0.55
114—4 oz. bottle	.95

WALSCO FABRIC CEMENT

Does Not Penetrate the Fabric

WALSCO
FABRIC CEMENT

Especially made for attaching grille cloth, turntable felt, covering of portable radios, etc. Dries very fast; is unaffected by moisture, sunlight, and high temperature and does not become brittle. Indispensable to Radio Dealers and Servicemen—eliminates the danger of spoiling the outside of a grille cloth, turntable felt, or other fabrics, since it does not penetrate the material.

Cat. No.	List Price
21—1¾ oz tube	$0.45

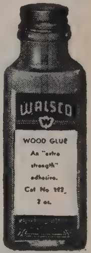
WALSCOBOND

WALSCO
WALSCOBOND

A truly universal cement. Fast drying and easy to use. Bonds practically every material except rubber. Excellent as model airplane and general household cement. Has exceptional adhesiveness and strength. Not affected by heat and cold. Water, oil- and alcohol-proof.

Cat. No.	List Price
225—2 oz. bottle	$0.55
226—4 oz. bottle	.90

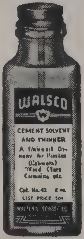
WALSCO WOOD GLUE



An "extra strength" adhesive incorporating the latest chemical developments and resins. A "must" item for every repair shop. Bottle caps have non-sticking rubber gaskets.

Cat. No.	List Price
222—2 oz. bottle	$0.50
224—4 oz. bottle	.90

WALSCO CEMENT SOLVENT AND THINNER

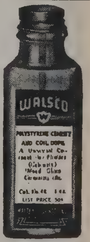


This Cement-Solvent is used for loosening cement on speaker cones, voice coils, and other parts where cement has been applied previously. Recommended also for thinning Walsco Radio Cement, Plastic Cement, and Fabric Cement.

Cat. No.	List Price
62—2 oz. bottle	$0.40
64—4 oz. bottle	.58
68—8 oz. bottle	.80
69—1 pt. bottle	1.30
60-32—1 qt. can	2.00

WALSCO POLYSTYRENE CEMENT AND COIL DOPE

For Bonding Polystyrene Parts and Coil Coating in Radio and High Frequency Work



A Polystyrene solution with a high solid content. Can be brushed on or parts can be dipped. Renders coils or other parts moisture-proof. Holds windings firmly in place due to a certain amount of shrinkage upon drying. Electrical losses due to coating with this cement are negligible—even if used for high or ultra-high frequency work.

Cat. No.	List Price
154—4 oz. bottle	$0.70
158—8 oz. bottle	1.25
159—1 pt. bottle	2.25

WALSCO Polystyrene Solvent and Thinner

This thinner is especially designed for use with Walsco Polystyrene Cement where regular thinner cannot be used.

Cat. No.	List Price
168 —8 oz. bottle	$0.75
160-32—1 qt. can	2.00

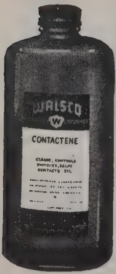
CLEANERS — LUBRICANTS "CONTACTENE"—"NO SLIP"

WALSCOLUB - B

A recently-developed chemical compound in thin paste form. WALSCOLUB - B counteracts oxidation, prevents corrosion of metals and eliminates noise on band switches, push buttons, tuners, volume and other controls, as well as air-exposed electrical contacts, attenuators, etc. WALSCOLUB-B will not change electrical properties. It is superior to any graphite compound or liquid dope for this purpose. Ideal on metal surfaces to prevent rust. Servicemen: Its use will save you both time and money. Once you have tried it, you will never be without it! Large, handy applicator tube.

Available also in 1-lb., 5-lb. and 25-lb. containers for industrial users. Prices on request.

Cat. No.	List Price
22—1¾ oz. tube	$0.50



WALSCO CONTACTENE

New Improved "Contact Cleaning Fluid"

- Cleans contacts and controls.
- Keeps controls and contacts noise-free.
- Lubricates and reduces friction.

A fast-evaporating combination of special solvents affording greatest cleaning power without affecting insulating materials. Contains liquified Walscolub B, which after evaporation of the solvents, forms a thin film that protects the contacts. Contactene is highly recommended for treating volume controls, band switches, tuning condensers, springs, etc., to eliminate noisy operation. Bottles come with built-in brushes.

Cat. No.	List Price
82—2 oz. bottle	$0.40
84—4 oz. bottle	.55
88—8 oz. bottle	.85
89—1 pt. bottle	1.65

WALSCO Motor and Gear Lubricant

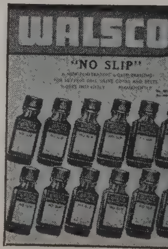
The latest development in chemicals for lubricating purposes. Much superior to greases because of its higher lubricating and lasting qualities. Its viscosity does not change with temperature. Used on phonograph motors, record changers, and all appliances that require a grease-type lubricant. In large handy "applicator" tube.

Cat. No.	List Price
23—1¾ oz. tube	$0.45

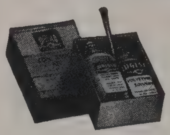
WALSCO "NO-SLIP"

A newly developed chemical composition that greatly increases the friction of pulleys, cords or belts. Contracts, "sets" and shrinks the fibres at the same time. Stops instantly any slippage of Dial Belts, Dial Cords, etc. Easily applied with brush. Indispensable to any radio man.

Cat. No.	List Price
401—½ oz. bottle	$0.35
402—2 oz. bottle	.75



WALSCO CEMENT AND SOLVENT KIT

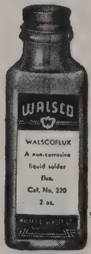


A handy kit, easy to carry in the tool box. Contains one 2-oz. bottle of Radio Cement and one 1-oz. bottle of Cement-Solvent-and-Thinner. One brush is built in the cement bottle cap. Extra brush is included. The most economical package for the servicemen and amateurs who do only occasional speaker repair work.

Cat. No. K-19 .... **List Price $0.75**

WALSCO COIL DOPE KIT

A handy kit containing one 2-oz. bottle of Polystyrene Cement and Coil Dope, and one 1-oz. bottle of Special Thinner. Two brushes are included. Polystyrene Cement is non-hygroscopic; and due to its low-loss factor, ideal for use on high frequency work. It insures the highest stability in receivers and other electronic devices. It does not affect the electrical characteristics of coil winding. This kit is made for amateurs and experimenters who use only small quantities. **Cat. No. K-21**........ **List Price $0.75**



WALSCOFLUX

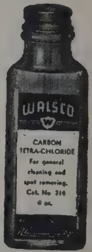
A non-corrosive flux. Quick acting, easy to apply. May be safely used for all electrical, radio and telephone work. Helps to keep the iron tip clean.

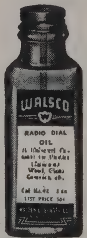
Cat. No.	List Price
220—2 oz. bottle with applicator	$0.50

WALSCO CARBON TETRACHLORIDE

For general cleaning and spot removing. Dissolves dirt and grease instantly. May be used on most delicate parts. Chemically pure, rapid drying, non-explosive and non-inflammable. A safe cleaning fluid.

Cat. No.	List Price
214—4 oz. bottle	$0.80
219—16 oz. bottle	1.75





WALSCO RADIO DIAL OIL

A light-bodied lubricating oil for all electronic and electrical appliances — absolutely free of acids or gummy substances. Also recommended as a rust preventative for radio chassis, tools, machinery, etc.

Cat. No.	List Price
72—2 oz. bottle	$0.25
74—4 oz. bottle	.40

WALSCO "UNIKLEAN"

Contains "Trichlorethylene," one of the most effective cleaning agents. Instantly removes dirty spots and grease from cabinets, chassis, panels, etc., without damaging the finish. "Uniklean" is economical and effective. Be thrifty—buy pints or gallons.

Cat. No.	List Price
204—4 oz. bottle	$0.45
209—1 pt. bottle	1.20
200—1 gal. cans	4.75

WALSCO
UNIKLEAN

WALSCO *products*
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

SCRATCH REMOVERS, RECORD CLEANERS, POLISHES, PAINTS, LACQUERS

WALSCO SCRATCH REMOVING POLISH

"Makes Scratches Disappear"

A blend of polishing and staining ingredients. Removes scratches from cabinets, radios, furniture, etc., and polishes at the same time. Very easy to apply. Will not change shade of finish. Comes in two shades: "Dark" for walnut, mahogany, etc., "Light" for light maple, light oak, etc. Packaged in attractive counter display of 12 bottles for Radio Dealers and Servicemen. A sure-fire repeater for housewives.

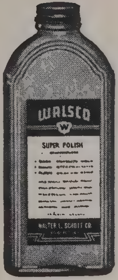
WALSCO
W
SCRATCH REMOVING POLISH

Cat. No. Dark	Cat. No. Light		List Price
414	434	4 oz. bottle	$0.35
416	438	8 oz. bottle	.50

WALSCO SUPER POLISH

"All the Name Implies"

Does two things: First, it removes any old polish, grease or dirt that may be on the cabinet or furniture. Second, it forms a hard, dry and durable film that will protect the object for a long time, giving it a "brand new" appearance. Requires very little rubbing. Indispensable for keeping stock sets in first-class condition. An extremely profitable retail sales item for the smart Dealer and Serviceman. Housewives who once try it will never be without it.



Cat. No.	List Price
412—4 oz. bottle	$0.35
418—8 oz. bottle	.50

WALSCO CRYSTALLIZING LACQUER

Easily applied to metal, wood, cardboard, etc.—does not require experience. No spraying equipment or baking oven necessary. Brushed on, will dry in about thirty minutes, leaving an absolutely professional finish. Identical to finish found on commercial chassis, panels, speakers and transformers. Walsco Lacquer Sealer, Cat. 142*, should be used as undercoat if this lacquer is to be applied on porous materials or over other finishes. **Available colors: Black, Green, Grey, Brown, Clear. Specify color when ordering.**

WALSCO
CRYSTALLIZING LACQUER

Cat. No.	List Price
122—2 oz. jar	$0.45
129—16 oz. can	2.50
*142—Sealer, 2 oz. jar	.40

WALSCO INSULATING VARNISH

Walsco "air-dry" varnish is fast-drying and produces excellent results when used on radio coils, transformers, solenoids, motors, and all electrical appliances. Withstands heat and is extremely resistant to acid, oil, and grease. It is non-corrosive and moisture-proof. An all-around clear insulating varnish.

WALSCO
INSULATING VARNISH

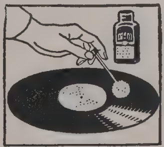
Cat. No.	List Price
192—2 oz. bottle	$0.40
193—1 pt. can	1.50
194—1 gal. can	9.00

WALSCO *Recordene*

Improves Tone • Renews and Prolongs the Life of Records and Recordings • Reduces Surface Noise and Wear

WALSCO Recordene
WALSCO
Recordene

A wonder, scientific product for improving and preserving records and recordings. Removes dirt, dust or grease from grooves, and leaves a clean, clear plastic film that reduces surface noise and greatly increases record life. A special wool felt dauber is attached to each bottle cap for easy application. Attractive display of a dozen bottles increases turn-over and profits from this fast-moving product. Perfectly safe for any recording except those made of Ethyl Cellulose.



Cat. No.	List Price
92—2 oz. bottle	$0.50
90—1 gal. can	7.00

WALSCO RECORD-EASE

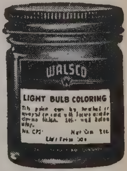
Recording—With the Greatest of Ease

Record-Ease should be applied to all recording and transcription blanks BEFORE the cutting. It makes the shavings "fluffy" as they pile up in the center of the record and thereby prevents interference with the cutting point. By decreasing cutting-point friction, Record-Ease greatly prolongs the life of cutting needles. Indispensable for commercial recordings, schools, police and court recordings, broadcasting stations and home recordings.

Cat. No.	List Price
95—2 oz. bottle	$0.65

WALSCO LIGHT BULB COLORING

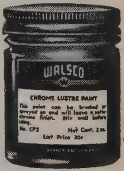
A transparent, heat and moisture-resisting dipping lacquer especially made for coloring bulbs such as used in radio dials, signal systems, auto dash lights, and fancy illumination. Big jars permit dipping of even larger bulbs.



Cat. No.	List Price
116 Red—2 oz. jar	$0.30
117 Blue—2 oz. jar	.30
118 Green—2 oz. jar	.30
119 Assorted—Kit of 3	.80

WALSCO CHROME-LUSTRE PAINT

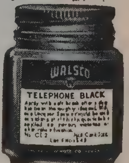
An aluminum paint which leaves a satin chrome finish. Can be brushed on or sprayed. Will not leave brush marks. Dries in about one hour. May be used indoors or outdoors—will adhere to practically everything. Unsurpassed for finishing P.A. equipment, outdoor speakers, chassis, etc.



Cat. No.	List Price
132—2 oz. jar	$0.40
139—16 oz. can	2.00

WALSCO SATIN FINISH LACQUER
(TELEPHONE)

Made for commercial and amateur use on cabinets, chassis, panels, meters, racks, etc. This "satin finish" lacquer dries very fast and produces the "original finish" of most standard telephone and communication equipment. It air dries. May be brushed or sprayed.



Cat. No. Black	Cat. No. Grey		List Price
172	182	2 oz. jar	$0.40
179	189	1 pt. can	2.25

WALSCO RADIO CABINET PATCHING OUTFIT

"The Most Popular Kit on the Market"

PLASTIC WOOD

A complete kit especially designed for radio men who have little experience in cabinet work. Over 95% of all cabinet-finish damages can be repaired with this kit. Contains sufficient material for approximately 120 repair jobs. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer and Super Polish. Also included in the kit are Alcohol (4 oz.), three Brushes, eight sheets of Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet describing how to repair various cabinet damages.

Cat. No.	List	Dealers Net
K-10—In sturdy box with hinged lid	$6.50	$3.90
K-10-W—In California redwood case	7.50	4.50

WALSCO RADIO CABINET REPAIR KIT

A very handy, compact and inexpensive kit that fills the requirements of many shops and stores. Especially useful for quick patching of damaged cabinets. Small brushes are built into the caps of all stain and enamel bottles. While this kit comprises items of the same high quality as those in the larger Walsco kits, it is designed primarily for the Dealer or Serviceman who has only occasional cabinet repairs; or it can be carried on the delivery truck for use of the outside man. The kit contains one bottle each of the following: Ivory Spirit Enamel—light, ½ oz.; Ivory Spirit Enamel—dark, ½ oz.; Lacquer Enamel—Dark Brown, ½ oz.; Spirit Stain—Walnut, ½ oz.; Super Polish, 4 oz.; French Varnish, 2 oz.; three sheets Garnet Finishing Paper; Steel Wool; and Polishing Cloth. An Instruction Booklet is enclosed, which explains simply how various cabinet or furniture damages can be repaired.

Cat. No.	List	Dealers Net
K-9	$3.00	$1.80

WALSCO STICK SHELLAC KIT

An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet Patching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The Walsco shellac rubbing fluid makes it possible to smooth the patch without any effort or skill. Kit includes: six colors Stick Shellac, Alcohol Lamp, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions.

Cat. No.	List	Dealers Net
K-11	$3.50	$2.10

WALSCO "SUPER-CHIEF REFINISHING KIT

A "Must" Item

This is the most complete kit of its kind on the market. Designed by Walsco for radio dealers. It contains everything which is needed to make an old radio look like new—all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

Spirit Stain Dark Walnut
Spirit Stain Black
Spirit Stain Mahogany
Spirit Stain Maple
Super Polish
Spirit Stain Light Walnut
Blending Stain Light Brown
Blending Stain Medium Brown
Lacquer Enamel Light Ivory
Lacquer Enamel Dark Brown
Lacquer Enamel Dark Ivory
Shellac Rubbing Fluid
Stick Shellac (12 shades)
Scratch Removing Polish (Dark)
Scratch Removing Polish (Light)
Scratch Remover
Patching Lacquer
Alcohol Lamp
Alcohol
Screw Driver
Spatula
Felt
Polishing Cloth
Polishing Pad
Garnet Paper (8 sheets)
Instruction Book
Brushes (3 different sizes)

Cat. No.	List	Dealers Net
K-26	$18.50	$11.10

WALSCO FURNITURE REFINISHING KIT

Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly and without previous experience in cabinet refinishing. An indispensable money-making item for any Serviceman, Radio, Furniture-and-Piano Dealer, which will pay for itself on the first job. It contains: Super Polish, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, three brushes and eight sheets Garnet Finishing Paper. Complete Instruction Book is enclosed. Kit furnished in California Redwood case with a heavy hinged top. Built to last for many years.

Cat. No.	List	Dealers Net
K-15	$8.00	$4.80

A WORD ABOUT WALSCO REFINISHING AND REPAIR KITS

These are the only kits on the market with all lacquers, stains and enamels specially prepared, ready mixed and soluble in alcohol. They have four outstanding advantages.

1. Drying time is reduced to approximately one-half.
2. The original finish of the cabinet cannot be lifted, as in the case of improperly applied ordinary lacquers.
3. An unsatisfactory patch can be washed off and the work started again.
4. No special thinners are required. Thinning, washing out brushes, etc., can be done with alcohol readily obtainable anywhere.

WALSCO *products*
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

INSULATING TUBING
FLOCK FINISH AND KITS

WALSCO FLOCK FINISH SPRAY OUTFIT

A beautiful felt flock finish can be obtained without any skill by using this new kit containing the patented WALSCO Felt Flock Spray Gun. Any novice can turn out a professional appearing job. The finish is velvet-like, colorful, durable and inexpensive. For use on radio cabinets, phonograph turntables, speaker grilles, phonograph record cases, instrument boxes and for hundreds of other novelty items and hobby uses. Artistic patterns including initials and designs can easily be obtained by using stencils, masking tape or paper patterns. The kit contains spray gun, ivory and brown felt flock, undercoats to match, thinner, brush, instructions.

Cat. No.	List Price	Dealer's Net
K-50	$10.75	$6.45

(Standard Package..............3)

Walsco Felt Flock Spray Gun

Same as contained in the Felt Flock Kit described above. This gun is the result of very careful design and experimentation. Expels the Flock evenly distributed and with considerable force. Thereby the Flock is embedded firmly in the undercoat, resulting in a very durable and uniform finish.

Cat. No.	List Price
455	$3.95

(Standard Package . . . 6)

WALSCO FELT FLOCK MATERIALS

FELT FLOCK

Made of rayon fibers precision cut to uniform lengths to assure an even nap. Bright and attractive colors. Packed in 3¼ oz. containers. (1 oz. covers approximately 1½ to 2 sq. ft.)

Cat. No.	Color	List Price	Cat. No.	Color	List Price
470	Brown	$1.65	474	Red	$1.65
471	Ivory	1.65	475	Green	1.65
472	Blue	1.65	476	Silver	1.65
473	Taupe	1.65	477	White	1.65

(Standard Package .... 6)

Also available by the pound at $5.50 List—Specify color when ordering.

FELT FLOCK UNDERCOAT

This undercoat provides a color base and an excellent adhesive for the felt flock. It is a special type of paint and is to be applied in the same manner as regular paint or enamel. Packed in half pint cans. (This covers about 10 sq. ft. on non-porous surfaces.)

Cat. No.	Color	List Price	Cat. No.	Color	List Price
480	Brown	$1.20	484	Red	$1.20
481	Ivory	1.20	485	Green	1.20
482	Blue	1.20	486	White & Silver	1.20
483	Taupe	1.20			

(Standard Package ....6)

Also available in gallons at $12.00 List—Specify color when ordering.

Walsco Thinner for Felt Flock Undercoat

May be used for thinning of undercoat, if this becomes necessary, and for washing out the brush.

Cat. No.	List Price
468—8 oz. can	$0.55

(Standard Package . . . 6)

WALSCO INSULATING TUBING (SPAGHETTI)

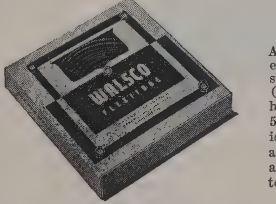
WALSCO offers two of the finest types of insulating tubing for the electrical and electronic field. The use of "RAYOFLEX" is advantageous wherever heat is present at the time of application or during operation (e.g. where soldering is performed near the tubing or where heat is generated by resistors, etc) "FLEXITUBE" is superior in all electric and many mechanical respects but is not recommended for use where temperatures exceed 185°F (85°C). This tubing is impervious to water, grease, alcohol, hydro-carbons, alkalis and acids.

WALSCO RAYOFLEX

A new type spaghetti tubing" made of heavily lacquered rayon braid. Much more flexible than the conventional varnished tubing, good dielectric strength (4,000 to 5,000 volts). The materials used in the manufacture of this tubing are the latest developments in plastic lacquers and the new rayon braid gives RAYOFLEX a smooth and tough surface inside and out. Meets ASTM and VTA Specifications #B2. Sizes up to #6 are packed in handy boxes.

Cat. No.	Size B.&S. Gauge No.	Approx. I.D. in.	MM	Length per Package	List Price
630	18	.042	1	10 ft.	$0.80
631	15	.059	1.5	10 ft.	0.80
632	12	.085	2	8 ft.	0.80
633	9	.118	3	5 ft.	0.80
634	6	.166	4	5 ft.	0.80
635	2	¼"	6.5	30 in.	0.45
636	0	5/16"	8.5	30 in.	0.55
637	2/0	⅜"	9.5	30 in.	0.65
638	4/0	½"	13	30 in.	0.95

Available in black, blue, red, yellow. Please specify color when ordering.



WALSCO FLEXITUBE

A high grade synthetic tubing for electronic and electrical insulation. Extremely flexible and resistant to abrasion. High dielectric strength (average 12,000 volt.) Resistant to cold or heat from minus 65° F to plus 185°F. (Minus 54°C to 85°C). This new synthetic tubing is ideally suited for insulation purposes in radio and communication assemblies. Attractively packaged in individual boxes. Easy to store. Usable to the last inch.

No. Cat.	Gauge No. Size B.&S.	Approx. I.D. in.	MM	Package Length per	Price List
600	18	.042	1	20 ft.	$0.80
601	16	.053	1.4	20 ft.	0.80
602	14	.066	1.6	20 ft.	0.80
603	12	.085	2	20 ft.	0.80
604	10	.106	2.7	15 ft.	0.80
605	8	.133	3.5	15 ft.	0.80
606	6	.166	4	10 ft.	0.80
607	4	.208	5	10 ft.	0.80
608	2	.263	6.5	10 ft.	0.80

Available in black, green, red, clear. Please specify color when ordering.

HANDY ASSORTMENTS OF RAYOFLEX

Cat. No.	List Price
640—15 ft. of Assorted sizes and colors, from size 18 to 9	$0.90
640-D—36 Assortments of #640 in Display Box	32.40
641—8 ft. of Assorted sizes and colors, from size 9 to ½"	0.90
641-D—24 Assortments of #641 in Display Box	21.60

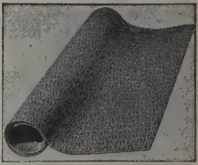
HANDY ASSORTMENTS OF FLEXITUBE

Cat. No.	List Price
620—25 ft. of assorted sizes and colors, from size 18 to 10	$0.90
620-D—36 assortments of No. 620 in one display box	32.40
621—15 ft. of assorted sizes and colors, from size 10 to 2	0.90
621-D—24 assortments of No. 621 in one display box	21.60

WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

GRILLE CLOTH AND SCREENING — DIAL BELTS

WALSCO FLOCKED GRILLE SCREENING

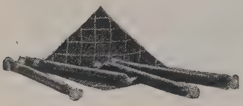


This screening may be used on radio sets, intercommunication systems, speakers, coin-operated phonographs, automobile radios, etc. Exceptionally useful as a protective grill where ordinary cloth would not have sufficient strength. Will not tear, split or fray. Made of heavily galvanized wire mesh and may safely be used outdoors.
Flocked on both sides, this WALSCO screening is exceptionally attractive. The modern style and patterns will improve the appearance of any speaker unit. Available in 4 different colors and 3 different sizes.

Cat. No.	Size (inches)	Color	List Price
374-1	8 x 11	Plain Brown	$0.45
374-2	8 x 11	Brown Patterned	0.45
374-3	8 x 11	Plain Ivory	0.45
374-4	8 x 11	Ivory Patterned	0.45
376-1	18 x 24	Plain Brown	1.35
376-2	18 x 24	Brown Patterned	1.80
376-3	18 x 24	Plain Ivory	1.35
376-4	18 x 24	Ivory Patterned	1.80
378-1	36 x 36	Plain Brown	4.00
378-2	36 x 36	Brown Patterned	5.00
378-3	36 x 36	Plain Ivory	4.00
378-4	36 x 36	Ivory Patterned	5.00

(Standard Package . . . 12 one pattern or assorted). Special sizes can be furnished.

WALSCO GRILLE CLOTH



A high quality cloth, with perfect acoustic properties and beautiful patterns that harmonize with most sets. For use on trade-ins, public address and small and large radio speakers. Use non-penetrating Walsco Fabric Cement (Cat. No. 21) for easy and quick installation. Available in three popular sizes.

Cat. No.	Size	List Price
360	12″ x 12″	$0.85
361	18″ x 24″	1.80
362	50″ wide, per yard	7.00

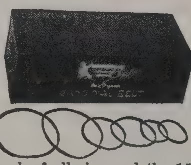
WALSCO DIAL DRIVE BELTS

- Precision Made
- Smooth and Uniform
- No Stretch—No Slip
- Exceptionally Strong

WALSCO BELTS are the result of exhaustive laboratory tests. Available for any type of radio set. Specially constructed to reduce to a minimum and to give long lasting, trouble-free service. Treated for maximum friction and to provide accurate tuning. WALSCO Dial Belts are uniformly thick throughout the entire length and are precision made and guaranteed to fit perfectly.

List Price—all sizes .... $0.25 ☞

WALSCO DIAL BELT KITS

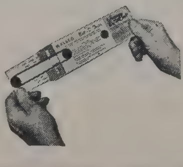


DIAL BELT KITS are all the handy drawer type. These kits keep belts clean and dust free and permit ready selection. The 25 and 50 Belt Kits are attractively leatherette-covered while the 100 and 150 Belt Kits are made of heavy-weight steel with baked enamel finish. The cabinets are free. Complete instructions, Comparison Chart, Belt Size Finder and Belt-D-Tector are also included at no charge. The 25 and 50 Belt Kits contain the most popular numbers. The 100 Belt Kit contains one each of all sizes and the 150 Belt Kit contains a complete selection plus extra numbers of the more popular sizes.

Cat. No.		List Price
K-250	25 Assorted Belts	$ 6.25
K-260	50 Assorted Belts	12.50
K-270	100 Assorted Belts	25.00
K-280	150 Assorted Belts	37.50

(Standard Package—all Kits . . . 3)

WALSCO BELT SIZE FINDER is a unique device to actually measure the length around the dial pulleys, thereby providing the most accurate means for determining the proper belt lengths. Also contains a complete reference chart for lengths, circumferences and catalog numbers of all belts plus a listing of all popular radio sets by make and model numbers, showing the required replacement belts. Free at all radio parts jobbers. Another original WALSCO Service.



WALSCO BELT-D-TECTOR works like a slide rule. Gives at a glance the exact part number and specification of any belt quickly and accurately. A most original and valuable aid for the radioman. Furnished free with all belt assortments or in exchange for 50 coupons, one of which is included with each belt.

WALSCO BELT SPECIFICATIONS
Listed in Order of Belt Length

Circumference Around Pulleys	Cut Length	Walsco Belt No.
6-32/32″	6-29/32″	1101
6-55/64″	7-3/64″	1161
6-57/64″	7-5/64″	1102
6-15/16″	7-1/8″	1158
7-1/64″	7-13/64″	1157
7-1/4″	7-7/16″	1106
7-9/32″	7-15/32″	1156
7-13/32″	7-19/32″	1177
7-15/32″	7-21/32″	1103
7-1/2″	7-11/16″	1105
7-35/64″	7-23/32″	1155
7-11/16″	7-7/8″	1107
7-3/4″	7-15/16″	1174
7-15/16″	8-1/8″	1111
8-1/64″	8-13/64″	1104
8-1/32″	8-7/32″	1159
8-3/32″	8-9/32″	1113
8-3/16″	8-3/8″	1172
8-13/64″	8-25/64″	1162
8-15/64″	8-27/64″	1114
8-25/64″	8-37/64″	1110
8-1/2″	8-11/16″	1109
8-39/64″	8-51/64″	1153
8-21/32″	8-27/32″	1108
8-43/64″	8-55/64″	1112
8-11/16″	8-7/8″	1160
8-13/16″	9″	1167
9-1/16″	9-1/4″	1117
9-13/64″	9-25/64″	1115
9-19/64″	9-31/64″	1163
9-5/16″	9-1/2″	1116
9-17/32″	9-23/32″	1119
9-7/8″	10-1/16″	1123
9-59/64″	10-7/64″	1127
9-61/64″	10-9/64″	1126
10-1/4″	10-7/16″	1164
10-17/64″	10-29/64″	1124
10-19/64″	10-31/64″	1128
10-23/64″	10-35/64″	1118
10-3/8″	10-9/16″	1122
10-25/64″	10-37/64″	1125
10-1/2″	10-11/16″	1152
10-41/64″	10-53/64″	1129
10-11/16″	10-7/8″	1121
10-45/64″	10-57/64″	1120
10-27/32″	11-1/32″	1180
10-61/64″	11-9/64″	1133
10-31/32″	11-5/32″	1132
11″	11-3/16″	1135
11-5/64″	11-17/64″	1130
11-9/64″	11-21/64″	1131
11-5/32″	11-15/32″	1137
11-3/16″	11-3/8″	1171
11-9/32″x5/16″	11-15/32x5/16	1131W
11-3/8″	11-9/16″	1134
11-25/64″	11-37/64″	1136
11-7/16″	11-5/8″	1173
11-21/32″	11-27/32″	1194
11-3/4″	11-15/16″	1141
11-13/16″	12″	1143
11-57/64″	12-5/64″	1138
12-1/32″	12-7/32″	1154
12-3/32″	12-1/4″	1142
12-7/32″	12-13/32″	1140
straight belt	12-7/16″-str.belt	1193
12-9/32″	12-15/32″	1139
12-15/32″	12-21/32″	1144
12-1/2″	12-11/16″	1178
12-39/64″	12-51/64″	1145
12-13/16″	13″	1168
13-3/16″	13-3/8″	1146
14-7/32″	14-13/32″	1186
14-27/64″	14-39/64″	1147
14-33/64″	14-3/4″	1148
14-57/64″	15-5/64″	1151
15-1/64″	15-13/64″	1149
15-17/64″	15-29/64″	1187
15-7/16″	15-5/8″	1183
15-13/16″	16″	1182
straight belt	16″ - str. belt	1192
15-61/64″	16-9/64″	1150
16-19/64″	16-31/64″	1170
16-27/64″	16-39/64″	1184
16-15/16″	17-1/8″	1185
17-1/16″	17-1/4″	1165
17-13/32″	17-19/32″	1169
17-37/64″	17-49/64″	1179
17-5/8″	17-13/16″	1190
18-1/2″	18-11/16″	1189
18-9/16″	18-3/4″	1181
19-7/16″	19-5/8″	1166
19-47/64″	[illegible]	[illegible]
21-5/16″	21-1/2″	1175
22-35/64″	22-47/64″	1176
22-19/64″	22-61/64″	1191

METHOD OF DETERMINING REQUIRED BELT LENGTHS

If the WALSCO BELT SIZE FINDER is not available to determine the proper length of replacement belt required, proceeed as follows: Take a thin thread and place it around pulleys. The stretched out length of this thread equals "the circumference around pulleys." If the old belt is available, cut open and measure the "cut length." Select proper WALSCO belt from above table.

DIAL CABLES AND CORDS — REPLACEMENT CRYSTALS

WALSCO DIAL CABLES AND CORDS

WALSCO Dial Cables and Cords are manufactured to meet the most rigid standards of the Government, Radio Industry and Engineering Laboratories. The finest raw materials are used and production is controlled to supply a uniform product with an absolute minimum stretch factor. All standard Cords are made with **NYLON** braid, known to have the highest abrasion resistance. These selected materials, plus special chemical treatment after fabrication, make WALSCO Cords the finest on the market. WALSCO Dial Cords are used by leading manufacturers as a standard component.

W
WALSCO
RADIO DIAL
DRIVE CABLES

HEAVY CORD—Diameter .062″—Same as used on many Philco and Majestic sets. Very durable, and treated to prevent slipping..

No. 33	25 ft.	**List Price $1.42**
No. 33-1C	100 ft.	**List Price 4.60**

BRONZE CABLE—16-Strand Braided—Diameter .039″—Breaking Strength 50 lbs.—A braided cable with good flexibility and abrasion resistance. "Fiber-glass" is used as core material and the braid is constructed of special hard Cadmium bronze. Does not unravel.

No. 31	25 ft.	**List Price $0.93**
No. 31-1C	100 ft.	**List Price 3.45**
No. 31-5C	500 ft.	**List Price 14.78**

PHOSPHOR BRONZE CABLE—42-Strand—Diameter .040″—Breaking Strength 60 lbs.—A very flexible metal cable constructed of 42 strands of hard Phosphor bronze over a "Fiber-glass" core. Extremely durable. Used for replacement of dial cables and many special applications where a strong, stranded cable is required.

No. 30	25 ft.	**List Price $1.31**
No. 30-1C	100 ft.	**List Price 4.65**
No. 30-5C	500 ft.	**List Price 20.26**

SPECIAL THIN BRONZE CABLE—Diameter .022″—An extra-thin cable for dial drives, flexible connections, pigtails, and many other applications—wherever a thin, but strong cable is required.

No. 32	25 ft.	**List Price $0.93**
No. 32-1C	100 ft.	**List Price 3.45**
No. 32-5C	500 ft.	**List Price 14.78**

The following cords cover over 80% of the replacement demand. With one spool of each kind on hand, the serviceman has the proper size for practically any set manufactured since 1934. Constructed with "Fiber-glass" or linen core and "pre-stretched," these are the most efficient cords available. The braided sleeves are made of Nylon.

Cat. No.	Diam.	Breaking Strength	LIST PRICES Feet Per Spool 25	100	500
		"SPECIAL THIN"			
35	.025″	30 lbs.	$0.90		
35-1C	.025″	30 lbs.		$2.85	
35-5C	.025″	30 lbs.			$10.95
		STANDARD			
39	.031″	32 lbs.	$1.10		
39-1C	.031″	32 lbs.		$3.50	
39-5C	.031″	32 lbs.			$13.14
		MEDIUM			
34	.042″	35 lbs.	$1.26		
34-1C	.042″	35 lbs.		$4.38	
34-5C	.042″	35 lbs.			$16.43

STANDARD PACKAGE—12

WALSCO THRIFTY CORD RACK

WALSCO DIAL DRIVE CORD

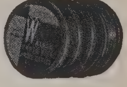
AN ECONOMICAL AND PRACTICAL ARRANGEMENT OF DIAL CORD FOR RADIO SERVICE SHOPS WHICH COSTS LESS THAN THE SPOOLS BOUGHT SEPARATELY.

Contains 300 ft. of the most popular WALSCO Dial Cords. Helps the serviceman to keep his workbench clean and to save valuable space. Attractively packaged in dustproof, dispenser type boxes on aluminum base with a convenient measuring device. Contains 100 ft. each of Special Thin Cord No. 35 and Standard Cord No. 39.

Cat. No.	List Price	Dealer's Net
1030	$8.88	$5.33

(Standard Package . . . 6)

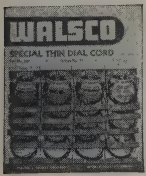
WALSCO DIAL CABLE ASSORTMENTS



MULTI-SPOOL — Especially Designed for the Outside Service Man—One of the most practical items on the market. Mr. Serviceman: Buy economically and get a spool which contains the replacement cord you need when going out on service calls. Takes very little space in your toolbox and comes in very handy. It is a divided spool, holding 15 feet each of Phosphor Bronze Cable No. 30—Heavy Cord No. 33—Medium No. 34—and Special Thin Cord No. 35. **Cat. No. 38** .... **List Price $3.25**

THRIFTY-SPOOL, STYLE "A"—This very handy spool consists of a small practical assortment of three popular Walsco dial cables: 15 feet each of No. 31 Bronze Cable, No. 34 Medium Cord and No. 35 Special Thin Cord. **Cat. No. 37** .... **List Price $2.00**

THRIFTY-SPOOL, STYLE "B"—Substantial saving if you buy this very handy assortment of dial cables needed daily. One spool holds 15 feet each of No. 39 Standard Cord, No. 34 Medium Cord and No. 35 Special Thin Cord. No tool kit should be without it—every service shop should have a quantity on hand. **Cat. No. 36**....**List Price $2.00**

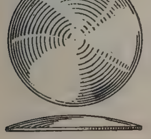


WALSCO DIAL CABLES AND CORDS ON DISPLAY CARDS

These short lengths of Dial Cords, packaged in neat dustproof cellophane bags, are designed for the occasional user. A thrifty way of buying cords in small quantities.

Cat. No.	Description	List Price
†3070	12′ Special Thin Cord (Type 35)	$0.40
†3090	10′ Standard Cord (Type 39)	0.40
†3080	10′ Medium Cord (Type 34)	0.40
3060-1	5′ Phosphor Bronze Cable (Type 30)	0.40
3060-2	10′ Bronze Cable (Type 31)	0.40
3060-3	10′ Special Thin Bronze Cable (Type 32)	0.40
3060-4	6′ Heavy Cord (Type 33)	0.40
3060-D	Special display card holding 5 bags each of Cat. Nos. 3060-1, 2, 3, 4	8.00

WALSCO PLASTIC DIAL CRYSTALS



The New Universal, Unbreakable Crystal, Available in Round and Flat Styles

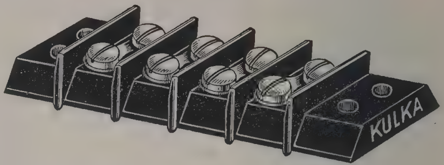
This innovation in replacement crystal design makes it possible to use one basic crystal to fit any dial. A special template supplied with each crystal is used to cut a circle of any desired diameter, using ordinary scissors. The crystal is made of unbreakable plastic and has the further advantage over glass that it can be cemented firmly in place. Can be used for radio dials, clocks, instruments, dash board dials, etc.

Cat. No.	Size	List Price
990	6″ Maximum Diameter	$0.75
992	9½″ Maximum Diameter	1.60
994	8″ x 10″ Flat Sheet	1.45

SMITH *Electronic Components*

HERMAN H. SMITH, INC.

HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS



This latest type of construction of bakelite strip, is made of molded bakelite of very high tensile strength. The barriers between each terminal prevents any possibility of short circuits and leakage between terminals. The terminals and screws are brass, nickel plated.

No. 1500 Series

Height $\frac{13}{32}$", Width ⅞", Thickness ¼". Terminals are ⅜" on centers. Screws 5-40x¼" long Binding Head.

No.	Terminals	Each
1502	2	$0.19
1503	3	.26
1504	4	.33
1505	5	.40
1506	6	.47
1507	7	.54
1508	8	.61
1509	9	.68
1510	10	.75

No. 1600 Series

Height ½", Width 1⅛", Thickness $\frac{5}{16}$". Terminals are $\frac{7}{16}$" on centers. Screws 6-32x¼" long Binding Head.

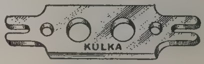
No.	Terminals	Each
1602	2	$0.24
1603	3	.33
1604	4	.42
1605	5	.51
1606	6	.60
1607	7	.69
1608	8	.78
1609	9	.87
1610	10	.96

No. 1700 Series

Height ⅝", Width 1$\frac{5}{16}$", Thickness ⅜". Terminals are $\frac{9}{16}$" on centers. Screws 8-32x$\frac{5}{16}$" long Binding Head.

No.	Terminals	Each
1702	2	$0.29
1703	3	.40
1704	4	.51
1705	5	.62
1706	6	.73
1707	7	.84
1708	8	.95
1709	9	1.06
1710	10	1.17

STRIPS WITH TERMINALS FOR TWO SOLDER CONNECTIONS

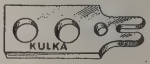


No.	Terminals	Each
1512	2	$0.25
1513	3	.35
1514	4	.45
1515	5	.55
1516	6	.65
1517	7	.75
1518	8	.85
1519	9	.95
1520	10	1.05

No.	Terminals	Each
1612	2	$0.32
1613	3	.45
1614	4	.58
1615	5	.71
1616	6	.84
1617	7	.97
1618	8	1.10
1619	9	1.23
1620	10	1.36

No.	Terminals	Each
1712	2	$0.39
1713	3	.55
1714	4	.71
1715	5	.87
1716	6	1.03
1717	7	1.19
1718	8	1.35
1719	9	1.51
1720	10	1.67

STRIPS WITH TERMINALS FOR ONE SOLDER CONNECTION

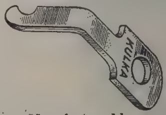


No.	Terminals	Each
1522	2	$0.25
1523	3	.35
1524	4	.45
1525	5	.55
1526	6	.65
1527	7	.75
1528	8	.85
1529	9	.95
1530	10	1.05

No.	Terminals	Each
1622	2	$0.32
1623	3	.45
1624	4	.58
1625	5	.71
1626	6	.84
1627	7	.97
1628	8	1.10
1629	9	1.23
1630	10	1.36

No.	Terminals	Each
1722	2	$0.39
1723	3	.55
1724	4	.71
1725	5	.87
1726	6	1.03
1727	7	1.19
1728	8	1.35
1729	9	1.51
1730	10	1.67

STRIPS WITH TERMINALS FOR BOTTOM SOLDER CONNECTION



No.	Terminals	Each
1532	2	$0.33
1533	3	.47
1534	4	.61
1535	5	.75
1536	6	.89
1537	7	1.03
1538	8	1.17
1539	9	1.31
1540	10	1.45

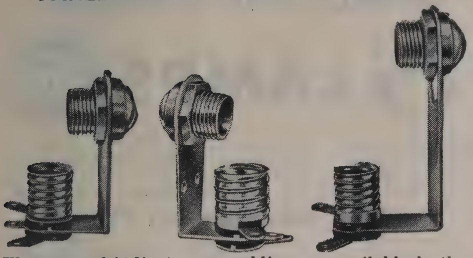
No.	Terminals	Each
1632	2	$0.40
1633	3	.57
1634	4	.74
1635	5	.91
1636	6	1.08
1637	7	1.25
1638	8	1.42
1639	9	1.59
1640	10	1.76

Manufactured by
Kulka Electric Mfg. Co., Inc.
Design Patent No. 136,762

We are the exclusive distributing agency for Kulka Bakelite Barrier Terminal Strips, to the Radio Parts Distributors.

Herman H. Smith, Inc.

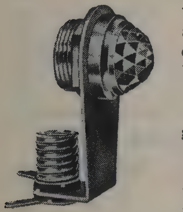
PANEL INDICATOR ½ INCH JEWEL



These panel indicator assemblies are available in the candelabra, miniature screw, or bayonet base type sockets. Jewel holder is made of brass, nickel plated. Jewel mounts in a single $\frac{7}{16}$" dia. hole. Candelabra and bayonet base types can also be secured with a universal adjustable bracket for use where more accurate focus of the jewel to lamp filament is required. Facetted jewel available in red, green, amber, yellow, blue, opal and clear colors.

No.	Type	Each
1900	Miniature Screw Socket	$0.35
1901	Candelabra 110 Volt	.35
1902	Candelabra 110 Volt with Universal Bracket	.40
1903	Bayonet Base	.35
1904	Bayonet Base with Universal Bracket	.40

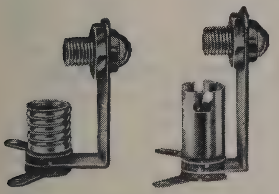
PANEL INDICATOR ¾ INCH JEWEL



Available with candelabra 110 volt, miniature bayonet base, and miniature screw type sockets. Jewel holder is made of brass nickel plated. Jewel mounts in a single $\frac{11}{16}$" dia. hole. Facetted jewels available in red, green, amber, blue, opal and clear colors.

No.	Type	Each
1905	Min. screw socket	$0.75
1906	Min. bayonet base	.75
1907	Candelabra socket	.75

PANEL INDICATOR ⅜ INCH JEWEL

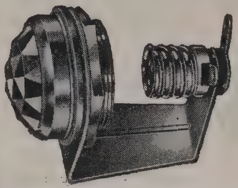


Available with miniature screw type socket, min. bayonet base, or candelabra type sockets. Jewel holder made of brass nickel plated. Jewel mounts in a single $\frac{5}{16}$" dia. hole. Facetted jewels available in red, green, amber, yellow, blue, opal and clear colors.

No.	Type	Each
1908	Min. screw socket	$0.35
1909	Min. bayonet base	.35
1910	Candelabra socket	.35

1 INCH OPEN TYPE PANEL INDICATOR

Jewel Removable from Front of Panel

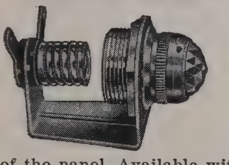


This type of panel indicator has the added feature of being able to remove the bulb from the front of the panel. Jewel holder made of brass, chromium plated finish. Jewel mounts in a single 1" dia. hole The embossed rib in the center of the bracket supplies additional strength assuring perfect alignment. Available in three types: Miniature screw socket, Miniature bayonet socket and Candelabra type socket. Facetted jewels available in the following colors: red, green, amber, blue, opal, clear.

No.	Type	Each
1917	Min. screw socket	$1.10
1918	Min. bayonet base	1.10
1919	Candelabra	1.10

½ INCH OPEN TYPE PANEL INDICATOR

Jewel Removable from Front of Panel

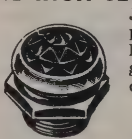


Jewel holder made of brass, nickel plated. Mounts in a single $\frac{11}{16}$" dia. hole. The embossed rib in the center of the bracket gives additional strength and assures perfect alignment. The bulb is easily removable from the front of the panel. Available with Miniature screw type or Miniature bayonet base type sockets, with facetted jewels in the following colors: red, green, amber, yellow, blue, opal, clear.

No.	Type	Each
1920	Min. screw socket	$0.60
1921	Min. bayonet base socket	.60

GLASS JEWELS

½ INCH JEWEL WITH MOUNTING NUT



Jewel holder made of brass nickel plated. Mounts in a single $\frac{7}{16}$" dia. hole. Jewels are available in red, green, amber, blue, opal and clear colors in smooth or facetted types.

No.	Type	Each
1911	Smooth	$0.21
1912	Facetted	.21

¾ INCH JEWEL

Jewel holder made of brass nickel plated. Mounts in a single $\frac{11}{16}$" dia. hole. Jewels are available in red, green, amber, blue, opal and clear colors in smooth or facetted types.

No.	Type	Each
1913	Smooth	$0.40
1914	Facetted	.40

1 INCH JEWEL

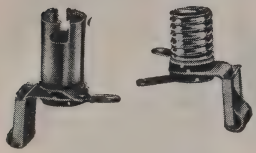
Jewel holder made of brass, dull white nickel finish. Mounts in a 1" dia. hole. Length of thread behind jewel holder $\frac{5}{16}$". Jewels are available in smooth or facetted types, in red, green, amber, blue, yellow, opal, white and clear colors.

No.	Type	Each
1915	Smooth	$0.75
1916	Facetted	.75

SMITH *Electronic Components*

HERMAN H. SMITH, INC.

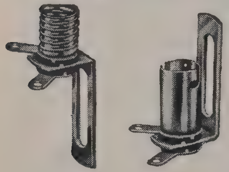
CLIP-ON TYPE PILOT LIGHT SOCKETS



This type of socket is available with the clip up or down, and can be used by clipping on to the variable condenser or the chassis. This design socket is made with the miniature screw base, miniature bayonet base, or candelabra 110 volt types. All brackets are cadmium plated.

No.	Type	Per C
1922	Min. Screw Up Clip	$13.00
1923	Min. Screw Down Clip	13.00
1924	Min. Bayonet Up Clip	15.00
1925	Min. Bayonet Down Clip	15.00
1926	Candelabra Up Clip	17.00
1927	Candelabra Down Clip	17.00

BRACKET TYPE PILOT LIGHT SOCKETS



Available with an up or down type of bracket for the miniature screw type, miniature bayonet base, and for the candelabra 110 volt type sockets. Brackets are made of steel, cadmium plated.

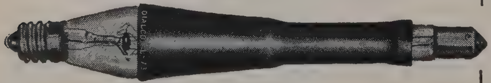
No.	Type	Per C
1928	Min. Screw Up Bracket	$13.00
1929	Min. Screw Down Bracket	13.00
1930	Min. Bayonet Up Bracket	15.00
1931	Min. Bayonet Down Bracket	15.00
1932	Candelabra Up Bracket	17.00
1933	Candelabra Down Bracket	17.00

UNMOUNTED TYPE SOCKETS

These unmounted sockets can be secured for the miniature screw shell, miniature bayonet base or for the candelabra 110 volt types of sockets.

No.	Type	Per C
1934	Min. Screw Base	$13.00
1935	Min. Bayonet Base	12.00
1936	Candelabra 110 volt	14.00

PILOT LIGHT LAMP INSTALLER



The pilot light lamp installer makes installation of pilot lights at hard to get places a very simple task. Will accommodate miniature screw base, miniature bayonet base, candelabra 110 volt type and neon bulb.

No. 1937..**Each $0.40**

GENERAL ELECTRIC & Westinghouse

LAMPS

For the convenience of our customers we have made arrangements to supply General Electric and Westinghouse pilot light bulbs. Bulbs packed 10 to a box.

MAZDA INCANDESCENT TYPES

No.	Lamp No.	Service	Bulb Type	Price Ea.* and Tax Symbol
2200	40	Radio P	T-3¼	$0.09T
2201	41	Radio P	T-3¼	.09T
2202	42	Radio P	T-3¼	.12T
2203	43	Radio P	T-3¼	.09T
2204	44	Radio P	T-3¼	.09T
2205	45	Radio P	T-3¼	.12T
2206	46	Radio P	T-3¼	.09T
2207	47	Radio P	T-3¼	.09T
2208	48	Radio P	T-3¼	.15T
2209	49	Radio P	T-3¼	.15T
2210	50	Indicator	G-3½	.10T
2211	51	Auto	G-3½	.08V
2212	55	Auto	G-4½	.08V
2213	63	Auto	G-6	.08V
2214	64	Auto	G-6	.12V
2215	67	Auto	G-6	.13V
2216	1474	Elev. Annunciator	T-3	.35T
2217	1476	Elev. Annunciator	T-3	.40T
2218	1477	Elev. Annunciator	T-3	.40T
2219	1488	Pin Game	T-3¼	.13T
2220	313	Airplane	T-3¼	.30T
2221	1251	Auto & Electronic	G-6	.32
2222	1252	Auto & Electronic	G-6	.32
2223	1247	Auto & Electronic	G-6	.23

SPAGHETTI TUBING

No.	App. Id.	Lgth.	Per Lgth.
2300	1/16″	36″	$0.30
2301	3/32″	36″	.35
2302	1/8″	36″	.40
2303	9/64″	36″	.40
2304	1/4″	36″	.75
2305	9/32″	36″	.80
2306	11/32″	36″	.90
2307	3/8″	36″	1.00
2308	7/16″	36″	1.25

NON STRETCH TUNING DIAL CABLE

60 LB. TENSILE STRENGTH

No.	Spool	Per Spool
2400	25 Ft.	$1.40
2401	50 Ft.	2.70
2402	100 Ft.	4.50
2403	500 Ft.	21.00

40 LB. TENSILE STRENGTH

No.	Spool	Per Spool
2404	25 Ft.	$1.40
2405	50 Ft.	2.70
2406	100 Ft.	4.50
2407	500 Ft.	21.00

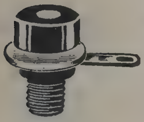
SMITH *Electronic Components*
HERMAN H. SMITH, INC.

INSULATED PHONE TIP JACK

Will accommodate all standard phone tip plugs, of the insulated and non insulated types. Recommended for use with our Nos. 200 and 201 phone tip plugs. Insulated head ⅜″ dia. available in Black and Red colors. Mounts in a ¼″ hole. Supplied complete with insulating shoulder washer and nut. Specify color.

No. 202 .... $15.00 per C

INSULATED BANANA JACK



Will accommodate all standard banana type plugs. Mounts in a ¼″ hole in panels up to ⅜″ thick. Insulated head ⅜″ dia. available in Black and Red colors. Supplied complete with insulated shoulder washer, soldering lug, and nut. Specify color.

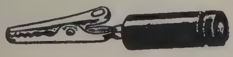
No. 205 .... $15.00 per C

INSULATED COMBINATION JACK

This combination jack will accommodate all standard plugs, of the phone tip type or banana type construction. Mounts in a ¼″ hole in panels up to ½″ thick. Overall length 1⅜″. Supplied complete with insulating shoulder washer and nut. Insulated head available in Black and Red colors. Specify color.

No. 206 .... $20.00 per C

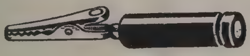
ALLIGATOR CLIP PHONE TIP JACK



Insulated phone tip jack with No. 300 alligator clip. The jack portion will accommodate all standard phone tip plugs. Insulated handle 1″ long available in Black and Red colors. Overall length 2⅜″. Specify color.

No. 304 .... $45.00 per C

ALLIGATOR CLIP COMBINATION JACK



The insulated jack portion will accommodate all standard phone tip or banana type plugs. Insulated handle 1¼″ long available in Black and Red colors. Overall length 2½″. Specify color.

No. 305 .... $50.00 per C

BANANA PLUG AND PHONE TIP JACK COMBINATION

Insulated banana type plug of the spring type construction will fit all standard banana type jacks, and the top of the insulated sleeve of the plug will accommodate all standard phone tips. Insulated handle 1″ long. Available in Black and Red colors. Specify color.

No. 214 .... $45.00 per C

INSULATED SOLDERLESS PHONE TIP PLUGS

Insulated sleeve ¾″ long, and available in Black and Red colors. Will fit all standard phone tip jacks and specially recommended for use with our No. 202 insulated jack. The wire fits through the sleeve of plug, and is wrapped around the screw portion, and then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

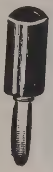
No.	Type	Per C
200	Plug with No. 105 Tip	$18.00
201	Plug with No. 106 Tip	17.00

INSULATED BANANA PLUG

Will fit all standard banana type jacks. A set screw is provided in the side of the plug to secure the wire to the plug without soldering. Insulated sleeve ⅞″ long available in Black and Red colors. Overall length 1⅝″. Specify color.

No. 204 .... $20.00 per C

INSULATED SOLDERLESS BANANA PLUGS



Spring type construction, and will fit all standard banana jacks. Tapped hole is provided in rear of plug and small screw machine stud is provided so that wire can be wrapped around and tightened without the need of soldering. Insulated handle is ¾″ long and available in Black and Red colors. Specify color.

No. 211 .... $20.00 per C

This plug constructed the same as No. 211 described above, but the plug portion is made of hexagon brass. Plug is also supplied with screw machine stud. Insulated handle ¾″ long and available in Black and Red colors. Specify color.

No. 212 .... $25.00 per C

INSULATED BINDING POSTS

Insulated head posts available in ⅜″ and ½″ diameter in Black and Red colors. Each binding post complete with screw and lockwasher.

No.	Head Dia.	Per C
207	3/8″	$15.00
208	1/2″	15.00

INSULATED BINDING POST HEADS

The insulated heads are knurled and are the same as used on our Nos. 207-208 Binding Post. Knurled insulated head is threaded, eliminating the necessity for using a brass bushing. Available in Black and Red colors. Specify colors.

No.	Head Dia.	Per C
209	3/8″	$6.50
210	1/2″	7.00

BANANA TYPE PLUG

This plug is hexed brass, nickel plated. The spring is made of phosphor bronze assuring positive and lasting contact. Plug is constructed with a 6-32 female thread inside and is supplied with a 6-32 screw and soldering lug.

No. 100............$12.00 per C

SPLIT TYPE BANANA PLUG

Made of hexed brass, heavily nickel plated overall. Will fit all standard banana type jacks. Overall length 1¼". Threaded portion 6-32 x ?? long. Supplied with two 6-32 hexagon nuts.

No. 104....................12.00 per C

BANANA TYPE PLUG
Spring Type

Plug and spring are made of brass, nickel plated. The spring type of construction assures positive and lasting contact. Plug is threaded 6-32 and the threaded portion is ½" long. Supplied with two 6-32 hexagon nuts.

No. 103..................$12.00 per C

ALLIGATOR CLIP

Clips are made so that the jaws match accurately, permitting them to grip all sizes wire securely. The barrel of clip will accommodate all standard banana type plugs. Made of steel, cadmium plated. Overall length 2".

No. 300.............................$10.00 per C

INSULATED ALLIGATOR CLIP

Embodies our No. 300 Alligator Clip. Insulated handle ¾" long and will accommodate all standard banana type plugs. Insulated handle available in Black and Red Colors. Specify color required.

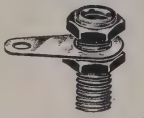
No. 301.............................$20.00 per C

BANANA PLUG JACK

Recommended as the mate for the No. 100 Banana type plug, but will accommodate all standard banana type plugs. Jack is made of brass, heavily nickel plated overall. Mounts in a ¼" hole and will fit in panels up to $\frac{7}{16}$" thick. Jack is furnished with ¼-32 nut and soldering lug.

No. 101...............................$12.00 per C

BANANA PLUG JACK



Will accommodate all standard banana type plugs and specially recommended as the mate for Nos. 103 and 104 banana plugs. Made of brass nickel plated, and mounts in ¼" hole in panels up to ⅜" thick. Supplied with nut and soldering lug.

No. 109...............................$10.00 per C

METAL BINDING POST

Made of brass, heavily nickel plated overall. Supplied complete with screw and lockwasher.

No. 110

$25.00 per C

INS. SHORT PHONE TIP

Will fit all standard phone tip jacks of the insulated or non-insulated types. Insulated sleeve ¾" long, and available in Black and Red colors. Specify color desired.

No. 203.............$15.00 per C

Split Type
INSULATED BANANA PLUG

The banana plug is of the split type construction. Insulated handle ⅞" long. A set screw is provided in the side of the plug, to secure the wire to the plug without soldering. Available in Black and Red colors. Specify color desired.

No. 213.................$20.00 per C

SOLDERLESS PHONE TIPS

These tips are constructed so that the wire fits through the body of the tip, and is wrapped around the screw portion, and tightened with the knurled nut provided, making soldering unnecessary.

No.	Length	Per C
105	1⅝"	$10.00
106	1⅛"	10.00

SOLDER TYPE PHONE TIPS

Made of brass, nickel plated. Overall length 1". Dia. of tip will fit all standard phone tip jacks.

No. 108................$20.00 per M

MIDGET PHONE JACK

Signal Corps type J 670—Single open circuit midget phone jack. Mounts in ⅜" hole in panels up to ¼" thick. Bushing is brass, nickel plated. Springs made of phosphor bronze, and the springs are insulated from the frame by heavy duty bakelite washers.

No. 122...............................$35.00 per C

MIDGET PLUGS AND JACKS
Banana Type

Midget banana type plugs and jacks, for use where a minimum amount of space is available. Both plugs and jacks made of brass, nickel plated. A hexagon nut is provided with each plug and jack.

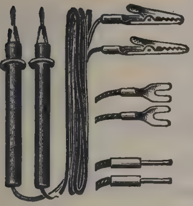
No.	Item	Per C
111	Plug	$ 9.00
112	Jack	14.00

PHONE TIP JACK

Will accommodate all standard phone tip plugs of insulated and non-insulated types. Made of brass, nickel plated. Mounts in a ¼" dia. hole in panels up to ⅜" thick, and is supplied with hexagon nut.

No. 107.:......$10.00 per C

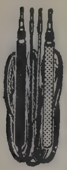
HEAVY DUTY TEST PRODS



Heavy duty fibre handles ½" O.D. x 5⅜" long, with fibre guard between handle and metal tip to prevent any possibility of shocks. Flexible wire leads 50" long, colored Red and Black. Test leads are available with standard phone tip, spade lugs or alligator clips.

No.	Type	per Pr.
620	Phone tips	$2.25
621	Spade lugs	2.25
622	Alligator clips	2.50

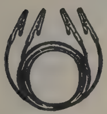
TEST PRODS WITH SOLDERLESS TIPS



Fibre handles colored red and black 4" long x ⅜" diameter. Flexible rubber covered wire leads 50" long also colored red and black. Available with standard phone tips, spade lugs or alligator clips.

No.	Type	per Pr.
600	Phone tips	$0.90
601	Spade lugs	.90
602	Alligator clips	1.10

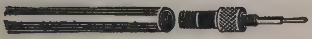
ALLIGATOR CLIP TEST LEADS



Made of very flexible Red and Black wire with alligator clips at each end.

No.	Wire length	per Pr.
604	12"	$0.75
605	24"	.85
606	36"	.95
607	48"	1.05

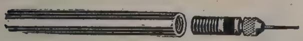
SOLDERLESS TEST PROD HANDLES



Insulated handles, available in Black and Red colors. The wire is fed through the insulated handle, and is wrapped around the screw portion of the plug, and then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

No.	Overall length	Each
302	5"	$0.40
303	6¾"	.50

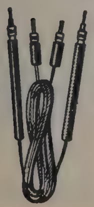
PHONO NEEDLE TEST PROD HANDLES



Insulated handles available in Black and Red colors. Wires can be assembled to the metal chuck by unscrewing the chuck from the prod handle. Specify color.

No.	Overall length	Each
317	4¾"	$0.40
318	5⅛"	.50

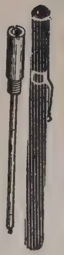
ALL SOLDERLESS TEST PRODS



The insulated handles and the insulated plugs are both of the solderless type construction. Insulated handles Red and Black are our Nos. 302, and the plugs are our No. 200. Flexible rubber covered leads 50" long.

No. 603 .... $1.65 per pair

NEUTRALIZING AND ALIGNMENT TOOL



A complete, fully insulated neutralizing tool, screw driver and wrench combination. The fibre wrench portion has a ¼" hexed socket on one end and a $\frac{5}{16}$" hexed socket on the other end. A ¼" metal screw driver nib on the inside portion of the tool fits into the fibre tube itself.

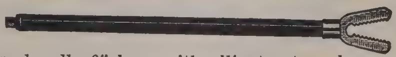
No. 320 .... $0.85 each

ALIGNMENT SCREW DRIVER

Fibre handle $\frac{7}{32}$" dia. x 6" long, and fitted with a screw driver nib for aligning of coils, padding condensers, etc.

No. 321 .... $0.40 each

ALLIGATOR ALIGNMENT WRENCH



Fibre handle 6" long with alligator type lug on one end and a screw driver nib on the other.

No. 322 .... $0.50 each

FIBRE ALIGNMENT SCREW DRIVERS

Made of bone hard fibre and supplied in two sizes.

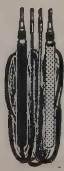
No.	Screw driver	Length	Each
307	7/32"	7"	$0.40
308	5/16"	6"	.50

HEXED FIBRE TUBES

Made of bone hard fibre, and constructed so that if the hex wears out, it can be cut off and the balance of the tube can be used.

¼" Hex			$\frac{5}{16}$" Hex	
No.	Each	Size	No.	Each
309	$0.30	6"	313	$0.30
310	.35	8"	314	.35
311	.45	10"	315	.45
312	.50	12"	316	.50

PHONO NEEDLE TEST PRODS

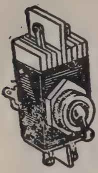


Fibre handles colored Red and Black, 4" long x ⅜" diameter. Tips are very sharp phonograph needles. Flexible rubber covered wires 50" long also colored red and black. Available with standard phone tips, spade lugs, or alligator clips.

No.	Type	per Pr.
613	Phone tips	$0.90
614	Spade lugs	.90
615	Alligator clips	1.10

H AND H TOGGLE SWITCHES

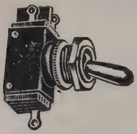
Rated 1 Amp. 250 Volts, 3 Amps. 125 Volts. Switches are nickel plated and supplied with mounting nut.



No.	Type	Shaft	Each
500	S P S T	$\frac{15}{32}$"	$0.50
501	S P S T	1"	.55
502	S P D T	$\frac{15}{32}$"	.60
503	S P D T	1"	.70
504	D P S T	$\frac{15}{32}$"	.90
505	D P S T	1"	1.00
506	D P D T	$\frac{15}{32}$"	1.00
507	D P D T	1"	1.10
508	On and Off Name Plate		.05

BAT HANDLE TOGGLE SWITCHES

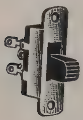
These switches are the same as described above with bat shaped handle. Shaft length $\frac{15}{32}$".



No.	Type	Each
510	S P S T	$0.50
511	S P D T	.70
512	D P S T	.90
513	D P D T	1.00

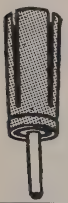
SLIDE LEVER SWITCHES

Rated 1½ Amps. 110 Volts. Size 1⅜" x ½". Mounting centers 1⅛".



No.	Type	Each
515	S P S T	$0.35
516	S P D T	.45
517	D P S T	.50
518	D P D T	.50

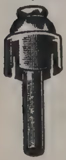
MOTOROLA TYPE PLUG



Attachment plug for all Motorola auto radio receivers and many other types of auto radios.

No. 1200......................................$10.00 per C

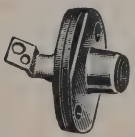
PHONO ADAPTER ATTACHMENT PLUG



Phonograph pick-up and auto radio connection plug.

No. 1201......................................$10.00 per C

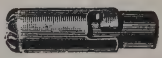
PHONO JACK



Mate for the No. 1201 plug. Jack mounted on bakelite and metal back supplied for use with phonograph attachment.

No. 1203......................$15.00 per C

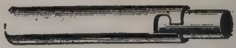
ANTENNA CONNECTOR



For use as connection of auto radio antenna lead-in to auto radio receiver.

No. 1300......................$10.00 per C

FUSE RETAINER



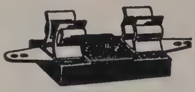
Recommended for use in auto radio power supply cables.

No. 1301..$15.00 per C

Parts for Connector and Retainer

No.	Item	Per C
1305	Male Cap for No. 1300 and No. 1301	$1.50
1306	Female Shell for No. 1300	1.50
1307	Contact for No. 1300 and No. 1301	2.00
1308	Spring for No. 1300 and No. 1301	.50
1309	Washer for No. 1300 and No. 1301	.40
1310	Insulating Tube for No. 1301	.60
1311	Female Shell for No. 1301	2.50

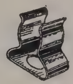
FUSE MOUNTING BASES



Black bakelite, panel mount type. Will accommodate the 3 A G Auto type cartridge fuse.

No.	Type	Each
530	Single	$0.20
531	Double	.30

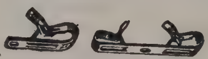
FUSE CLIPS



Clips made of spring brass, nickel plated. Will accommodate the 3 A G Auto type cartridge fuse. Clips ¼" wide x ⅜" high.

No. 532..$1.75 per C

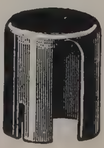
FAHNESTOCK SPRING BATTERY CLIPS



Clips are made of brass, nickel plated and are available in the single and double clip types.

No.	Type	Length		Per C
533	Single	¾"	Will take #14 B & S wire	$1.65
534	Single	1"	Will take #10 B & S wire	2.00
535	Double	1½"	Will take #10 B & S wire	9.00
536	Double	2$\frac{1}{16}$"	Will take #10 B & S wire	10.00

GRID CAP SHIELD



Shield is slotted on the side, for passage of the grid lead wire. The shield fits snugly over the grid cap of the tube, completely shielding same. Shield is cadmium plated finish.

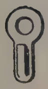
No. 537..................................$10.00 per C

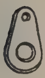
SMITH *Electronic Components*

HERMAN H. SMITH, INC.

SOLDER TYPE LUGS

BRASS HOT TINNED


1484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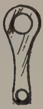
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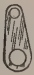
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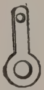
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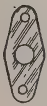
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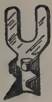
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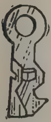
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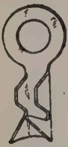
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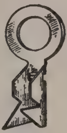
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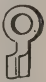
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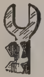
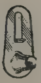
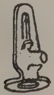

1495

No.	Lgth.	Hole	Per M
1484	5/8"	No. 6	$ 7.00
1485	5/8"	No. 6	4.00
1486	7/8"	No. 6	5.50
1487	5/8"	No. 6	4.00
1488	3/4"	No. 6	8.00
1489	7/8"	No. 8	8.00
1490	1"		10.00
1491	15/16"	No. 8	12.00
1492	1"	1/4"	15.00
1493	1-1/8"	1/4"	15.00
1494	5/8"	No. 6	7.50
1495	5/8"	No. 8	7.00

EYELET TYPE SOLDER LUGS


1480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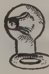
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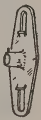
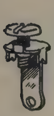
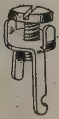

1483

Made of brass. Nos. 1480, 1481 and 1482 are hot tinned and No. 1483 cadmium plated. Specially recommended for mounting on terminal strips.

No.	Lgth.	Hole	Per M
1480	5/8"	5/64 slot	$ 4.50
1481	5/8"	No. 8	10.00
1482	1/4"	No. 8	7.50
1483	15/16"		7.50

TERMINAL LUGS AND SCREWS


1478

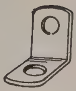

1479

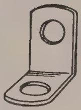
Recommended for heavy duty terminal strips. Lugs are tapped with screw inserted. No. 1478 lug, brass cadmium plated and No. 1479 lug, brass hot tinned.

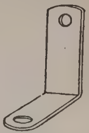
No. 1478......................**$3.50 per C**

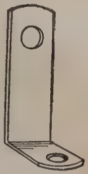
No. 1479......................**6.00 per C**

BRASS AND STEEL ANGLES



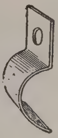


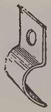


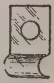


No.	Material	Size	Per C
1474	Brass N.P.	½"x ½"	$2.50
1475	Brass N.P.	⅝"x ⅝"	5.00
1476	Steel H.T.	¾"x ¾"	2.00
1477	Steel H.T.	⅝"x1⅛"	2.00

CABLE CLAMPS







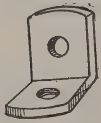
Per C

No. 1470—Steel Cadmium plated.
No. 8 hole, length ¾", width ⅜"
Will fit over ¼" cable. **$1.25**

No. 1471—Steel Cadmium plated.
No. 8 hole, length ⅝", width ⅜".
Will fit over ⅛" to ¼" cable. **$1.25**

No. 1472—Steel Cadmium plated.
No. 8 hole, length 1", width ⅜".
Will fit over ½" cable. **$1.50**

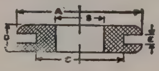
TAPPED ANGLE BRACKET



Made of steel cadmium plated. Size ½" x ½", with one 8/32 tapped hole and one plain .165 hole.

No. 1473......................**$4.50 per C**

RUBBER GROMMETS



A: Outside Dia. B: Inside Dia. C: Panel Hole. D: Thickness Overall. E: Panel Thickness.

No.	A	B	C	D	E	Per C
2170	5/8"	1/4"	13/32"	3/8"	1/16"	$3.50
2171	3/8"	11/64"	5/16"	1/4"	1/16"	2.50
2172	7/16"	3/16"	5/16"	3/16"	1/16"	3.00
2173	9/16"	9/32"	11/32"	1/4"	1/16"	3.00
2174	5/8"	5/16"	7/16"	1/4"	1/16"	3.25
2175	11/16"	5/16"	1/2"	1/4"	1/16"	3.50
2176	1/2"	7/32"	3/8"	3/16"	1/16"	3.00
2177	3/4"	7/16"	9/16"	1/4"	1/16"	3.25

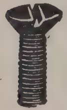
STEEL MACHINE SCREWS

Round Head Cadmium Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1000	$2.60	6-32 x ¼″	1018	$0.45
1001	2.75	6-32 x ⅜″	1019	.45
1002	3.00	6-32 x ½″	1020	.50
1003	3.25	6-32 x ⅝″	1021	.50
1004	3.50	6-32 x ¾″	1022	.55
1005	4.00	6-32 x 1″	1023	.65
1006	3.25	8-32 x ¼″	1024	.50
1007	3.50	8-32 x ⅜″	1025	.55
1008	4.00	8-32 x ½″	1026	.65
1009	4.20	8-32 x ⅝″	1027	.75
1010	4.25	8-32 x ¾″	1028	.85
1011	5.00	8-32 x 1″	1029	.95
1012	4.25	10-32 x ¼″	1030	.85
1013	4.60	10-32 x ⅜″	1031	.90
1014	5.00	10-32 x ½″	1032	.95
1015	5.50	10-32 x ⅝″	1033	1.05
1016	5.85	10-32 x ¾″	1034	1.10
1017	6.00	10-32 x 1″	1035	1.20

RACK SCREWS



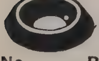
Oval Head Steel Nickel Plated

Specially recommended for mounting panels in racks and cabinets. Available in gross packages or packed 1000 to the box.

No.	Per M	Size	No.	Gross
1102	$5.00	6-32 x ¼″	1090	$0.75
1103	5.25	6-32 x ½″	1091	.80
1104	5.50	6-32 x ¾″	1092	.90
1105	6.00	6-32 x 1″	1093	1.00
1106	5.20	8-32 x ¼″	1094	.85
1107	6.00	8-32 x ½″	1095	.95
1108	7.00	8-32 x ¾″	1096	1.10
1109	7.10	8-32 x 1″	1097	1.15
1110	6.50	10-32 x ¼″	1098	1.10
1111	7.10	10-32 x ½″	1099	1.15
1112	8.00	10-32 x ¾″	1100	1.20
1113	9.50	10-32 x 1″	1101	1.40

COUNTERSUNK WASHERS

Brass Nickel Plated



Recommended for use with Rack Screws designated above.

No.	Per M	Size	No.	Gross
1115	$5.25	6	1118	$0.80
1116	5.50	8	1119	.85
1117	5.50	10	1120	.85

FLAT AND SHAKEPROOF WASHERS

No.	Per M	Type	No.	Gross
1150	$1.65	# 6 Brass N.P.	1146	$0.30
1151	2.00	# 8 Brass N.P.	1147	.40
1152	2.00	#10 Brass N.P.	1148	.40
1127	3.50	# 4 Shakeproof Int. Teeth	1121	.55
1128	3.75	# 6 Shakeproof Int. Teeth	1122	.60
1129	3.75	# 8 Shakeproof Int. Teeth	1123	.60
1130	3.75	#10 Shakeproof Int. Teeth	1124	.60
1131	4.25	⅜″ Shakeproof Int. Teeth	1125	.70
1132	4.00	¼″ Shakeproof Int. Teeth	1126	.60
1139	3.50	# 4 Shakeproof Ext. Teeth	1133	.55
1140	3.75	# 6 Shakeproof Ext. Teeth	1134	.60
1141	3.75	# 8 Shakeproof Ext. Teeth	1135	.60
1142	3.75	#10 Shakeproof Ext. Teeth	1136	.60
1143	4.25	⅜″ Shakeproof Ext. Teeth	1137	.70
1144	4.00	¼″ Shakeproof Ext. Teeth	1138	.65

BRASS MACHINE SCREWS

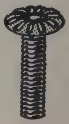
Round Head Nickel Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1050	$4.90	6-32 x ¼″	1070	$0.75
1051	5.20	6-32 x ⅜″	1071	.80
1052	5.40	6-32 x ½″	1072	.85
1053	5.70	6-32 x ⅝″	1073	.90
1054	6.00	6-32 x ¾″	1074	.95
1055	9.75	6-32 x 1″	1075	1.40
1056	7.25	8-32 x ¼″	1076	1.05
1057	7.60	8-32 x ⅜″	1077	1.10
1058	7.90	8-32 x ½″	1078	1.15
1059	8.75	8-32 x ⅝″	1079	1.30
1060	9.80	8-32 x ¾″	1080	1.75
1061	13.00	8-32 x 1″	1081	1.90
1062	7.50	10-32 x ¼″	1082	1.10
1063	9.25	10-32 x ⅜″	1083	1.35
1064	10.00	10-32 x ½″	1084	1.45
1065	10.50	10-32 x ⅝″	1085	1.55
1066	11.25	10-32 x ¾″	1086	1.65
1067	13.00	10-32 x 1″	1087	1.90

FANCY HEAD BRONZE FINISH SCREWS

No.	Size	Per M
1160	6-32 x ¾″	$8.25
1161	6-32 x 1″	8.75
1162	6-32 x 1¼″	9.60
1163	6-32 x 1½″	10.75
1164	8-32 x ¾″	10.40
1165	8-32 x 1″	11.00
1166	8-32 x 1¼″	12.50
1167	8-32 x 1½″	16.50



HEADLESS SET SCREWS

No.	Size	Per C	No.	Size	Per C
1410	6-32 x ⅛″	$3.25	1415	8-32 x ⅛″	$3.25
1411	6-32 x $\frac{3}{16}$″	3.25	1416	8-32 x $\frac{3}{16}$″	3.25
1412	6-32 x ¼″	3.25	1417	8-32 x ¼″	3.25
1413	6-32 x ⅜″	3.25	1418	8-32 x ⅜″	3.25
1414	6-32 x ½″	3.25	1419	8-32 x ½″	3.25

HEXAGON NUTS

Brass Nickel Plated

No.	Per M	Size	No.	Gross
1188	$6.00	4-36 x ¼″	1182	$0.90
1189	6.00	6-32 x ¼″	1183	.90
1190	6.00	6-32 x $\frac{5}{16}$″	1184	.90
1191	7.50	8-32 x ¼″	1185	1.10
1192	7.50	8-32 x $\frac{5}{16}$″	1186	1.10
1193	7.50	10-32 x $\frac{5}{16}$″	1187	1.10

Steel Cadmium Plated

No.	Per M	Size	No.	Gross
1179	$4.00	6-32 x ¼″	1176	$0.65
1180	4.90	6-32 x $\frac{5}{16}$″	1177	.75
1181	4.90	8-32 x $\frac{5}{16}$″	1178	.75

THREADED BRASS RODS

Available in four different sizes in one and 2 foot lengths.

No.	Size	Per Foot
1400	6-32	$0.30
1401	8-32	.30
1402	10-32	.40
1403	¼″-20	.45

SMITH *Electronic Components*
HERMAN H. SMITH, INC.

BRASS BUSHINGS

These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

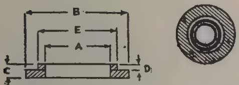
For No. 6		¼″ O.D.	For No. 8	
No.	**Per C**	**Length**	**No.**	**Per C**
2100	$3.50	¼″	2105	$3.50
2101	4.00	⅜″	2106	4.00
2102	4.25	½″	2107	4.25
2103	5.00	¾″	2108	5.00
2104	5.50	1″	2109	5.50
		⅜″ O.D.		
2110	$4.25	¼″	2115	$4.25
2111	4.75	⅜″	2116	4.75
2112	5.00	½″	2117	5.00
2113	5.50	¾″	2118	5.50
2114	6.25	1″	2119	6.25

THREADED BRASS BUSHINGS

Brass bushings ¼″ O.D. Threaded 6-32 and 8-32.

Threaded 6-32			Threaded 8-32	
No.	**Per C**	**Length**	**No.**	**Per C**
2120	$4.25	¼″	2125	$4.25
2121	5.25	⅜″	2126	5.25
2122	6.50	½″	2127	6.50
2123	7.50	¾″	2128	7.50
2124	8.50	1″	2129	8.50

FIBRE SHOULDER WASHERS



A. Inside Diameter
B. Outside Diameter
C. Thickness Overall
D. Height of Shoulder
E. Diameter of Shoulder

No.	A	B	C	D	E	Per M
2150	.140	.375	.093	.031	.237	$10.50
2151	.110	.250	.062	.031	.187	8.50
2152	.136	.250	.093	.031	.187	9.00
2153	.136	.312	.093	.031	.187	10.00
2154	.250	.500	.068	.028	.312	11.00
2155	.172	.375	.093	.031	.246	9.75
2156	.196	.375	.093	.031	.308	9.75
2157	.375	.750	.093	.031	.500	13.00
2158	.385	.625	.093	.031	.500	12.50

FLAT FIBRE WASHERS

No.	I.D.	O.D.	Thickness	Per M
2160	.136	.250	1/16	$8.25
2161	.110	.250	1/16	8.25
2162	.140	.375	1/16	7.50
2163	.172	.375	1/16	7.50
2164	.196	.375	1/16	7.50
2165	.250	.500	1/16	8.00
2166	.250	.500	3/32	8.25
2167	.312	.500	1/16	8.00
2168	.385	.625	1/16	9.75
2169	.375	.750	1/16	12.00

STEEL SPADE BOLTS

Steel cadmium plated finish, threaded 6-32, thread length 5/16″, length overall ¾″.

No. 1500 .... **$6.50 per M**

MICROPHONE CONNECTOR

Single Contact Male

A completely shielded single contact connector. Made of brass and heavily chrome plated. Mate for No. 116 female connector.

No. 115..**$0.40 each**

MICROPHONE CONNECTOR

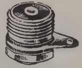
Single Contact Female

Mate for our No. 115 male connector. This connector is used extensively for making connections from microphone to amplifier. Comes equipped with coupling ring. All metal parts are made of brass, heavily chrome plated, except the spring.

No. 116..**$0.50 each**

CHASSIS CONNECTOR

Single Contact Male



This type connector is recommended for use on the chassis or in the microphone. Made of brass, heavily nickel plated. Threaded ⅜″-27, and mounts in a ⅜″ hole. Supplied complete with washers, soldering lug and nut.

No. 117..**$0.30 each**

CAP AND CHAIN

Made of brass, heavily nickel plated. The cap seals open end units against dust, eliminating noisy connections. Used with any threaded one or two conductor chassis unit.

No. 118..**$0.50 each**

BEARING FOR PANEL ASSEMBLY

Made of brass, and fits in ½″ diameter hole in panels up to 5/16″ thick. Bearing is made to accommodate ¼″ shafts.

No. 119..**$0.20 each**

BRASS COUPLING

Made of brass ½″ outside diameter with ¼″ hole drilled all the way through to accommodate ¼″ shafts. Overall length ¾″. Two screws are provided in coupling for tightening to shaft.

No. 120..**$0.20 each**

Harry Davies Molding Co.

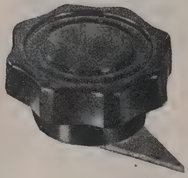
Molders of Plastics

1428 NORTH WELLS STREET • CHICAGO 10, Ill.

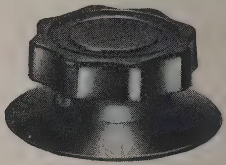
STANDARD COLORS FOR DAVIES KNOBS: Black, Walnut, Red or Ivory. Others to order. Quality radio knobs for standard $\frac{1}{4}$" shaft. Set screw, spring, or knurled hole mounting, or $\frac{1}{4}$" brass bushing.

ELECTRONIC INSTRUMENT KNOBS

Type No.	Width	Height
4100	$1\frac{1}{8}$"	$\frac{5}{8}$"
4101	$1\frac{3}{8}$"	$\frac{11}{16}$"
4102	$1\frac{5}{8}$"	$\frac{3}{4}$"
4103	$2\frac{3}{8}$"	$\frac{7}{8}$"

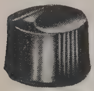


Type No.	Width	Pointer length from shaft center
4100-P	$1\frac{1}{8}$"	$\frac{7}{8}$"
4101-P	$1\frac{3}{8}$"	$1\frac{1}{16}$"
4102-P	$1\frac{5}{8}$"	$1\frac{1}{16}$"
4103-P	$2\frac{3}{8}$"	$1\frac{9}{16}$"



Type No.	Width	Skirt diameter
4104	$1\frac{1}{8}$"	$1\frac{1}{2}$"
4106	$1\frac{3}{8}$"	$1\frac{1}{2}$"
4108	$1\frac{5}{8}$"	$2\frac{1}{16}$"
4109	$2\frac{3}{8}$"	3"

No. 1400. (With pointer). Height $\frac{13}{32}$". Diameter $\frac{11}{16}$".
No. 1450. (No pointer). Height $\frac{13}{32}$". Diameter $\frac{11}{16}$".
Set screw, spring, or knurled hole mounting.



No. 1700.
Height $\frac{19}{32}$". Diameter $\frac{3}{4}$".
Set screw, spring, or knurled hole mounting.

No. 2500.
Height $\frac{3}{4}$". Diameter $\frac{3}{4}$".
No. 2600.
Height $\frac{7}{8}$". Diameter $\frac{7}{8}$".
Set screw, spring, or knurled hole mounting.

No. 2965.
Short Shank. Dia. $\frac{7}{8}$"; Hgt. from $\frac{1}{2}$" to $1\frac{1}{2}$".
Medium Shank. Dia. $\frac{7}{8}$"; Hgt. from $\frac{9}{16}$" to $1\frac{1}{2}$".
Long Shank. Dia. $\frac{7}{8}$"; Hgt. from $\frac{9}{16}$" to $1\frac{1}{2}$".
This type knob can be supplied with arrow; Off-On; Tuning; Volume; Tone; Batt-Elec.; Band Switch; Radio-Phono, or Dot markings.
Set screw, spring, or knurled hole mounting.

No. 3008.
Dia. $1\frac{1}{4}$"; Hgt. $\frac{3}{4}$".
No. 3009.
Dia. $1\frac{1}{2}$"; Hgt. $\frac{3}{4}$".
No. 3000
Long Shank Dia. $1\frac{3}{4}$"; Hgt. $\frac{3}{4}$", 1", $1\frac{1}{4}$" and $1\frac{1}{2}$".
Short Shank. Dia. $1\frac{3}{4}$". Hgt. $\frac{3}{4}$", 1", $1\frac{1}{4}$" and $1\frac{1}{2}$".
$\frac{1}{4}$" molded hole or brass insert. Plain or threaded hole. Set screw or knurled hole mounting.

	Length overall	Hgt.	Dia.
No. 2110	$1\frac{5}{8}$"	$\frac{19}{32}$"	$\frac{3}{4}$"
No. 2100	$2\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{3}{4}$"

Molded hole or brass insert, set screw mounting.

	Length overall	Hgt.	Dia.
No. 2110-P	$1\frac{15}{16}$"	$\frac{19}{32}$"	$\frac{3}{4}$"
No. 2100-P	$2\frac{13}{16}$"	$\frac{5}{8}$"	$\frac{3}{4}$"

Metal insert and pointer, set screw mounting.

No. 2300—Zephyr bar knob. Length $1\frac{1}{4}$".
No. 2350—Zephyr bar knob. Length 2".
Molded hole, set screw mounting.
No. 2300-A—Zephyr bar knob. Length $1\frac{1}{4}$".
No. 2350-A—Zephyr bar knob. Length 2".
$\frac{1}{4}$" brass insert and set screw.

No. 1800 Series
These can be furnished in either plain or recessed tops. Dia. $\frac{7}{16}$"; Heights range from 1" to $1\frac{3}{8}$". Also supplied with studs of various lengths.

No. 5149 — Rectangular touch tuning knob. Push on, self-locating.
No. 5149-A—Oval touch tuning knob. Push on, self-locating.
Hgt. $\frac{13}{16}$" - $1\frac{1}{32}$".

No. 1750—Touch Tuning. Push on, self-locating.
No. 1760—Touch Tuning, Recessed top, push on, self-locating. Dia. $\frac{31}{64}$". Hgt. $\frac{9}{16}$", $\frac{11}{16}$", $\frac{13}{16}$", $\frac{15}{16}$.
No. 1770—Binding Post and Switch knob. No. 6-32 and No. 8-32 brass inserts. Dia. $\frac{31}{64}$". Hgt. $\frac{1}{2}$", $\frac{5}{8}$", $\frac{3}{4}$", $\frac{7}{8}$".

No. 2150
Streamlined bar knob. Length $1\frac{1}{4}$".

No. 2250
Streamlined bar knob. Length $2\frac{1}{4}$". Molded hole, set screw mounting.

No. 1780
Push button knob. Dia. $\frac{1}{2}$". Hgt. 1", $1\frac{1}{8}$", $1\frac{7}{32}$", $1\frac{3}{8}$".

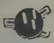
No. 1790
Recessed top. Dimensions same as No. 1780.

SALES OFFICES IN

NEW YORK • MILWAUKEE • FORT WAYNE • TORONTO, CANADA

JFD PRECISION MADE RADIO BATTERY PLUGS

701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No. 701..............................**List, $0.11 ea.**
3-prong large Plug, for 45 volt "B" PORTABLE batteries. (Eveready 482, etc.)

No. 702..............................**List, $0.25 ea.**
3-prong Plug, with Fahnestock Clips, for STANDARD 4½ volt "C" batteries. (Eveready 771, etc.)

No. 703 ....**List, $0.40 ea.**
5-prong Plug, with Fahnestock Clips, for STANDARD 22½ volt "C" batteries. (Eveready 768, etc.)

No. 704..............................**List, $0.11 ea.**
2-prong Plug, for PORTABLE 4½ volt "A" batteries. (Eveready 746, etc.)

No. 705..............................**List, $0.11 ea.**
3-prong small Plug, for 45 volt "B" PORTABLE batteries. (Eveready 738, 482, etc.)

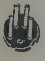
No. 706..............................**List, $0.11 ea.**
2-prong small Plug, for 1½ volt "A" PORTABLE batteries. (Eveready 742, etc.)

No. 707..............................**List, $0.13 ea.**
4-prong large Plug, for combination 1½ volt "A" and 90 volt "B" PORTABLE Packs. (Eveready 748, etc.)

No. 708..............................**List, $0.11 ea.**
2-prong Plug, for 6 volt PORTABLE "A" batteries. (Eveready 718, 747, etc.)

No. 709..............................**List, $0.13 ea.**
4-prong Plug, for combination 6 volt "A" and 90 volt "B" PORTABLE Packs. (Burgess 2F4B60, etc.)

No. 710..............................**List, $0.11 ea.**
2-prong plug with guide pin, for 7½ volt PORTABLE "A" batteries. (Burgess G5, etc.)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No. 711..............................**List, $0.13 ea.**
4-prong small Plug, for combination 1½ volt "A" and 63 volt, 75 volt, or 90 volt "B" PORTABLE batteries. (Philco P60-A41, Burgess 4GA42, 6FA60, etc.)

No. 712..............................**List, $0.22 ea.**
8-prong Plug, with guide pin, for combination 7½ volt "A" and 63 volt or 90 volt "B" PORTABLE packs. (Philco P87, P841, Sky Chief models, Burgess D5A60, etc.)

No. 713..............................**List, $0.09 ea.**
Male Snap-Fastener for connecting to negative terminal of miniature 67½ volt "B" PORTABLE batteries: Eveready No. 467 Minimax, Burgess XX-45, etc.

No. 714..............................**List, $0.11 ea.**
Female Snap-Fastener for connecting to positive terminal of miniature 67½ volt "B" PORTABLE batteries: Eveready No. 467 Minimax, Burgess XX-45, etc.

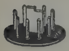
No. 715 ....**List, $0.25 ea.**
3-prong large Plug, with Fahnestock Clips, for STANDARD 45 volt "B" batteries.

No. 716 ....**List $0.20 ea.**
2-prong Plug, with Fahnestock Clips, for STANDARD and PORTABLE 1½ volt "A" batteries.

No. 718..............................**List $0.13 ea.**
4-prong large Plug, for combination 6V "A" and 75V "B" battery packs such as Zenith Z-675, Burgess G4B50, etc.

No. 719..............................**List, $0.16 ea.**
5-prong large Plug, for combination 6V "A" and 90V "B" battery packs such as Zenith Z-659, Burgess F4B60, etc.

No. 720..............................**List, $0.13 ea.**
4-prong small Plug (has three thin pins anl one thick pin) for combination 6V "A" and 90V "B" battery packs such as Philco P60A8F4, Burgess 2F4A60, etc.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No. 721..............................**List, $0.22 ea.**
8-prong Octal plug, for combination 1½-volt and 90-volt Portable "AB" Packs, such as Burgess 4FA60, General P60A4L, Zenith Z-9-B, etc.

No. 722 ....**List, $0.20 ea.**
2-prong plug with Fahnestock Clips, for STANDARD 3-volt "A" batteries such as Rayovac P9403, etc.

No. 723..............................**List, $0.11 ea.**
2-prong plug without clips, for STANDARD 3-volt "A" batteries such as Rayovac P9403, etc.

No. 724..............................**List, $0.13 ea.**
4-prong small plug with eccentrically spaced pins, for combination "AB" battery packs such as Philco P60A110, Usalite AB-671, etc.

No. 725..............................**List, $0.11 ea.**
3-prong plug (has two thin pins and one thick pin), for STANDARD 4½ volt "C" batteries such as Eveready 771, etc.

No. 726..............................**List, $0.22 ea.**
7-prong large plug for combination 135 volt "B" and 9 volt "C" batteries such as used on Philco 37-33, 37-38, 38-33, and 38-38 battery receivers and type 9068, etc.

No. 727..............................**List, $0.27 ea.**
Special 8-prong large plug for combination 135 volt "B" and 13½ volt "C" batteries, such as used on Philco Models 34, 34A, 39, and 39A battery receivers, etc.

No. 728..............................**List, $0.22 ea.**
5-prong plug for standard 22½ volt "C" battery (Eveready 768, etc.) Same as our catalog No. 703, except without Fahnestock clips.

No. 729 ....**List, $0.11 ea.**
Two prong plug with large pins, one thin and one thick. Used extensively in portable batteries.

No. 730..............................**List, $0.22 ea.**
5-prong small plug, including guide pin, for combination 1½ volt "A" and 75 volt or 90 volt "B" portable batteries.

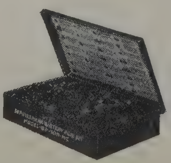
HANDY SERVICEMEN'S KIT

Contains 100 Battery Plugs—Sturdy Metal Container. Supplies with reference chart giving full information on each plug.

*

For portable and farm radios, test equipment and countless other present-day devices using plug-in batteries.

Model BP, 100 MC—Servicemen's Net Cost......$7.33



50 ASSORTED PLUGS IN CARDBOARD CONTAINER KIT

Contains 50 fast moving battery plugs in handy cardboard container. Useful technical data included. A necessity for every radio serviceman!

MODEL BP-50
SERVICEMEN'S NET COST................$3.25

JFD PRECISION MADE

New Enlarged Line of AC-DC RESISTANCE LINE CORDS

STANDARD 3 TERMINALS AC-DC RESISTANCE CORDS

FLEXIBLE, STURDY CORDS, 3-TERMINAL TYPE, WITH COLOR-CODED, TINNED LEADS

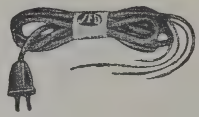
Attractive individual Cartons

No.	Ohms	List
*2180	135	$1.17
*2181	160	1.17
*2182	180	1.17
*2183	200	1.17
2184	220	1.17
2185	250	1.17
2186	290	1.17
2187	300	1.17
2188	330	1.17
2189	350	1.17
2190	390	1.17
2450	450 (High Resist.)	1.72

*Note: 135, 160, 180, and 200 ohm cords can also be used for single light 20 and 15 watt fluorescent fixtures.

TAPPED 4 TERMINAL AC-DC RESISTANCE CORDS

Pilot light resistor shunt built into the line cord. Used on Emerson, Zenith, Sparton, R. C. A., General Electric, Wells-Gardner, Sears Roebuck, Fada, Admiral, Air King, Detrola, Crosley, Garod, and others.



No. — List, Ea.

2176—160 OHMS—TAPPED AT 24 OHMS
For sets using tubes having a voltage drop of approximately 69 volts as 2-25 volt tubes and 3-6.3 volt tubes plus single pilot light or similar combination $1.38

2195—165 OHMS—TAPPED AT 30 OHMS
There is a large demand for this tapped line cord 1.38

2177—180 OHMS—TAPPED AT 25 OHMS
For sets using tubes having a voltage drop of approximately 63 volts as 2-25 volt tubes and 2-6.3 volt tubes plus a single pilot light or similar combination 1.38

2178—200 OHMS—TAPPED AT 25 OHMS
For sets using tubes having a voltage drop of approximately 57 volts as 1-25 volt tube, 1-12 volt tube and 3-6.3 volt tubes and a single pilot light. May also be used for sets using tubes having a voltage drop of 63 volts, (2-25 volt and 2-6.3 volt tubes) if high line voltage (125 volts) is encountered.... 1.38

2179—200 OHMS—TAPPED AT 40 OHMS
For sets using tubes having a voltage drop of approximately 57 volts as 1-25 volt tube, 1-12 volt tube and 3-6.3 volt tubes and two pilot lights in series 1.38

No. — List, Ea.

2174—280 OHMS—TAPPED AT 40 OHMS
For sets using tubes having a voltage drop of approximately 32 volts as 2-12 volt tubes and 1-6.3 volt tube or 5-6.3 volt tubes or similar combinations using 2 pilot light in series $1.38

2164—360 OHMS—TAPPED AT 80 OHMS
Used in Garod Model BP-20. See No. 2196 for specifications 1.72

2166—430 OHMS—TAPPED AT 80 OHMS
For Farnsworth Model CD59. See No. 2196 for specifications 1.72

2156—510 OHMS—TAPPED AT 80 OHMS
For Fada. See No. 2196 for specificastions 1.72

2196—560 OHMS—TAPPED AT 80 OHMS
Tapped at 80 ohms for plate of rectifier. Designed with voltage dropping resistor to plate of rectifier. Avoids necessity of using B+ resistor. This cord used extensively 1.72

2158—960 OHMS—TAPPED AT 80 OHMS
For G. E. Model L622. See No. 2196 for specifications 1.72

2165—1950 OHMS—TAPPED AT 360 OHMS
Used extensively in sets such as Crosley Model 27BD, Admiral Model 28-G-5, and other sets with similar circuits 2.06

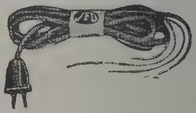
HIGH RESISTANCE CORDS

No. — List Price

2197 For 3-way portable radios. AC-DC battery. New high resistance type cord, has 560 ohms resistance. Many thousands of sets using this identical cord are now in use. This popular replacement cord should be stocked by every serviceman! Individually packaged $1.72

2157—For AC-DC Sets.
This cord has 960 ohms resistance, and is used wherever 45Z3 rectifier tube is employed. (For pocket type radios, such as: Admiral, Fada Sentinel, Sonora, Motorola, Detrola. Farnsworth, etc.) Individually packaged 1.72

REPLACEMENT LINE CORD FOR MOTOROLA SETS



No. — List Price

2198—8 ft. cord containing 2 resistance elements—1100 and 280 ohms. Has 4 terminals. Essential replacement for all Motorola portables. Nos. 41D, 51D, 52D, 41H. $2.06

COMBINATION ANTENNA WIRE and STRAIGHT AC CORD

No. — List Price

2168—3-wire cord with special female socket to fit sets which have three prong male plug, used in Sentinel, Admiral, Belmont, Sonora, etc. Individually packaged $1.72

UNIVERSAL AC-DC RESISTANCE LINE CORDS

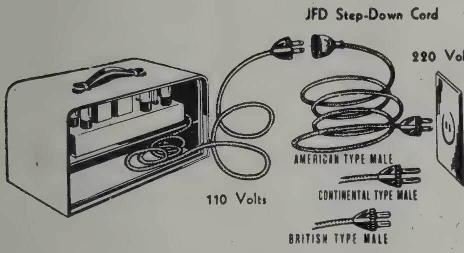
No. — List Price

2175—This line cord replaces AC-DC cords from 220 ohms to 300 ohms. Can be used for either standard three terminal or tapped cord........ $1.72

RESISTOR LINE CORDS
STEP-DOWN — AC-DC

(Step-Down from 220 V. to 110 V.)

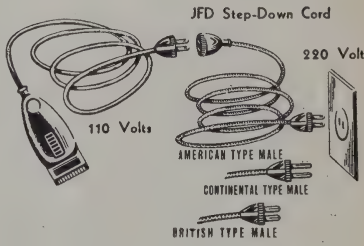
JFD STEP-DOWN LINE CORDS FOR RADIOS



Cat. No.	Description	List Price
2191	220V-110V Stepdown using .3 amp. radio tubes. American Male Plug	$2.40
2193C	220V-110V Stepdown using .3 amp. radio tubes. Continental Male Plug	2.40
2193B	220V-110V Stepdown using .3 amp. radio tubes. British Male Plug	2.40
2192	220V-110V Stepdown using .15 amp. radio tubes. American Male Plug	2.40
2194C	220V-110V Stepdown using .15 amp. radio tubes. Continental Male Plug	2.40
2194B	220-110V Stepdown using .15 amp. radio tubes. British Male Plug	2.40

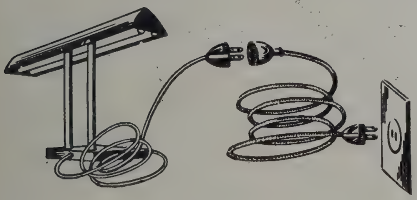
JFD STEP-DOWN LINE CORDS FOR ELECTRIC RAZORS

Cat. No.	Description	List Price
2203	220V-110V Stepdown for Remington Rand Razor 15W. American Female and American Male	$2.60
2203B	220V-110V Stepdown for Remington Rand Razor 15W. American Female and British Male	2.60
2203C	220V-110V Stepdown for Remington Rand Razor 15W. American Female and Continental Male	2.60
2204	220V-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and American Male	2.60
2204B	220-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and British Male	2.60
2204C	220V-110V Stepdown for Shick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and Continental Male	2.60
2205	220V-110V Stepdown for Packard Razor 6W with American Female and American Male	2.60
2205B	220V-110V Stepdown for Packard Razor 6W with American Female and British Male	2.60



Cat. No.	Description	List Price
2205C	220V-110V Stepdown for Packard Razor 6W with American Female and Continental Male	$2.60

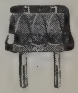
JFD AC-DC LINE CORDS FOR FLUORESCENT FIXTURES



Cat. No.	Description	List Price
2181FL	165 ohm, for 20 watt bulb, 117 volts, 6 feet long	$1.17
2181FL-2	2-Two 165 ohm windings, for two 20 watt bulbs, 117 volts, 6 feet long	2.00
2182FL	180 ohm, for 15 watt bulb, 117 volts, 6 feet long	1.17
2200FL	2-Two 180 ohm windings, for two 15 watt bulbs, 117 volts, 6 feet long	2.00

Cat. No.	Description	List Price
2190FL	390 ohm, for 8 watt bulb, 117 volts, 8 feet long	$1.17
2190FL-2	2-Two 390 ohm windings, for two 8 watt bulbs, 117 volts, 8 feet long	2.00
2475FL	475 ohm, for 6 watt bulb, 117 volts, 8 feet long	1.72
2475FL-2	2-Two 475 ohm windings, for two 6 watt bulbs, 117 volts, 8 feet long	2.00

JFD Foreign Adapter



Converts American Male plug to Continental and British Male plug—quickly and easily! Converts foreign receptacle to standard American receptacle.

No.		List
2-449	With Continental prongs	$0.33
2-450	With British prongs	.33

JFD PRECISION MADE RADIO DIAL BELT KITS

Save Time

JFD DIAL BELTS FOR SERVICEMEN

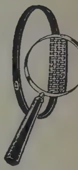
JFD offers you the choice of three kit assortments containing 25, 50 or 100 of the most popular belts—in a sturdy metal index cabinet. Included with each kit are 1 MEASUREMENT CHART, a CONVERSION CHART and a 64-page BELT BOOKLET covering all types of belts for more than 1,500 radio models.

BETTER GRIP: Maximum friction on the inside surface, nonslip grip.

THREE PLY CONSTRUCTION: Three layers of woven fabric impregnated with high-grade synthetic rubber.

EXACT FIT: Precision-made to correct length, guarantees accurate tuning. Easy to install, no adjustments necessary. USE JFD BELTS ALWAYS.

EACH BELT LIST PRICE $0.25



USE THE BELT THE MANUFACTURERS USE

Buy 'Em By The Box!

JFD WOVEN FABRIC DIAL BELTS

		List Price
B25A	Belt Kit Assortment of 25	$6.70
B50A	Belt Kit Assortment of 50	13.40
B100A	Belt Kit Assortment of 100	25.00

JFD DIAL BELT MANUAL

Model No.	JFD Belt No.	Length When Open
ACRATEST		
24BH	8	8-3/4"
30C	9	8-23/32"
31C	9	8-23/32"
AM29C	9	8-23/32"
AM79H	9	8-23/32"
AM111G	9	8-23/32"
ADMIRAL—Straight Face Chassis		
AM3	67	12-7/16"
AM3-86-57	67	12-7/16"
AM4	67	12-7/16"
AM4-58	67	12-7/16"
AM5	67	12-7/16"
AM6	67	12-7/16"
AM6-86-57	67	12-7/16"
AM7	67	12-7/16"
AM7-86	67	12-7/16"
AM8	67	12-7/16"
AM8-59	67	12-7/16"
ADMIRAL Tilt Face Chassis		
AM3	69	12-3/32"
AM3-87-88	69	12-3/32"
AM4	69	12-3/32"
AM4-88	69	12-3/32"
AM5	69	12-3/32"
AM6	69	12-3/32"
AM6-87-88	69	12-3/32"
AM7	69	12-3/32"
AM7-87	69	12-3/32"
AM8	69	12-3/32"
AM8-89	69	12-3/32"
F3	39	12-5/8"
8K	87	16-3/8"
8KU	87	16-3/8"
8T	87	16-3/8"
8TU	87	16-3/8"
9G	68	17-5/8"
11A	68	17-5/8"
11S	68	17-5/8"
14S	68	17-5/8"
16R	68	17-5/8"
16S	68	17-5/8"
16V	68	17-5/8"
86	67	12-7/16"
139-11A	68	17-5/8"
140-16S	68	17-5/8"
144-11A	68	17-5/8"
144-16S	68	17-5/8"
AIRLINE		
62-179	16	9-5/8"
62-180	63	9-9/16"
62-182	63	9-9/16"
62-185	63	9-9/16"
62-187	63	9-9/16"
AIRLINE (Cont.)		
62-190	16	9-5/8"
62-192	63	9-9/16"
62-194	16	9-5/8"
62-195	64	10-9/16"
62-196	16	9-5/8"
62-197	64	10-9/16"
62-206	16	9-5/8"
62-207	63	9-9/16"
62-209	63	9-9/16"
62-215	16	9-5/8"
62-216	16	9-5/8"
62-218	63	9-9/16"
62-220	63	9-9/16"
62-221	63	9-9/16"
62-223	63	9-9/16"
62-226	51	16-11/16"
62-228	51	16-11/16"
62-249	23	10-7/32"
62-250	51	16-11/16"
62-251	27	10-1/8"
62-253	66	10-1/16"
62-255	23	10-7/32"
62-257	23	10-7/32"
62-259	51	16-11/16"
62-301	4	8-9/32"
62-301X	4	8-9/32"
62-303	65	11-3/8"
62-307	23	10-7/32"
62-308	92	16"
62-309	65	11-3/8"
62-316	23	10-7/32"
62-317	23	10-7/32"
62-318	51	16-11/16"
62-328	23	10-7/32"
62-338	23	10-7/32"
62-358	51	16-11/16"
62-368	51	16-11/16"
62-407	23	10-7/32"
62-408	92	16"
62-409	51	16-11/16"
62-416	23	10-7/32"
62-418	51	16-11/16"
62-428	23	10-7/32"
62-430	23	10-7/32"
62-448	51	16-11/16"
62-458	51	16-11/16"
AIRMASTER		
All Nos.	62	8-7/16"
ARVIN		
617	89	17"
617B	89	17"
618B	47	14-11/16"
627	89	17"
627B	89	17"
628B	47	14-11/16"
927	89	17"
ARVIN (Cont.)		
1127	89	17"
1237	90	19-3/4"
1237D	90	19-3/4"
1247	90	19-3/4"
1247A	90	19-3/4"
1247D	90	19-3/4"
1427	90	19-3/4"
1427D	90	19-3/4"
Pt. #28-13838	94	14-39/64"
Pt. #28-15647	93	17-1/8"
BELMONT		
556	19	10"
685	19	10"
686	26	10-1/4"
770	26	10-1/4"
746A	19	10"
778	19	10"
786	26	10-1/4"
787	25	10-1/4"
822	19	10"
845A	19	10"
878	4	8-9/32"
878A	7	7-29/32"
878B	7	7-29/32"
879	53	8-7/8"
947	95	11-37/64"
1070	26	10-1/4"
1078B	19	10"
112-125	26	10-1/4"
112-176	55	7-7/8"
112-194	12	8-25/32"
1170	4	8-9/32"
1170A	7	7-29/32"
1170B	3	7-23/32"
1170C	7	7-29/32"
1171	53	8-7/8"
1172	4	8-9/32"
1172A	7	7-29/32"
1174	4	8-9/32"
BOSCH		
660	29	11"
670	15	9-1/2"
670C	15	9-1/2"
670S	15	9-1/2"
678	15	9-1/2"
680	15	9-1/2"
CAPEHART		
3650	57	7-9/32"
CASE		
701	40	12-11/16"
801	40	12-1/2"
802	40	12-1/2"
1001	40	12-1/2"
CASE (Cont.)		
1101	40	12-1/2"
1102	40	12-1/2"
16SME	40	12-1/2"
19A	40	12-1/2"
19RSME	40	12-1/2"
27SME	40	12-1/2"
110RSME	40	12-1/2"
CORONADO		
ODM	66	10-1/16"
ODM-578	66	10-1/16"
WG	66	10-1/16"
8X35	63	9-9/16"
8X36	24	10-1/2"
11B	21	10-15/16"
457	16	9-5/8"
516	16	9-5/8"
552	47	14-11/16"
1170	5	7-3/4"
650A	47	14-11/16"
686	19	10"
740	19	10"
770	19	10"
778	19	10"
787	19	10"
810	19	10"
822	19	10"
850B	11	8-3/32"
17447	47	14-11/16"
17514	4	8-9/32"
17628	26	10-1/4"
17676	32	11-1/4"
112-125	26	10-1/4"
112-176	55	7-7/8"
112-194	12	8-25/32"
22CM-576	26	10-1/4"
26FM-552	26	10-1/4"
CROSLEY		
636	36	11-3/4"
726	36	11-3/4"
816	36	11-3/4"
916	36	11-3/4"
1016	78	12-7/32"
1117	2	7"
1126	36	11-3/4"
1127	2	7"
1128	36	11-3/4"
1137	2	7"
1155	52	10-3/4"
1216	36	11-3/4"
1217	2	7"
1227	2	7"
1316	36	11-3/4"
1336	36	11-3/4"
1516	36	11-3/4"
Manual tuning all models	36	11-3/4"
Electric tuning all		
CROSLEY (Cont.)		
models	58	6-15/16"
CROWE MFG. CO.		
3187	84	9"
3489	20	10-7/8"
3594	49	15-11/32"
3631	1	6-13/16"
7457	17	9-11/32"
7878	13	8-13/16"
7879	2	7"
9324	55	7-7/8"
9305	59	8-3/8"
10305	78	12-7/32"
10565	5	7-3/4"
11117	39	12-5/8"
11165	16	9-5/8"
11175	7	7-28/32"
12704	90	19-3/4"
13628	16	9-5/8"
13636	19	10"
13755	81	17-3/4"
13762	74	22-3/4"
13841	82	18-3/4"
14039	22	10-11/16"
DE JUR AMSCO		
10-608	1	6-13/16"
10-609	95	11-37/64"
DETROLA		
155	95	11-37/64"
163	35	11-9/32"
164	35	11-9/32"
165	35	11-9/32"
DEWALD		
901	41	12-1/8"
1102	41	12-1/8"
EMERSON SERIES		
A	59	8-3/8"
AA	3	7-23/32"
AB	18	10-21/32"
AC	59	8-3/8"
AE	14	8-5/8"
AF	56	7-15/32"
AG	18	10-21/32"
AH	56	7-15/32"
AJ	59	8-3/8"
AL	59	8-3/8"
ALLW	56	7-15/32"
AM	3	7-23/32"
AP	56	7-15/32"
AR	56	7-15/32"
AS	56	7-15/32"
AV	3	7-23/32"
AW	56	7-15/32"
B	3	7-23/32"

(Continued on next page)

DIAL BELT MANUAL

Model No.	JFD Belt No.	Length When Open
EMERSON SERIES (Cont.)		
BF	3	7-23/32″
C	18	10-21/32″
D	18	10-21/32″
F	3	7-23/32″
G	3	7-23/32″
H	59	8-3/8″
J	57	7-9/32″
K	61	7-3/32″
K116	61	7-3/32″
L	3	7-23/32″
LLW	56	7-15/32″
L137	3	7-23/32″
M	18	10-21/32″
P	11	8-3/32″
S	62	8-7/16″
X	18	10-21/32″
Z	3	7-23/32″
A130	59	8-3/8″
A132	59	8-3/8″
A148	59	8-3/8″
AA131	3	7-23/32″
AB178	18	10-21/32″
AB182	18	10-21/32″
AB183	26	10-1/4″
AB184	18	10-21/32″
AC130	59	8-3/8″
AC149	59	8-3/8″
AC168	59	8-3/8″
AC202	59	8-3/8″
AE163	14	8-5/8″
AF171	56	7-15/32″
AF173	56	7-15/32″
AF176	56	7-15/32″
AF179	56	7-15/32″
AF180	56	7-15/32″
AF185	56	7-15/32″
AG151	18	10-21/32″
AH162	56	7-15/32″
AH165	56	7-15/32″
AH166	56	7-15/32″
AH171	56	7-15/32″
AH173	56	7-15/32″
AH174	56	7-15/32″
AH176	56	7-15/32″
AH179	56	7-15/32″
AH180	56	7-15/32″
AH185	56	7-15/32″
AJ130	59	8-3/8″
AJ137	59	8-3/8″
AJ149	59	8-3/8″
AL130	59	8-3/8″
AL132	59	8-3/8″
AL149	59	8-3/8″
AL164	59	8-3/8″
AL168	59	8-3/8″
AL202	5	7-3/4″
ALLW130	56	7-15/32″
ALLW132	56	7-15/32″
ALLW149	56	7-15/32″
ALLW168	56	7-15/32″
AM131	3	7-23/32″
AM153	3	7-23/32″
AM169	3	7-23/32″
AM187	3	7-23/32″
AP165	56	7-15/32″
AP166	56	7-15/32″
AP171	56	7-15/32″
AP173	56	7-15/32″
AP174	56	7-15/32″
AP176	56	7-15/32″
AP177	56	7-15/32″
AP180	56	7-15/32″
AP185	56	7-15/32″
AR165	56	7-15/32″
AR166	56	7-15/32″
AR171	56	7-15/32″
AR173	56	7-15/32″
AR174	56	7-15/32″
AR176	56	7-15/32″
AR177	56	7-15/32″
AR180	56	7-15/32″
AR185	56	7-15/32″
AS179	56	7-15/32″
AV193	3	7-23/32″
AW171	56	7-15/32″
AW173	56	7-15/32″
AW174	56	7-15/32″
AW176	56	7-15/32″
AW180	56	7-15/32″
AW185	56	7-15/32″
B131	3	7-23/32″
BF191	3	7-23/32″
C134	18	10-21/32″
C136	18	10-21/32″
EMERSON (Cont.)		
C138	18	10-21/32″
C139	18	10-21/32″
C140	18	10-21/32″
C142	18	10-21/32″
D5	18	10-21/32″
D134	18	10-21/32″
D136	18	10-21/32″
D138	18	10-21/32″
D139	18	10-21/32″
D140	18	10-21/32″
D142	18	10-21/32″
D146	18	10-21/32″
F117	3	7-23/32″
F122	3	7-23/32″
F133	3	7-23/32″
F135	3	7-23/32″
F141	3	7-23/32″
G4	3	7-23/32″
G127	3	7-23/32″
H5	59	8-3/8″
H5L	59	8-3/8″
H130	59	8-3/8″
H137	59	8-3/8″
J106	57	7-9/32″
K106	61	7-3/32″
K121	61	7-3/32″
K123	61	7-3/32″
LAC4	3	7-23/32″
LAC5	3	7-23/32″
L117	3	7-23/32″
L117LW	3	7-23/32″
L122	3	7-23/32″
L122LW	3	7-23/32″
L133	3	7-23/32″
L133LW	3	7-23/32″
L135	3	7-23/32″
L135LW	3	7-23/32″
L141	3	7-23/32″
L141LW	3	7-23/32″
L143	56	7-15/32″
L150	3	7-23/32″
L143W	3	7-23/32″
M134	18	10-21/32″
M136	18	10-21/32″
M139	18	10-21/32″
M140	18	10-21/32″
M142	18	10-21/32″
M146	18	10-21/32″
P117	11	8-3/32″
P135	11	8-3/32″
S7	62	8-7/16″
S50	62	8-7/16″
S134	62	8-7/16″
S138	62	8-7/16″
S139	62	8-7/16″
S140	62	8-7/16″
S147	62	8-7/16″
S151	62	8-7/16″
X146	18	10-21/32″
X175	18	10-21/32″
X178	18	10-21/32″
X183	18	10-21/32″
Z117	3	7-23/32″
Z122	3	7-23/32″
Z133	3	7-23/32″
Z135	3	7-23/32″
Z141	3	7-23/32″
Z143	3	7-23/32″
Z150	3	7-23/32″
Z159	3	7-23/32″
Z160	3	7-23/32″
FADA		
190	14	8-5/8″
191	14	8-5/8″
192	14	8-5/8″
193	14	8-5/8″
211	37	11-15/32″
212	41	12-1/8″
216	41	12-1/8″
220	30	11-7/16″
270	10	8-11/16″
271	10	8-11/16″
290	37	11-15/32″
291	37	11-15/32″
311	37	11-15/32″
312	41	12-1/8″
316	41	12-1/8″
F'BKS-MORSE		
GA	40	12-1/2″
5C	46	13-5/16″
5D	46	13-5/16″
6A	46	13-5/16″
6C	46	13-5/16″
F'BKS-MORSE (Cont.)		
7D	77	13-1/16″
8A	54	12-1/4″
58	32	11-1/4″
72	32	11-1/4″
73	32	11-1/4″
82	9	8-23/32″
90	9	8-23/32″
91	40	12-1/2″
100	9	8-23/32″
110	9	8-23/32″
120	4	8-9/32″
GAROD		
370	19	10″
370A	19	10″
271	19	10″
380	52	10-3/4″
381	52	10-3/4″
731	19	10″
731A	19	10″
803E	16	9-5/8″
830	52	10-3/4″
830A	52	10-3/4″
831	52	10-3/4″
831A	52	10-3/4″
GAROD—Manual Tuning Models		
309	86	15-5/8″
903	86	15-5/8″
930	52	10-3/4″
930A	52	10-3/4″
1203	86	15-5/8″
1204	86	15-5/8″
1240	20	10-7/8″
1240A	20	10-7/8″
1603	86	15-5/8″
1604	86	15-5/8″
1650	20	10-7/8″
1650A	20	10-7/8″
3012	86	15-5/8″
3016	86	15-5/8″
4012	86	15-5/8″
4016	86	15-5/8″
4110	20	10-7/8″
4560	21	10-15/16″
5140	20	10-7/8″
5240	20	10-7/8″
6250	20	10-7/8″
6385	85	16″
GAROD—Automatic Tuning Models		
309	89	17″
903	89	17″
1203	89	17″
1204	89	17″
1603	89	17″
1604	89	17″
3012	89	17″
3016	89	17″
4012	89	17″
4016	89	17″
GENERAL ELECT.		
F107	88	8″
F109	88	8″
F135	88	8″
GOODYEAR		
112-125	26	10-1/4″
112-176	55	7-7/8″
112-194	12	8-25/32″
1070	19	10″
1173	14	8-5/8″
1174	5	7-3/4″
GRUNOW		
11G	39	12-5/8″
573	30	11-7/16″
631	30	11-7/16″
643	30	11-7/16″
711	30	11-7/16″
723	30	11-7/16″
731	30	11-7/16″
733	30	11-7/16″
735	30	11-7/16″
823	32	11-1/4″
831	32	11-1/4″
833	32	11-1/4″
835	32	11-1/4″
941	32	11-1/4″
1191	39	12-5/8″
1191B	24	10-1/2″
1192	44	12-3/4″
GRUNOW (Cont.)		
1198	39	12-5/8″
1201	48	15-1/32″
HALLICRAFTERS		
5PA	17	9-11/32″
5T	76	9-1/8″
S14	63	9-9/16″
HOWARD		
450	21	10-15/16″
518	36	11-3/4″
520	36	11-3/4″
565	36	11-3/4″
568	36	11-3/4″
568R	43	12-1/16″
575	36	11-3/4″
580	36	11-3/4″
585	36	11-3/4″
718APC	43	12-1/16″
718C	43	12-1/16″
718FM	43	12-1/16″
KEYSTONE		
C-8 Projector	77	13-1/16″
R-8 Projector	85	16″
KINGSTON		
17447	47	14-11/16″
17514	4	8-9/32″
17628	2	7″
17676	32	11-1/4″
KNIGHT		
11A	68	17-5/8″
11S	81	17-3/4″
16R	81	17-3/4″
16S	68	17-5/8″
A9788	44	12-3/4″
A9789	44	12-3/4″
A9830	26	10-1/4″
A9831	26	10-1/4″
A9852	44	12-3/4″
A9853	44	12-3/4″
A-9854	44	12-3/4″
B10510	50	16-5/8″
B10511	50	16-5/8″
B10512	50	16-5/8″
B10515	50	16-5/8″
B10516	50	16-5/8″
B10517	50	16-5/8″
B10518	50	16-5/8″
B10520	68	17-5/8″
B10521	68	17-5/8″
B10522	68	17-5/8″
B10523	68	17-5/8″
B10525	68	17-5/8″
B10526	68	17-5/8″
B10537	68	17-5/8″
B10538	68	17-5/8″
B10539	68	17-5/8″
B10540	50	16-5/8″
B10541	50	16-5/8″
B10542	50	16-5/8″
B10760	68	17-5/8″
B10761	68	17-5/8″
B10762	68	17-5/8″
B10765	68	17-5/8″
B10766	68	17-5/8″
B10767	68	17-5/8″
B10773	50	16-5/8″
E10744	68	17-5/8″
E10745	68	17-5/8″
E10850	68	17-5/8″
E10851	68	17-5/8″
E10880	68	17-5/8″
E10881	68	17-5/8″
H9791	26	10-1/4″
H9792	26	10-1/4″
H9795	26	10-1/4″
LAFAYETTE		
B15	15	9-1/2″
B22	15	9-1/2″
B30	26	10-1/4″
B35	15	9-1/2″
C46	21	10-15/16″
C47	21	10-15/16″
C61	21	10-15/16″
C62	21	10-15/16″
C64	21	10-15/16″
MB3	40	12-1/2″
MB4	40	12-1/2″
MB5	40	12-1/2″
LAFAYETTE (Cont.)		
MB6	40	12-1/2″
McMURDO-SILVER		
All Models	76	9-1/8″
MAJESTIC New Type Dial		
65	2	7″
66	2	7″
75	2	7″
76	2	7″
85	2	7″
86	2	7″
650	2	7″
750	2	7″
850	53	8-7/8″
1050	53	8-7/8″
1056	74	22-3/4″
1058	10	8-10/16″
1250	53	8-7/8″
1356	74	22-3/4″
1656	74	22-3/4″
MAJESTIC Old Type Dial		
65	6	7-19/32″
66	6	7-19/32″
75	6	7-19/32″
76	6	7-19/32″
85	6	7-19/32″
86	6	7-19/32″
650	6	7-19/32″
750	6	7-19/32″
850	12	8-25/32″
1050	12	8-25/32″
1250	12	8-25/32″
1056	73	21-1/4″
1058	73	21-1/4″
1356	73	21-1/4″
1656	73	21-1/4″
7182	56	7-15/32″
MAJESTIC With Pully Idler		
1056	74	22-3/4″
1058	74	22-3/4″
1356	74	22-3/4″
1656	74	22-3/4″
17182	60	8-15/16″
17203	61	7-3/32″
NORTH ELECT.		
Type One	17	9-11/32″
Other Numbers	52	10-3/4″
PHILCO		
54-7194	20	10-7/8″
R.C.A.		
5Q1	11	8-3/32″
5Q2	11	8-3/32″
5Q4	11	8-3/32″
5Q2X	11	8-3/32″
85BK	33	11-11/32″
85BT	33	11-11/32″
85BT6	6	7-19/32″
85E	22	10-11/16″
85K	6	7-19/32″
85K1	23	10-7/32″
85T	12	8-25/32″
85T1	6	7-19/32″
85T2	13	8-13/16″
85T5	11	8-3/32″
85T8	11	8-3/32″
85T9	23	10-7/32″
86BK	33	11-11/32″
86BT	33	11-11/32″
86E	42	12-13/32″
86K	42	12-13/32″
86K2	11	8-3/32″
86K7	42	12-13/32″
86T	33	11-11/32″
86T1	33	11-11/32″
86T2	11	8-3/32″
86T3	11	8-3/32″
86T4	33	11-11/32″
86T44	33	11-11/32″
86T6	11	8-3/32″
86X	6	7-19/32″
86X4	6	7-19/32″
87EY	33	11-11/32″
87K	42	12-13/32″

(Continued on next page)

JFD PRECISION MADE

DIAL BELT MANUAL

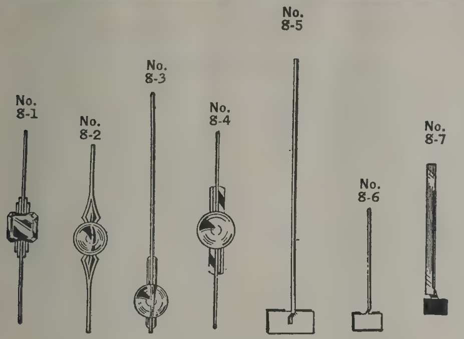
Model No.	JFD Belt No.	Length When Open
R.C.A. (Cont.)		
87K1	42	12-13/32″
87K2	42	12-13/32″
87T	33	11-11/32″
87T1	11	8-3/32″
87T2	42	12-13/32″
87T7	88	8″
87X	33	11-11/32″
87Y	33	11-11/32″
88K	42	12-13/32″
88W	42	12-13/32″
88U	42	12-13/32″
88U2	42	12-13/32″
95FT	88	8″
U101	6	7-19/32″
U102E	22	10-11/16″
U103	6	7-19/32″
U105	42	12-13/32″
U106	42	12-13/32″
U107	42	12-13/32″
U813	42	12-13/32″
153	78	12-7/32″
501	88	8″
502	88	8″
502X	88	8″
504	88	8″
ACR111	17	9-11/32″
810K	42	12-13/32″
810K1	42	12-13/32″
810T	42	12-13/32″
810T4	42	12-13/32″
812X	43	12-1/16″
RC278A	11	8-3/32″
RC289A	33	11-11/32″
RC290A	42	12-13/32″
RC294	6	7-19/32″
RC294B	12	8-25/32″
RC314	22	10-11/16″
RC314C	13	8-13/16″
RC315B	88	8″
RC315C	88	8″
RC319B	78	12-7/32″
RC325	23	10-7/32″
325C	88	8″
RC325C	11	8-3/32″
RC325D	11	8-3/32″
RC326	48	15-1/32″
RC327	50	16-5/8″
RC328	43	12-1/16″
RC366	88	8″
31527	15	9-1/2″
30461	22	10-11/16″
RADIO PROD.		
10305*CD	78	12-7/32″
11117*CD	39	12-5/8″
13755*CD	81	17-3/4″
13762*CD	74	22-3/4″
SCOTT		
TYPE 1	90	19-3/4″
TYPE 2	24	10-1/2″
SILVERTONE (Sears, Roebuck)		
1930	14	8-5/8″
1940	14	8-5/8″
1941	45	12-7/8″
1956	14	8-5/8″
1970	14	8-5/8″
1970A	14	8-5/8″
1978	14	8-5/8″
1981	45	12-7/8″
1981C	45	12-7/8″
7170	45	12-7/8″
7170A	45	12-7/8″
7221	76	9-1/8″
7340	45	12-7/8″
12645	80	9-3/8″
SIMPLEX		
8J	17	9-11/32″
W	8	8-3/4″
SILVERMARSHALL		
846	30	11-7/16″
1731	30	11-7/16″
SONORA		
11S	68	17-5/8″
16R	68	17-5/8″
SPARTON		
517	47	14-11/16″
517B	47	14-11/16″
517W	47	14-11/16″
517X	39	12-5/8″
SPARTON (Cont.)		
518	46	13-5/16″
518X	46	13-5/16″
527-2	46	13-5/16″
528-2	46	13-5/16″
537	46	13-5/16″
538	46	13-5/16″
538X	46	13-5/16″
547X	46	13-9/16″
548X	46	13-5/16″
557	47	14-11/16″
558	75	13-1/8″
558B	46	13-5/16″
558BX	46	13-5/16″
558C	46	13-5/16″
558X	46	13-5/16″
558CX	46	13-5/16″
567	47	14-11/16″
568	46	13-5/16″
568X	46	13-5/16″
577	46	13-5/16″
578	46	13-5/16″
578X	46	13-5/16″
587-2	46	13-5/16″
588-2	46	13-5/16″
617	46	13-5/16″
628	46	13-5/16″
628X	46	13-5/16″
637-6	46	13-5/16″
638-6	46	13-5/16″
667	46	13-5/16″
668	46	13-5/16″
668X	46	13-5/16″
678	46	13-5/16″
678A	46	13-5/16″
678X	46	13-5/16″
687-6	46	13-5/16″
688-6	46	13-5/16″
727-X	34	11-11/16″
727-XD	34	11-11/16″
728X	34	11-11/16″
748X	46	13-5/16″
768	34	11-11/16″
778	34	11-11/16″
827X	34	11-11/16″
827XD	34	11-11/16″
867	34	11-11/16″
877X	34	11-11/16″
928X	34	11-11/16″
968	34	11-11/16″
987	34	11-11/16″
997X	34	11-11/16″
1068	34	11-11/16″
1068X	71	11-3/8″
1078	34	11-11/16″
1078X	71	11-3/8″
1084	52	10-3/4″
1167	34	11-11/16″
1268	34	11-11/16″
1288P	34	11-11/16″
1288LXP	34	11-11/16″
1567	34	11-11/16″
1568	34	11-11/16″
1867	34	11-11/16″
STROM.-CARLSON		
230	48	15-1/32″
231	48	15-1/32″
235	48	15-1/32″
240	48	15-1/32″
245	48	15-1/32″
TRUETONE		
D692	29	11″
D692LATE	34	11-11/16″
D694	29	11″
ULTRAMAR		
66A	71	11-3/8″
96	71	11-3/8″
96A	71	11-3/8″
120	26	10-1/4″
801	26	10-1/4″
802	26	10-1/4″
WELLS-GARDNER		
A1	35	11-9/32″
A2	35	11-9/32″
A3	35	11-9/32″
A4	35	11-9/32″
A5	35	11-9/32″
0D	17	9-11/32″
2C	64	10-9/16″
2D	82	18-3/4″
6F	64	10-9/16″
7G	63	9-9/16″
8X35	63	9-9/16″
WELLS-GARDNER (Cont.)		
8X36	64	10-9/16″
8X42	82	18-3/4″
8X46	83	14-3/4″
8X47	81	17-3/4″
8X57	31	11-1/2″
8X62	70	16-21/32″
9C	63	9-9/16″
14	35	11-9/32″
15	35	11-9/32″
16	35	11-9/32″
17B2	31	11-1/2″
17L	82	18-3/4″
17P4	31	11-1/2″
17T1	31	11-1/2″
27L	83	14-3/4″
57E	46	13-5/16″
57F	64	10-9/16″
0E	82	18-3/4″
88A9	50	16-5/8″
WESTINGHOUSE		
1029X	24	10-1/2″
1029Y	24	10-1/2″
1230Y	24	10-1/2″
1230X	24	10-1/2″
WILCOX-GRAY		
6S12	25	10-21/32″
A21	25	10-21/32″
ZENITH		
5F134	80	9-3/8″
5F166	80	9-3/8″
5F233	84	9″
5F251	84	9″
5S29	2	7″
5S29A	2	7″
5S56	2	7″
5S56A	1	6-13/16″
5S119	80	9-3/8″
5S126	80	9-3/8″
5S127	80	9-3/8″
5S150	80	9-3/8″
5S151	80	9-3/8″
5S161	80	9-3/8″
5S233	84	9″
5S251	84	9″
5X230	84	9″
5X248	84	9″
5X274	84	9″
6B107	46	13-5/16″
6B129	46	13-5/16″
6B164	46	13-5/16″
6J230	13	8-13/16″
6J257	13	8-13/16″
6J436	80	9-3/8″
6J463	80	9-3/8″
6S27	16	9-5/8″
6S27A	16	9-5/8″
6S29	15	9-1/2″
6S52	16	9-5/8″
6S52A	16	9-5/8″
6S128	75	13-1/8″
6S137	75	13-1/8″
6S147	75	13-1/8″
6S152	75	13-1/8″
6S157	75	13-1/8″
6S203	84	9″
6S222	84	9″
6S223	84	9″
6S229	84	9″
6S238	84	9″
6S239	84	9″
6S241	84	9″
6S249	38	12-3/16″
6S254	79	11-3/16″
6S256	79	11-5/16″
6S330	13	8-13/16″
6S341	21	10-15/16″
6S361	13	8-13/16″
6S362	21	10-15/16″
6V27	16	9-5/8″
6V62	16	9-5/8″
7D119	80	9-3/8″
7D126	80	9-3/8″
7D127	80	9-3/8″
7D138	80	9-3/8″
7D148	80	9-3/8″
7D151	80	9-3/8″
7D153	17	9-11/32″
7D162	80	9-3/8″
7D168	17	9-11/32″
7D178	80	9-3/8″
7D203	84	9″
7D222	84	9″
ZENITH (Cont.)		
7D223	84	9″
7D229	84	9″
7D239	84	9″
7D241	84	9″
7D243	84	9″
7D253	84	9″
7J232	44	12-3/4″
7J259	44	12-3/4″
7J323	36	11-3/4″
7J368	36	11-3/4″
7S28	64	10-9/16″
7S30	28	10-19/32″
7S53**	26	10-1/4″
7S53*	64	10-9/16″
7S204*	77	13-1/16″
7S204**	80	9-3/8″
7S232*	77	13-1/16″
7S232**	80	9-3/8″
7S240*	77	13-1/16″
7S240**	80	9-3/8″
7S242*	77	13-1/16″
7S242**	80	9-3/8″
7S258*	77	13-1/16″
7S258**	80	9-3/8″
7S260*	77	13-1/16″
7S260**	80	9-3/8″
7S261*	77	13-1/16″
7S261**	80	9-3/8″
7S363	80	9-3/8″
8A01	80	9-3/8″
8A02	80	9-3/8″
8A03	80	9-3/8″
8B01	17	9-11/32″
8S30	46	13-5/16″
8S129	75	13-1/8″
8S451	80	9-3/8″
8S154	75	13-3/8″
8S443	80	9-3/8″
8S463	80	9-3/8″
8S548	80	9-3/8″
8S563	80	9-3/8″
8S586	80	9-3/8″
8S587	80	9-3/8″
8S588	80	9-3/8″
8S647	17	9-11/32″
8S661	17	9-11/32″
9S30	64	10-9/16″
9S54	64	10-9/16″
9S55	64	10-9/16″
9S203***	80	9-3/8″
9S203**	38	12-3/16″
9S203*	77	13-1/16″
9S204***	80	9-1/4″
9S204*	77	13-1/16″
9S204**	38	12-3/16″
9S222*	77	13-1/16″
9S222**	38	12-3/16″
9S222***	17	9-11/32″
9S232*	77	13-1/16″
9S232***	80	9-3/8″
9S232**	38	12-3/16″
9S242***	80	9-3/8″
9S242*	77	13-1/16″
9S242**	38	12-3/16″
9S244***	80	9-3/8″
9S244**	38	12-3/16″
9S244*	77	13-1/16″
9S262***	80	9-3/8″
9S262**	38	12-3/16″
9S262*	77	13-1/16″
9S263***	80	9-3/8″
9S263**	38	12-3/16″
9S263*	77	13-1/16″
9S264***	80	9-3/8″
9S264**	38	12-3/16″
9S264*	77	13-1/16″
9S307	36	11-3/4″
9S324	36	11-3/4″
9S344	36	11-3/4″
9S365*	38	12-3/16″
9S365***	17	9-11/32″
9S367	36	11-3/4″
9S369	36	11-3/4″
10A01	80	9-3/8″
10A2	80	9-3/8″
10A3	80	9-3/8″
10H551	17	9-11/32″
10B01	17	9-11/32″
10B1	17	9-11/32″
10B2	17	9-11/32″
10H571	80	9-3/8″
10S130	75	13-1/8″
10S147	75	13-1/8″
ZENITH (Cont.)		
10S153	75	13-1/8″
10S155	75	13-1/8″
10S156	75	13-1/8″
10S157	75	13-1/8″
10S160	75	13-1/8″
10S443	80	9-3/8″
10S452	80	9-3/8″
10S464	80	9-3/8″
10S470	80	9-3/8″
10S491	80	9-3/8″
10S492	80	9-3/8″
10S589	80	9-3/8″
10S590	80	9-3/8″
10S669	17	9-11/32″
10S690	17	9-11/32″
11S474	80	9-3/8″
12A1	38	12-3/16″
12A2	38	12-3/16″
12A3	38	12-3/16″
12A4	38	12-3/16″
12A6	17	9-11/32″
12A57	40	12-1/2″
12A58	40	12-1/2″
12B1	17	9-11/32″
12B2	38	12-3/16″
12H650	17	9-11/32″
12H670	17	9-11/32″
12H671	17	9-11/32″
12H678	17	9-11/32″
12H679	17	9-11/32″
12H689	38	12-3/16″
12H695	38	12-3/16″
12H696	38	12-3/16″
12L57	40	12-1/2″
12L58	40	12-1/2″
12S205**	38	12-3/16″
12S205***	80	9-3/8″
12S205*	77	13-1/16″
12S232**	38	12-3/16″
12S232***	80	9-3/8″
12S232*	77	13-1/16″
12S245**	38	12-3/16″
12S245***	80	9-3/8″
12S245*	77	13-1/16″
12S265**	38	12-3/16″
12S265***	80	9-3/8″
12S265*	77	13-1/16″
12S266**	38	12-3/16″
12S266***	80	9-3/8″
12S266*	77	13-1/16″
12S267**	38	12-3/16″
12S267***	80	9-3/8″
12S267*	77	13-1/16″
12S268**	38	12-3/16″
12S268***	80	9-3/8″
12S268*	77	13-1/16″
12S345	36	11-3/4″
12S370	36	11-3/4″
12S371	36	11-3/4″
12S445	38	12-3/16″
12S453	38	12-3/16″
12S471	38	12-3/16″
12S475	38	12-3/16″
12S494	38	12-3/16″
12S550	38	12-3/16″
12S568	38	12-3/16″
12S569	38	12-3/16″
12S550Z	38	12-3/16″
12S568E	38	12-3/16″
12S568Z	38	12-3/16″
12S569E	38	12-3/16″
12S569Z	38	12-3/16″
12S595	38	12-3/16″
12S595Z	38	12-3/16″
12U158	48	15-1/32″
14B1	38	12-3/16″
12U159	48	15-1/32″
15S308***	17	9-11/32″
15S308*	38	12-3/16″
15S346*	38	12-3/16″
15S346***	17	9-11/32″
15S372*	38	12-3/16″
15S372***	17	9-11/32″
15S373*	38	12-3/16″
15S373***	17	9-11/32″
15S479*	38	12-3/16″
15S479***	80	9-3/8″
15S495***	80	9-3/8″
15S495*	38	12-3/16″
15U246**	38	12-3/16″
15U246***	80	9-3/8″

(Continued on next page)

*Dial **Condenser ***Motor

JFD PRECISION MADE

DIAL POINTERS



JFD DIAL POINTERS

Cat. No. 8-1
$3\frac{3}{16}$″ overall length from tip to tip. Polished bronze, clear lacquered dial pointer. ¼″ bushing, can be snipped off to any desired length. Decorative modernistic square........**List Price $0.35**

Cat. No. 8-2
3⅛″ overall length from tip to tip. Polished bronze, clear lacquered dial pointer. ¼″ bushing, can be snipped off to any desired length. Modernistic curved motif..**List $0.35**

Cat. No. 8-3
Single arm. Measures 3½″ from center to end. Polished bronze, clear lacquered dial pointer. ⅛″ bushing. Can be snipped off to any desired length. Modernistic design..............................**List $0.35**

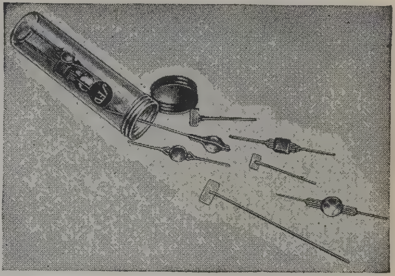
Cat. No. 8-4
3¼″ overall length tip to tip. Polished bronze, clear lacquered dial pointer. ⅛″ bushing. Can be snipped off to any desired length. Modernistic design..**List $0.35**

Cat. No. 8-5
Slide scale dial pointers. 4½″ overall length. White enamel finish. Can be snipped off to any length desired..........................**List $0.25**

Cat. No. 8-6
Slide scale dial pointer, $2\frac{9}{16}$″ overall length. White enamel finish. Can be snipped off to any desired length. ½″ x ¼″ slide shank. **List $0.25**

Cat. No. 8-7
Slide scale dial pointer. Red plastic indicator. 2⅛″ overall length. Can be snipped off to any length. ½″ x ¼″ slide shank. **List $0.25**

JFD DIAL POINTER ASSORTMENT



Cat. No. 8-10
Popular servicemen's assortment of 10 assorted dial pointers containing all the numbers at left. Comes in attractive plastic container which keeps pointers in perfect condition......**List Price $2.90**

JFD SERVICEMEN'S COMBINATION KIT

An assortment of all these little things that the Serviceman will find so convenient to have with him on the job.

JFD SERVICEMENS' KIT

Kit No. 51-1..............................**List $2.00**

- 15 Dial Drive Tension Springs
- 25 Knob Springs
- 10 Set Screws
- 5 Idler Pulleys
- 10 Dial Drive Rubbers

Kit No. 51-2..**List $4.00**

- 35 Dial Drive Tension Springs
- 35 Knob Springs
- 25 Set Screws
- 25 Idler Pulleys
- 15 Dial Drive Rubbers

JFD RADIO DIAL BELT MANUAL (Continued)

Model No.	JFD Belt No.	Length When Open
ZENITH (Cont.)		
15U246*	77	13-1/16″
15U269**	38	12-3/16″
15U269***	80	9-3/8″
15U269*	77	13-1/16″
15U270**	38	12-3/16″
15U270***	80	9-3/8″
15U270*	77	13-1/16″
15U271**	38	12-3/16″
15U271***	80	9-3/8″
15U271*	77	13-1/16″
15U272**	38	12-3/16″
15U272***	80	9-3/8″
15U272*	77	13-1/16″
15U273**	38	12-3/16″
15U273***	80	9-3/8″
15U273*	77	13-1/16″
16 Tube Strato	54	12-1/4″
16A61	54	12-1/4″
16A63	54	12-1/4″
ZENITH listed according to chassis numbers.		
601	1	6-13/16″
835	53	8-7/8″
880	53	8-7/8″
881	53	8-7/8″
ZENITH (Cont.)		
885	53	8-7/8″
908	2	7″
S908	2	7″
909	2	7″
S909	2	7″
935	53	8-7/8″
945	2	7″
950	2	7″
960	1	6-13/16″
961	2	7″
S961	2	7″
970	64	10-9/16″
975	64	10-9/16″
978	53	8-7/8″
980	53	8-7/8″
983	53	8-7/8″
985	53	8-7/8″
990	53	8-7/8″
1000Z	49	15-11/32″
25 Tube Strato	49	15-11/32″
1001	53	8-7/8″
1004	75	13-1/8″
1005	80	9-3/8″
1005	84	9″
1029Y	24	10-1/2″
1101	53	8-7/8″
ZENITH (Cont.)		
1103	84	9″
1103	80	9-3/8″
1105	53	8-7/8″
1117	2	7″
1167	2	7″
S1167	2	7″
1201	53	8-7/8″
1201	10	8-11/16″
1201A	53	8-7/8″
1201A	10	8-11/16″
1202	40	12-1/2″
1202A	40	12-1/2″
1203	48	15-1/32″
1204*	77	13-1/16″
1204 **	38	12-3/16″
1204***	17	9-11/32″
1206	38	12-3/16″
1207	38	12-3/16″
1207	36	11-3/4″
1501*	77	13-1/16″
1501**	38	12-3/16″
1501***	17	9-11/32″
1502*	38	12-3/16″
1502***	17	9-11/32″
1502A*	38	12-3/16″
1502A***	17	9-11/32″
1503*	38	12-3/16″
ZENITH (Cont.)		
1503***	80	9-3/8″
1601C	54	12-1/4″
1601P	54	12-1/4″
22B1	38	12-3/16″
2501	49	15-11/32″
2501C	49	15-11/32″
2501P	49	15-11/32″
5508	2	7″
5513	2	7″
5513A	2	7″
5516	80	9-3/8″
5518	80	9-3/8″
5522	84	9″
5523	84	9″
5614	2	7″
5618	2	7″
5619	16	9-5/8″
5619A	15	9-1/2″
5621	80	9-3/8″
5627	16	9-5/8″
5634	75	13-1/8″
5635	46	13-5/16″
5638	84	9″
5642	13	8-13/16″
5644	79	11-3/16″
5648	13	8-13/16″
5649	79	11-3/16″
ZENITH (Cont.)		
5679	80	9-3/8″
5679	84	9″
5704	64	10-9/16″
5704A	28	10-19/32″
5707	80	9-3/8″
5709	80	9-3/8″
5709	77	13-1/16″
5710	84	9″
5711	44	12-3/4″
5715	36	11-3/4″
5801	75	13-1/8″
5808	80	9-3/8″
5902	64	10-9/16″
5903	64	10-9/16″
5903A	28	10-19/32″
5905*	77	13-1/16″
5905**	38	12-3/16″
5905***	17	9-11/32″
5906*	38	12-3/16″
5906***	17	9-11/32″
5907	36	11-3/4″
S9061	2	7″
ZEPHYR		
8J	59	8-3/8″
8JM	59	8-3/8″

*Dial **Condenser ***Motor

*Dial **Condenser ***Motor

*Dial **Condenser ***Motor

DIAL BELT MANUAL

INTERCHANGE CHART

JFD Belts to Other Makes

Use JFD No.	In Place of Other Belt Nos.	Use JFD No.	In Place of Other Belt Nos.	Use JFD No.	In Place of Other Belt Nos.
1	101	34	173	66	123
2	161	35	135	67	139
3	103-155	36	194	68	169
4	104-159	37	137	69	138
5	105	38	138	70	170
6	177	39	144	71	171
7	174	40	178	72	113
8	108	41	143	73	175
9	109	42	140	74	176-191
10	109	43	141	75	168
11	111	44	145	76	167
12	153	45	145	77	168
13	108	46	146	78	154
14	110	47	147-186	79	133
15	116	48	151	80	115
16	119	49	149-187	81	179-190
17	117	50	184	82	181-189
18	118	51	184	83	148
19	123	52	152	84	167
20	121-129	53	112	85	150-182
21	120	54	142	86	183
22	152	55	107	87	170
23	126	56	106-156	88	174
24	124-164	57	157	89	165-185
25	122	58	158	90	166-188
26	126	59	172	91	193
27	127	60	160		wide open
28	128	61	102	92	192
29	180	62	114-162		wide open
30	134	63	163	93	185
31	136	64	125	94	147
32	130-132	65	131W	95	136
33	131				

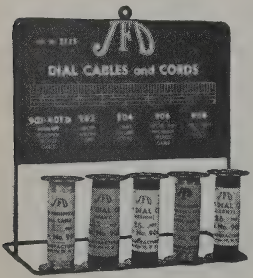
REVERSE INTERCHANGE CHART

Other Makes to JFD Belts

In Place of Other Belt Nos.	Use JFD No.	In Place of Other Belt Nos.	Use JFD No.	In Place of Other Belt Nos.	Use JFD No.
101	1	133	79	165	89
102	61	134	30	166	90
103	3	135	35	167	84
104	4	136	95	168	77
105	5	137	37	169	68
106	56	138	38	170	87
107	55	139	67	171	71
108	13	140	42	172	59
109	10	141	43	173	34
110	14	142	54	174	7
111	11	143	41	175	73
112	53	144	39	176	74
113	72	145	44	177	6
114	62	146	46	178	40
115	80	147	94	179	81
116	15	148	83	180	29
117	17	149	49	181	82
118	18	150	85	182	85
119	16	151	48	183	86
120	21	152	22	184	50
121	20	153	12	185	93
122	25	154	78	186	47
123	66	155	3	187	49
124	24	156	56	188	90
125	64	157	57	189	82
126	26	158	58	190	81
127	27	159	4	191	74
128	28	160	60	192	92
129	20	161	2	wide open	
130	32	162	62	193	91
131	33	163	63	wide open	
131W	65	164	24	194	36
132	32				

JFD SERVICEMAN'S HANDY RACKS OF DIAL DRIVE NYLON CORD AND CABLE

Here are two convenient JFD radio dial cable racks with an assortment of cable cords to do most any job. Hang it on the wall or keep it on the bench within easy reach. The spools revolve as you pull the cable to cut off the length required. You pay only for the spools—the METAL RACK IS FREE.



YOU PAY ONLY FOR THE CABLE

•

THE RACK IS FREE!

•

Every Spool is a Metal Spool—Housed in a Weather-Resistant, Moisture-Proof Plastic Container!

JFD
USE THE New
JFD
HANDY SPOOL
RADIO DIAL DRIVE CABLE and CORD

No. 5C25		No. 5C50		No. 5C100	
5 spools 25 ft. ea.		5 spools 50 ft. ea.		5 spools 100 ft. ea.	
	List		List		List
1—901D	$1.26	1—901D	$2.46	1—901D	$4.38
1—903	1.42	1—903	2.74	1—903	4.60
1—904	1.26	1—904	2.46	1—904	4.38
1—906	.93	1—906	1.81	1—906	3.45
1—908	.82	1—908	1.53	1—908	2.85
TOTAL	$5.69	TOTAL	$11.00	TOTAL	$19.66

PAY ONLY FOR CABLE — RACK IS FREE!

No. 5R100 SERVICEMAN'S BENCH RACK

List $19.66

(Metal Rack Stand FREE)

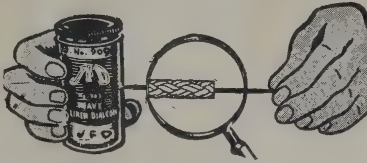
CONSISTS OF 5 100 FOOT SPOOLS
ONE EACH OF THE FOLLOWING

1—No. 901D—Fine Braided Phosphor Bronze	$4.38
1—No. 903—Heavy Nylon Cord	4.60
1—No. 904—Light Nylon Cord	4.38
1—No. 906—8 Strand Phosphor Bronze	3.45
1—No. 908—Thin Nylon Cord	2.85
TOTAL	$19.66

DIAL DRIVE NYLON CORD and CABLE

JFD PRECISION MADE

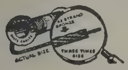
HANDY SPOOL FOR DIAL CABLE AND CORDS



The finest line of nylon dial cables and cords on the market, put up and packaged in a truly modern manner. All length spools come on metal spools, housed in transparent plastic containers which permit simplicity of handling, renders cable weather-proof, prevents cable from rotting, becoming brittle, or losing its original strength or color.

Empty Plastic Container Makes A Handy All-purpose Kit for Small Parts, Washers, etc.

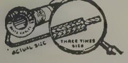
JFD 42 STRAND PHOSPHOR BRONZE CABLE



42 Strand Phosphor Bronze Cable with a linen thread center. This is the best flexible bronze cable obtainable. Wound on metal spool.

No.	Spools	List
901—25	25 ft.	$1.26
901—50	50 ft.	2.46
901—100	100 ft.	4.38
901—500	500 ft.	17.52
901—1000	1000 ft.	35.04

JFD LIGHT NYLON CORD



This light Nylon Cord has ample reserve strength and is now popularly used in original radio sets. Will adequately replace the cords of older type receivers. Wound on metal spool.

No.	Spool	List
904—25	25 ft.	$1.26
904—50	50 ft.	2.46
904—100	100 ft.	4.38
904—500	500 ft.	16.43
904—1000	1000 ft.	27.38

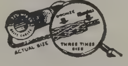
JFD THIN NYLON CORD

ACTUAL SIZE
THREE TIMES SIZE

Extra Special Thin Nylon Cord. Made of the finest braided black nylon. Wound on metal spool.

No.	Spool	List
908—25	25 ft.	$0.82
908—50	50 ft.	1.53
908—100	100 ft.	2.85
908—500	500 ft.	10.95
908—1000	1000 ft.	19.71

JFD FINE BRAIDED PHOSPHOR BRONZE CABLE



Very fine braided Phosphor Bronze Cable with a fiberglass center. This is a very popular cable. Wound on metal spool.

No.	Spools	List
901D—25	25 ft.	$1.26
901D—50	50 ft.	2.46
901D—100	100 ft.	4.38
901D—500	500 ft.	17.52
901D—1000	1000 ft.	35.04

JFD SPECIAL NYLON HEAVY CORD

ACTUAL SIZE
THREE TIMES SIZE

This special heavy Nylon Cord was designed to replace many cords in the older model receivers such as Kolster and Grebe sets, etc. Readily adaptable for many other applications where great strength is required.

No.	Spools	List
905—25	25 ft.	$2.19
905—50	50 ft.	3.83
905—100	100 ft.	7.39
905—500	500 ft	37.23

JFD SPECIAL THIN NYLON CORD

ACTUAL SIZE
THREE TIMES SIZE

Extra Special Thin Nylon Cord. Made of white braided linen. Very strong. Suited for replacements where very thin cord is required.

No.	Spools	List
908B—25	25 ft.	$0.82
908B—50	50 ft.	1.53
908B—100	100 ft.	2.85
908B—500	500 ft.	10.95
908B—1000	1000 ft.	19.71

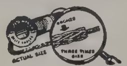
JFD 18 STRAND PHOSPHOR BRONZE CABLE

ACTUAL SIZE
THREE TIMES SIZE

18 Strand knitted Phosphor Bronze cable, will give good service.

No.	Spools	List
902—25	25 ft.	$0.93
902—50	50 ft.	1.81
902—100	100 ft.	3.45
902—500	500 ft.	14.78
902—1000	1000 ft.	27.38

JFD 8 STRAND PHOSPHOR BRONZE CABLE



Special Thin Phosphor Bronze Knitted Cable, 8 strands. Strong, flexible and especially made to replace cables on RCA and G.E. 1936 to 1938 receivers. Wound on metal spool.

No.	Spool	List
906—25	25 ft.	$0.93
906—50	50 ft.	1.81
906—100	100 ft.	3.45
906—500	500 ft.	14.78
906—1000	1000 ft.	27.38

JFD FLAX BRAIDED HEMP

ACTUAL SIZE
THREE TIMES SIZE

Flax Braided Hemp. Pre-stretched, diameter .062 and used in late models of Emerson, G.E., Sparton, Crosley, etc. Tensile strength more than sufficient for these and other receivers.

No.	Spools	List
909—25	25 ft.	$1.26
909—50	50 ft.	2.46
909—100	100 ft.	4.38
909—500	500 ft.	16.43
909—1000	1000 ft.	27.38

JFD HEAVY NYLON CORD

ACTUAL SIZE
THREE TIMES SIZE

This Heavy Nylon Cord will adequately replace old cables used in Silver-Marshall, Philco, Brunswick, and many other sets where heavy linen cable was formerly used. This heavy cord is also used in some of the modern receivers. Has great pulling strength. Wound on metal spool.

No.	Spool	List
903—25	25 ft.	$1.42
903—50	50 ft.	2.74
903—100	100 ft.	4.60
903—500	500 ft	21.90
903—1000	1000 ft.	38.33

JFD EXTRA HEAVY NYLON CORD

ACTUAL SIZE
THREE TIMES SIZE

Extra heavy Nylon Cord .072 gauge. For specific use on Philco receivers but can also be used for many other adaptations.

No.	Spool	List
907—25	25 ft.	$1.37
907—50	50 ft.	2.74
907—100	100 ft.	4.93
907—500	500 ft.	21.90
907—1000	1000 ft.	38.33

JFD DIAL DRIVE SPRINGS

	List per 100
35-1—Spring ⅛"x½"	$4.22
35-2—Spring ⅛"x1"	4.22
35-3—Spring 3/16"x1"	4.22
35-4—Spring 3/16"x1⅜"	4.22
35-5—Spring ¼"x1½"	4.22
35-6—Spring ¼"x2"	4.54
35-7—Kit of 25 assorted springs	1.10
35-8—Kit of 100 assorted springs	3.83

IDLER PULLEYS

Two sizes replace original idler or drive pulleys.

No.	List
No. 2080	$0.11
No. 2081	.11

JFD NON-SLIP COMPOUND

Prevents slipping of belts, cords or cables used on radio dials, refrigerators, etc. In powder form, easy to use. Insures a perfect non-slipping job.

No.	List
ST480—2 oz.	$0.35

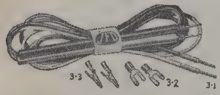
ASK FOR THE DIAL CORD IN THE PLASTIC CONTAINER!

POPULAR TEST LEAD LINE

ALL JFD TEST LEADS OFFER THESE FEATURES:

1. All fitting ends are solid brass (nickel-plated).
2. All wires are flexible, kink-free, rubber-covered for use on high voltages.
3. Prod handles are made for long, heavy duty—5" long.
4. Individually packed in dust-proof cellophane container.

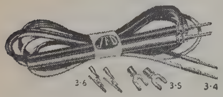
STANDARD TEST LEADS



Wire is 50" long.

No.	List
3-1—Phone tips	$1.25
3-2—Spade lugs	1.25
3-3—Alligator Clips	1.35

5" Heavy duty fibre handle, Phono needle point, removable, permits penetration through insulation of wire.

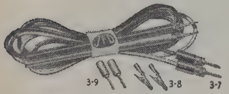


Wire is 50" long.

No.	List
3-4—Phone tips	$1.25
3-5—Spale lugs	1.25
3-6—Alligator Clips	1.35

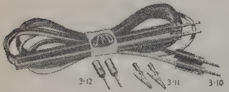
5" heavy duty fibre handle. Pointed senior solderless phone tips which permit easy changing of test leads without soldering.

SPECIAL TEST LEADS



No.	List
3-7—Phone tips	$1.75
3-8—Alligator Clips	1.75
3-9—Banana Plugs	1.75

Sturdily made with 5" long high luster cast phenolic handles. Phono needle point. Wire is 54" long. Solderless wire connection permits easy changing of test leads without soldering.

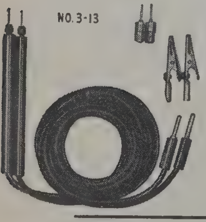


No.	List
3-10—Phone tips	$1.75
3-11—Alligator Clips	1.75
3-12—Banana Plugs	1.75

Sturdily made with 5" long, high luster, cast phenolic handles; Senior solderless phono tips. Wire is 54" long. Solderless wire connection permits easy changing of test leads without soldering.

JFD ALL-PURPOSE TEST LEADS

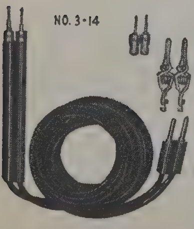
NO. 3-13



No. 3-13 High luster, heavy duty, cast phenolic handles, 5" long, red and black; special, flexible, kink-free, all-rubber covered 42-strand wire, 54" long, insulated for use on high voltages; sturdy, solid brass (nickel-plated) phono needle tips, designed for easy penetration through insulation of wire. Comes with insulated banana plugs on meter end. Also includes 1 pair Junior solderless phono tips and 1 pair alligator clips. Designed for easy interchange of parts.

No. 3-13....................List $2.50

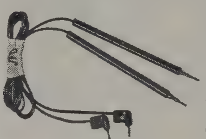
NO. 3-14



No. 3-14 High luster, heavy duty, cast phenolic handles. 5" long, red and black; special, flexible, kink-free, all-rubber covered 42-strand wire, 54" long, insulated for use on high voltages; solid brass (nickel-plated) senior solderless phone tips. Comes with insulated banana plugs on meter end. Also includes 1 pair Junior phone tips and 1 pair alligator clips. Designed for easy interchange of prod ends.

No. 3-14....................List $2.50

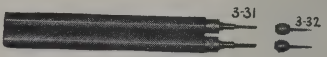
NEW TYPE ANGLE TEST LEAD



No. 3-15 New plug design eliminates danger of wire pulling out or breaking off—fits into curvature at an angle. Red and black catalin insulation; all rubber-covered kinkless wire, 48" long. Handles are 5" long cast phenolic. All connections are well soldered affording low resistance. Comes with nut and bolt for ease of assembly.

No. 3-15............................List $1.75

JFD TEST LEAD ACCESSORIES



Durable Fibre prod, 5" long, nickel-plated brass, solderless tips permit easy changing of leads without soldering. Red or black.

No.	List, Ea.
3-31—Senior Solderless Phone tips	$0.35
3-32—Phone needle tips	.35

Durable, high luster, cast phenolic prods, nickel-plated brass solderless tips permit easy changing of leads without soldering. 5" long. Red or black.

No.	List, Ea.
3-33—Senior Solderless Phone tips	$0.50
3-34—Phono needle tips	.50

No. 3-35

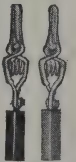
Insulated solid brass (nickel-plated) Junior solderless phone tips, red or black, durable cast phenolic handles, over-all length 2".

List Price, ea...................$0.22

No. 3-36

Insulated solid brass (nickel-plated) banana plug, solderless, durable, cast phenolic handles, red or black, over-all length 2".

List Price, Ea. $0.25



No. 3-37

Nickel-plated brass Alligator clips, tight, even-matched jaws; durable, high luster, insulated handles, come in red or black.

List Price, Ea.
$0.25

No. 3-38

Senior solderless phone tips, solid brass (nickel-plated). Made for easy insertion of wire.

List Price, Ea.
$0.10

No. 3-39

Junior solderless phone tips, solid brass (nickel-plated). Made for easy insertion of wire.

List Price, Ea.......$0.10

No. 3-40

Phono needle chuck, solid brass (nickel-plated). Specially tooled for easy insertion of wire.

List Price, Ea. $0.15

No. 3-41

Phone tips, solid brass (nickel-plated). A perfect replacement on headsets, speakers, and extension cords.

List Price, Ea. $0.02

No. 3-42 Replacement lead, extra flexible, kink-free, all rubber-covered. 50" long, insulated for use on high voltages. Built for long wear. Red or black.

List Price ....$0.17 per length

RADIO WIRE

AC-DC ANTENNA WIRE (Cotton Covered)

AC-DC antenna wire, stranded, woven cotton covered, flexible, brown.
2150—25 ft. hank (100 to carton)
2151—100 ft. hank
2153—1000 ft. spool

AC-DC ANTENNA WIRE (New Unkinkable Vinylite)

AC-DC antenna wire, stranded, new vinylite, flexible, durable, unkinkable.
2154—25 ft. hank
2155—1000 ft. spool

STRANDED HOOK-UP WIRE No. 18

Stranded hookup wire, 18 gauge, as above.
913-H

STRANDED HOOK-UP WIRE No. 22

Stranded hookup wire, 22 gauge, easy push-back, tinned, covered with special LACQUERED braid. Five colors: black, red, yellow, blue, green.
914-H

STRANDED HOOK-UP WIRE No. 16

Stranded hookup wire, 16 gauge, covered with durable cotton braid. Five colors.
915-H

STRANDED HOOK-UP WIRE No. 14

Stranded hookup wire, 14 gauge, as above.
916-H

SV No. 18 (Vacuum Cleaner Service Cord)

Two-conductor No. 18 SV cord, OD .180, for use with light electrical appliances such as vacuum cleaners and blowers. Stripped and tinned ready for use. U. L. Approved.
10-1 6′ length
10-2 8′ length
10-3 10′ length
10-4 12′ length
10-5 20′ length

SJ No. 18 (Service Cord for washing machines and larger appliances)

Two-conductor, No. 18 SJ cord, 16-30, OD .300. Stripped and tinned ready for use.
U. L. Approved
10-11 6′ length
10-12 8′ length
10-13 10′ length
10-14 12′ length
10-15 20′ length

SJ No. 16 (Heavy duty service cord)

Two-conductor No. 16 SJ cord, 26-30, OD .325. Stripped and tinned ready for use.
U. L. Approved
10-21 6′ length
10-22 8′ length
10-23 10′ length
10-24 12′ length
10-25 20′ length

S No. 18 (Heavy duty service cord)

Two-conductor, No. 18 S 16-30 heavy duty cord. OD .395. Stripped and tinned ready for use.
U. L. Approved
10-31 6′ length
10-32 8′ length
10-33 10′ length
10-34 12′ length
10-35 20′ length

SOLID HOOK-UP WIRE No. 22

Solid hookup wire, 22 gauge, easy pushback, tinned, woven fabric covered. Five colors: black, red, yellow, blue, green.
920-C—1000 ft. spool
921-C—3000 ft. spool

STRANDED HOOK-UP WIRE No. 22

Stranded hookup wire, 22 gauge, easy push-back, tinned, covered with durable cotton braid. Five colors: black, red, yellow, blue, green.
930-C—1000 ft. spool
931-C—3000 ft. spool

STRANDED HOOK-UP WIRE No. 20

Stranded hookup wire, 20 gauge, cotton covered.
935-C—1000 ft. spool
936-C—3000 ft. spool

7/24 BARE COPPER AERIAL WIRE

937—50 ft. coil (standard carton 100 coils)
938—100 ft. coil (standard carton 50 coils)
939—1000 ft. metal spool

SHIELDED PHONOGRAPH WIRE

Single conductor shielded wire, 22 gauge, very flexible, for phono pickups, and phono switches.
940A—100 ft. coil
941-A—1000 ft. spool

TRANSMISSION WIRE

Two conductor transmission wire, 20 gauge, cotton braided, weatherproof impregnated.
945-C

LAPEL MICROPHONE CABLE (.180 diam. Thin Gauge, Single Cond.)

Single conductor shielded microphone cable, 20 gauge. Smaller OD than standard type
960-C

MICROPHONE CABLE (Single Cond.)

Single conductor shielded microphone cable OD .250, 20 gauge.
961-C

MICROPHONE CABLE (Two Cond.)

Two conductor shielded microphone 20 gauge cable.
962-C

MICROPHONE CABLE (Three Cond.)

Three conductor shielded microphone 20 gauge cable.
963-C

SV (Vacuum Cleaner Service Cord) No. 18/2 .180 OD Thin Gauge

Two conductor No. 18 gauge SV cord, OD .180, for use with light electrical appliances such as vacuum cleaners and blowers.
974-C
U. L. Approved

SJ (Service Cord) No. 16/2

Two conductor, No. 16 gauge SJ cord, 26-30, OD .325.
976-C
U. L. Approved

SJ (Service Cord) No. 18/2

Two conductor, No. 18 gauge SJ cord, 16-30, OD .300.
978-C
U. L. Approved

S CORD (Heavy Duty Service Cord) No. 14/2

Two conductor, No. 14 gauge S heavy duty cord, 41-30, OD .540.
984-C U. L. Approved

S CORD (Heavy Duty Service Cord) No. 16/2

Two conductor, No. 16 gauge S heavy duty cord, 26-30, OD .410.
986-C U. L. Approved

S CORD (Heavy Duty Service Cord) No. 18/2

Two conductor, No. 18 gauge S heavy duty cord 16-30 OD .395.
988-C U. L. Approved

SHIELDED LEAD-IN WIRE (Single Cond.)

Single conductor shielded wire, stranded, tinned, 22 gauge, durable cotton braid covered.
911-H

SHIELDED LEAD-IN WIRE (Two Cond.)

Two conductor shielded wire, stranded, tinned, 22 gauge, durable cotton braid covered.
912-H

TEST LEAD WIRE

Kinkless flexible soft rubber covered test lead wire, 18 gauge, red or black.
2170—25 ft. hank
2171—100 ft. hank
2172—500 ft. spool
2173—1000 ft. spool

JFD INTER-COMMUNICATION CABLE, BRAIDED TYPE

GENERAL PURPOSE: Designed for interior use for connecting intercommunication systems, etc.
CONSTRUCTION: Each conductor stranded copper wire, two rayon reverse serves paraffined, color coded.

No.	Description	No.	Description
992	2 conductor	996	6 conductor
993	3 conductor	997	7 conductor
994	4 conductor	998	8 conductor
995	5 conductor	999	10 conductor

Sturdy 2 conductor, 18 gauge, POSJ (Zip), 6 foot power supply cord, with moulded unbreakable rubber plug.
2199-Z U. L. Approved

Similar to 2199-Z above, but with bakelite male attachment plug.
2199-Y

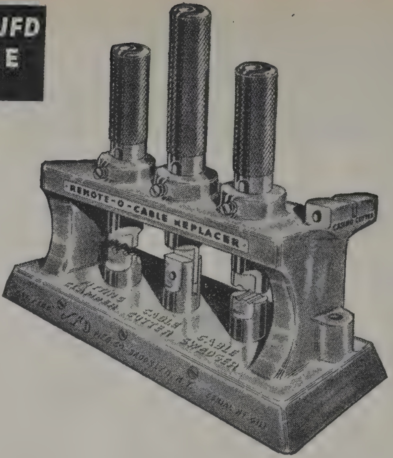
Sturdy 2 conductor, 18 gauge, 6 foot power supply cord. Covered with durable cotton overall braid, with moulded unbreakable rubber plug. Pigtail leads stripped and tinned, ready to attach.
2199-H

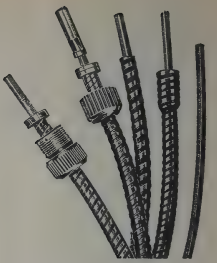
THE NEW IMPROVED JFD REMOTE-O-CABLE REPLACER

The Most Efficient Auto Radio Tuning Cable-Servicing Machine in Use Today!

Completely redesigned to meet MODERN Servicing requirements, the NEW JFD REMOTE-O-CABLE REPLACER is a vital necessity in the workshop of every auto-radio serviceman.

1. SWEDGES SHAFTING TO PREVENT UNRAVELLING.
2. CUTS SHAFTING TO EXACT LENGTH.
3. REPLACES OLD FITTINGS ON NEW SHAFTING.
4. CASING GROOVE MAKES CUTTING EASY.





SERVICEMEN'S NET COST $67.52

●

Size: Length, 10½". Width, 4¼". Height, 13". Weight, 29¼ lbs.

ANY JOB PROMPTLY DONE AND DELIVERED—The Remote-O-Cable Replacer + 50 feet of shafting and casing + an assortment of fittings and you are fully equipped.

USE OLD FITTINGS ON NEW SHAFTING—No need to wait for special lengths or odd fittings.

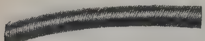
NO DELAY—Shafting of any length immediately available.

NO LOSS OF HEADS OR SHAFTING—Shafting of any make radio immediately changed to fit any dashboard head.

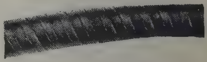
FRONT—REAR—ANYWHERE—Radio control in any part of the car.

EXACT LENGTH OF SHAFTING DOES IT—Maximum tuning efficiency.

AUTO RADIO CONTROL SHAFTING AND CASING



UNSWEDGED "LIVE" SHAFTING	NON-RAVELLING DEAD SHAFTING	CASING FOR ALL SHAFTINGS
Type CB .130 gauge $0.16 per ft. List	Type CD .130 gauge $0.18 per ft. List	Type HB .130 gauge $0.16 per ft. List
Type CA .150 gauge $0.21 per ft. List	Type CC .150 gauge $0.24 per ft. List	Type HA .150 gauge $0.21 per ft. List



AUTO RADIO CONTROL SHAFTING AND CASING CUT TO LENGTH

.130 CABLE AND CASING

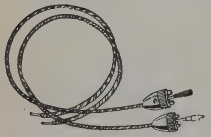
	18″	24″	30″	36″	42″	48″
Shafting only CB .130 Gauge	$0.45	$0.54	$0.63	$0.72	$0.81	$0.90
Casing only HB for .130 Gauge	.45	.54	63.	.72	.81	.90
Shafting & Casing Complete CB HB .130	.90	1.08	1.26	1.44	1.62	1.80

.150 CABLE AND CASING

	18″	24″	30″	36″	42″	48″
Shafting only CA .150 gauge	$0.53	$0.64	$0.76	$0.87	$0.99	$1.10
Casing only HA for .150 gauge	.53	64.	.76	.87	.99	1.10
Shafting & Casing Complete CA HA .150	1.06	1.28	1.52	1.74	1.98	2.20

JFD EXACT DUPLICATE CABLES

FOR ALL 1936-37-38 MOTOROLA SETS AND HEADS



No. 520—List Price per set of two cables $4.14

FOR STANDARD HEADS

With Fittings to fit Star, Crowe, Stewart Universal Remote Control Heads.

No. 521—List Price per set of two cables $4.82

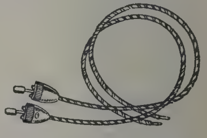
FOR ALL 1939-40-41 MOTOROLA SETS AND HEADS

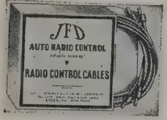
No. 522—List Price per set of two cables $4.14

FOR STANDARD HEADS

With Fittings to fit Star, Crowe, Stewart Universal Remote Control Heads.

No. 523—List Price per set of two cables $4.82





JFD EXACT DUPLICATE CABLES FOR PHILCO, ARVIN AND DELCO

Complete set of two cables, with fittings, same as original.

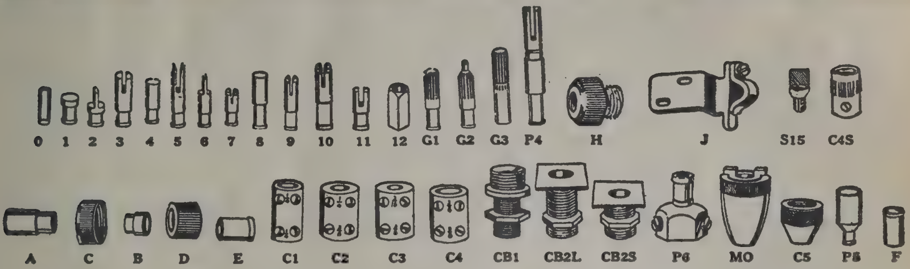
No.		List
15 AR	For all Arvin Radios	$3.02
16 PH	For all Philco 1937 Radios..	3.02
17 DE	For all Delco Radios	3.02
18 PH	For Philco, single tuning control cable....................	1.51

SERVICEMEN'S STANDARD SHAFT AND CASING ASSEMBLIES

Contains 20 assemblies (10 pairs). Casings are 24″ long — will fit nearly all installations. Come equipped with D casing nut and No. 2 spade shaft tip to fit Star, Crowe, Stewart Universal Remote Control Heads. The other end of each assembly is without fitting, thus permitting use of whatever fittings are needed to match the radio being serviced.

No. 20 PH Stock Packages (20 Assemblies). List..................$18.00

Auto Radio Tuning Cable Fittings Gear & Couplers


0
1
2
3
4
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10
11
12
G1
G2
G3
P4
H
J
S15
C4S
A
C
B
D
E
C1
C2
C3
C4
CB1
CB2L
CB2S
P6
MO
C5
P5
F

Nos. 0, 1, 7, B, E....................................Lots of 20 @ $0.10 ea. List
Nos. C, D ....Lots of 20 @ .10 ea. List
Nos. 2, 4, 8, 11, F...................................Lots of 20 @ .10 ea. List
Nos. 3, 5, A ....Lots of 20 @ .13 ea. List

Nos. 6, 9, 10, 12, C1, C2, C3, C4, C5, J, S15 Lots of 10 @ $0.20 ea. List
Nos. C4S, CB1, CB2L, CB2S, P5, P6....Lots of 5 @ .33 ea. List
Nos. M0130, M0150, H ....Lots of 10 @ .55 ea. List
Nos. G1, G2, G3, P4 ....Lots of 5 @ .66 ea. List

SERVICEMEN'S ASSORTMENT

120 Assorted Pieces— 30 Different Types

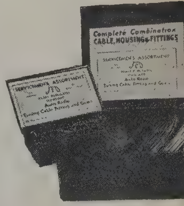
SERVICEMEN'S ASSORTMENT
JFD
Auto Radio
Tuning Cable Fitting and Gears

Contains 30 different types of fittings, gears and couplers (as above) used in Philco, Motorola, RCA, United Motors, Bosch, Crosley, Sparton, Atwater-Kent, Stewart-Warner, Arvin, Zenith, Emerson, and other auto radio sets. 120 pieces in all, Neatly packed in an attractive, durable, steel box which comes to you FREE of charge.

K120..........................List Price $23.30

SERVICEMEN'S COMPLETE COMBINATION KIT OF CABLE, HOUSING AND FITTINGS

30 Different Types of Fittings
120 Assorted Pieces
50 Feet of Cable - 50 Feet of Housing


Complete Combination
CABLE, HOUSING & FITTINGS
SERVICEMEN'S ASSORTMENT
JFD
Auto Radio
SERVICEMEN'S ASSORTMENT
Auto Radio
Tuning Cable Fittings and Gears

Here is a single, compact kit that fills all servicemen's needs for cable, housing, and fittings. Contains 120 pieces of fittings, gears, and couplers—30 different types. Used in Philco, Motorola, RCA, United Motors, Bosch, Crosley, Sparton, Atwater-Kent, Stewart-Warner, Arvin, Zenith, Emerson, and other auto radio sets. Also contains 50 feet of cable and 50 feet of housing. All compactly packed in a FREE durable, steel box.

CK200 ....List Price $41.30

EVERY SERVICEMAN MUST OWN ONE!

AUTO RADIO MOLDED PLASTIC KNOBS

Come in black, dark gray, brown, light gray and pearl gray.

	List
K54—$\frac{3}{16}$" shaft, assortment of 12 knobs (Assorted colors) in a cellophane display envelope....	$2.40
K60A—$\frac{3}{16}$" shaft, assortment of 50 knobs (5 Assorted colors) in display box......................	10.00
K60PG—$\frac{3}{16}$" shaft, 50 pearl gray knobs in display box	10.00
K60BL—$\frac{3}{16}$" shaft, 50 black knobs in display box........................	10.00
K60DG—$\frac{3}{16}$" shaft, 50 dark gray knobs in display box........................	10.00
K60BR—$\frac{3}{16}$" shaft, 50 brown knobs in display box........................	10.00
K60LG—$\frac{3}{16}$" shaft, 50 light gray knobs in display box........................	10.00
K55—¼" shaft, assortment of 12 knobs (assorted colors) in a cellophane display envelope	2.40

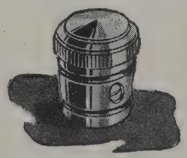
K70—¼" shaft, assortment of 50 knobs (5 assorted colors) in display box...........	10.00
K70PG—¼" shaft, 50 pearl gray knobs in display box	10.00
K70BL—¼" shaft, assortment of 50 black knobs in display box..............................	10.00
K70DG—¼" shaft, assortment of 50 dark gray knobs in display box.....................	10.00
K70BR—¼" shaft, assortment of 50 brown knobs in display box	10.00
K70LG—¼" shaft, assortment of 50 light gray knobs in display box	10.00

Cat. No. K55
List Price 20c ea.
(1/4" SHAFT)
SERVICEMEN'S ASSORTMENT OF 12
MOLDED TENITE
Auto Radio Knobs
J. F. D. Manufacturing Co.
Brooklyn 18, N. Y.
12 ASSORTED KNOBS....$2.40 LIST

Servicemen's Assortment of 12 molded plastic knobs in cellophane bag ....(K54, K55)

AUTO RADIO CHROME-PLATED BRASS KNOBS

Durable good-looking replacement knobs.



K56—$\frac{3}{16}$" shaft, Servicemen's assortment of 12 knobs in a cellophane display envelope ....List $3.60

K80A—$\frac{3}{16}$" shaft, assortment of 50 knobs in a display carton. List $15.00

K57—¼" shaft, Servicemen's Assortment of 12 knobs in a cellophane display envelope. List $3.60

K90A—¼"shaft, assortment of 50 knobs in a display carton. List $15.00

Cat. No. K57
List Price 30c ea.
(1/4" SHAFT)
SERVICEMEN'S ASSORTMENT OF 12
CHROME-PLATED BRASS
Auto Radio Knobs
J. F. D. Manufacturing Co.
Brooklyn 18, N. Y.
12 ASSORTED KNOBS....$3.60 LIST

Servicemen's Assortment of 12 chrome-plated brass knobs in cellophane bag. (K56, K57)

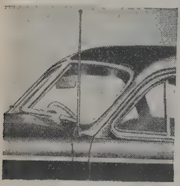
JFD PRECISION MADE Auto Antennas

JFD CUSTOM BUILT DELUXE STAR AUTO RADIO ANTENNAS

The JFD Star and Standard Antennas are built of antimonial-admiralty brass tubing, stainless steel type rods, of high tension flexible strength—**rattle-proof construction**—heavily chrome plated.

By direct comparison, the JFD STAR antenna is actually 50% heavier than other makes, with proportionately greater signal capacity and rigidity.

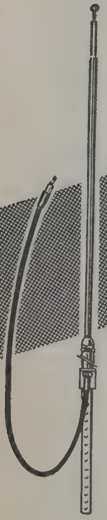
Every JFD Star and Standard Antenna is equipped with a full length of Q.H.F. low-loss Polyethylene air-gap type shielded cable to prevent noise pickup, together with necessary mounting brackets designed to give a custom-built appearance. All antennas come individually packed—10 to the master carton.



JFD ANTENNA FEATURES

1. NOISELESS
2. RUSTPROOF
3. WILL NOT JAM
4. ONE MAN INSTALLATION
5. FITS ALL CARS
6. ATTRACTIVE
7. ANTISTATIC BALL TIPS
8. MOLDED BAKELITE INSULATORS

STAR ANTENNAS

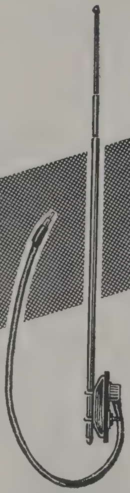


Top Cowl Antenna

Complete with a 43½" coaxial cable with necessary mounting accessories.

Standard
3B4000 List
3-section 60"..$6.25

Star Heavy Duty
SC 4000 List
3-section 60"..$7.25



Single Mounting Cowl Antenna

Adjustable to fit Torpedo shaped body.

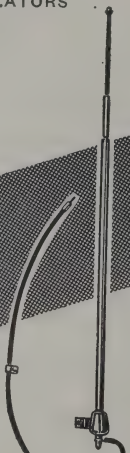
Complete with full length of polyethylene shielded cable and all necessary mounting accessories.

Standard
3B6066 List
3-section 66"..$4.45

Standard
3B6099 List
3-section 99"..$5.70

Star Heavy Duty
SC 6066 List
3-section 66"..$5.45

SC 6099 List
3-section 99"..$6.70

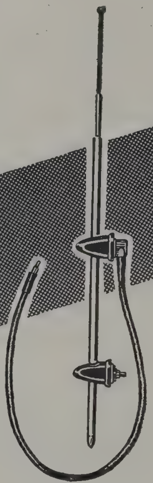


Alligator Hood or Hinge Antenna

Complete with full length of polyethylene shielded cable and all necessary mounting accessories.

Standard
AL60 List
3-section 60"..$4.95

Star Heavy Duty
UH100 List
3-section 60"..$5.95



Side Cowl Antenna

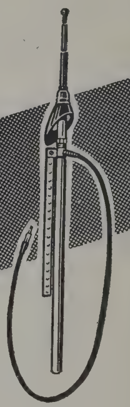
Complete with full length of polyethylene shielded cable and all necessary mounting accessories.

Standard
3B66C List
3-section 66"..$4.45

Standard
3B99C
3-section 99"..$5.70

Star Heavy Duty
SC 1066 List
3-section 66"..$5.45

SC 1099
3-section 99"..$6.70

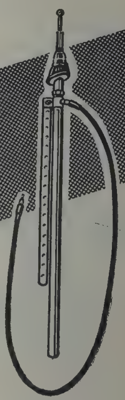


Completely Disappearing Fender Antenna

Complete with full length of polyethylene shielded cable and all necessary mounting accessories.

Standard
3B 3000 List
3-section 60"..$7.95

Star Heavy Duty
3C 3000 List
3-section 60"..$8.95



Completely Disappearing Top Cowl Antenna

Complete with full length of polyethylene shielded cable and all necessary mounting accessories.

Standard
3B5000 List
3-section 60"..$7.95

Star Heavy Duty
3C5000 List
3-section 60"..$8.95

JFD AUTO ANTENNA DISPLAYS

Increase your Antenna Sales — by displaying prominently!

The New JFD Antenna Displays are beautifully finished in four colors. One each of the six antennas illustrated above is mounted on the card as it will appear on the auto.

JFD
STAR ANTENNA
J.F.D. MANUFACTURING CO.

You pay only for the antenna—Display Board is FREE!

Display No. 990—6 JFD STAR Heavy Duty Antennas ....**List Price $42.00**

Display No. 991—6 JFD STANDARD Auto Antennas ....**List Price $36.00**

AUTO RADIO ACCESSORIES

JFD "LOW LOSS" ANTENNA LEAD CABLES

Heavy Lacquered—Protected by Shielded Loom Covered with Processed Braid

GENERAL PURPOSE LEADS

With male connector and aerial and ground lead.

No.	Length	List
3022	2 ft.	$0.90
3025	4 ft.	1.28
3026	6 ft.	1.57
3027	8 ft.	1.96

With male and female connectors.

No.	Length	List
3023	2 ft.	$0.90

With both male connector ends.

No.	Length	List
3024	2 ft.	$0.90

With male connector and ground box.

No.	Length	List
3017S	3 ft.	$1.54

With set plug-in for Motorola and ground box.

No.	Length	List
3017M	3 ft.	$1.54

INDIVIDUAL CARTONS

WHEEL HUB STATIC ELIMINATORS

No. 4000

An essential for every auto radio installation. Used under hubs of front wheels.

List, Each $0.12

SPECIAL WHEEL STATIC ELIMINATOR Flat Contact

For All 1940-41 General Motors Cars

No. 4007............List, Each $0.15

Phosphor Bronze Hood Static Eliminator

For contact between hood and frame of car. Eliminates static caused by poor grounded hood.

No. 4008 List, Each $0.11

JFD CUSTOM-BUILT MOUNTING HARDWARE FOR ALL AUTO RADIO ANTENNAS

Will fit JFD, Ward, Radiart, Philco, Motorola, Delco, ICA, Snyder, Radel, and all other makes of antennas.

No. 516—STRAIGHT SIDE COWL MOUNTING

For antennas with $\frac{5}{16}$" dia. tubing

Quan.	Type	Description	List, Ea.
2	A	Porcelain Insulators	$0.30
2	B	Rubber Pads	.05½
2	C	Eyebolts	.07
2	D	Spider Washers	.06
1	E	Shield Cup	.10
2	F	Shoulder Bushings	.04
1	G	Set of 2 flat washers and 4 nuts	.10

No. 516—Complete Kit listed above....List $1.25

No. 518—STRAIGHT SIDE COWL MOUNTING

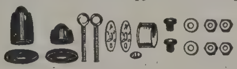
For antennas with ⅜" dia. tubing

Quan.	Type	Description	List, Ea.
2	AA	Porcelain Insulators	$0.37½
2	B	Rubber Pads	.05½
2	CC	Eyebolts	.10
2	D	Spider Washers	.06
1	E	Shield Cup	.10
2	F	Shoulder Bushings	.04
1	GG	Set of 2 flat washers and 4 nuts	.14

No. 518—Complete Kit listed above....List $1.50

No. 517—SLOPING COWL MOUNTING

For antennas with $\frac{5}{16}$" dia. tubing



Quan.	Type	Description	List, Ea.
2	A	Porcelain Insulators	$0.30
2	B	Rubber Pads	.05½
2	C	Eyebolts	.07
2	D	Spider Washers	.06
1	E	Shield Cup	.10
2	F	Shoulder Bushings	.04
1	G	Set of 2 flat washers and 4 nuts	.10

No. 517—Complete Kit listed above....List $1.25

No. 519—SLOPING COWL MOUNTING

For antennas with ⅜" dia. tubing

Quan.	Type	Description	List, Ea.
2	AA	Porcelain Insulators	$0.37½
2	B	Rubber Pads	.05½
2	CC	Eyebolts	.10
2	D	Spider Washers	.06
1	E	Shield Cup	.10
2	F	Shoulder Bushings	.04
1	GG	Set of 2 flat washers and 4 nuts	.14

No. 519—Complete Kit listed above....List $1.50

No. 616—SINGLE BRACKET MOUNTING

For antennas with 5/16" dia. tubing

Quan.	Type	Description	List, Ea.
1	P	Single mount fender and side cowl bracket	$1.00
1	M	Rubber mat	.10
2	C	Eyebolts	.07
2	D	Spider Washers	.06
1	E	Shield Cup	.10
2	F	Shoulder Bushings	.04
1	G	Set of 2 flat washers and 4 nuts	.10
2	S	Spacer Bushings	.05½

No. 616—Complete Kit listed above....List $1.75

No. 618—SINGLE BRACKET MOUNTING

For antennas with ⅜" dia. tubing

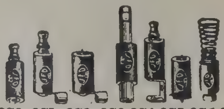
Same as above except that you get 2-CC and 1-GG.

No. 618—Complete Kit ....List $1.75

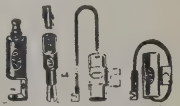
JFD AUTO MOTOR SPARK NOISE SUPPRESSORS AND CONDENSERS

Maximum efficiency for both radio and motor is insured by the use of JFD Suppressors. They are designed with long resistors, minimum capacity and have the best possible ratio of RF to DC resistance. Adequate noise suppression is given by a resistance of only 10,000 ohms and with this low DC resistance, full motor efficiency is assured. Very strong mechanically, they will withstand high voltage, vibration, heat and every weather condition.

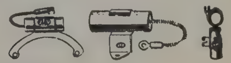
With the exception of the Ford special, which has a resistance of 200,000 ohms, the standard resistance is 10,000 ohms.



No.	Description	List, Ea.
280	SCREW ON PLUG TYPE. Will fit most popular cars	$0.30
281	SNAP ON PLUG TYPE. Snaps on plug at any angle	.30
282	SNAP ON PLUG CABLE END TYPE. Replaces regular cable end	.30
283	DISTRIBUTOR TYPE. Placed in series with center distributor cable	.30
284	BRACKET TYPE. For older type cars.	.30
285	CABLE TYPE. To be inserted in spark plug cable near spark plug	.30
286	SPECIAL RESISTOR BRUSH. Replaces regular distributor brush on Ford 1936-37-38	.30
287	SPECIAL RESISTOR BRUSH. Replaces regular distributor brush on Ford 1935 and previous cars	.30



No.	Description	List, Ea.
288	DESIGNED ESPECIALLY FOR FORD CARS. Has a higher resistance required for this type of motor	$0.30
297	IMPROVED DISTRIBUTOR SUPPRESSOR. No tools required, just press suppressor into the distributor head and snap cable end into the suppressor	.30
290	DOME AND AMMETER CONDENSER. Double spade tips aid in easy installation—capacity ½ mfd.	.60
291	UNIVERSAL GENERATOR CONDENSER. Double spade tips aid in easy installation—capacity ½ mfd.	.65
292	UNIVERSAL GENERATOR CONDENSER. Capacity 1 mfd.	1.10

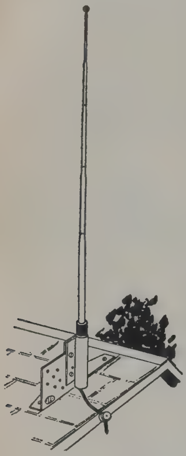


No.	Description	List, Ea.
293	CONDENSER DESIGNED FOR 1937 FORD V8 DISTRIBUTOR HEAD. Eliminates interference caused by brush sparking, etc.	$0.90
294	CONDENSER FOR 1936 FORD and previous distributor heads	.80
295	GAS GAUGE FILTER CONDENSER. Capacity .05 mfd.	.70
298	GENERATOR CONDENSER FOR 1940 FORD CARS. With special bracket for use on 1940 Ford cars	.80

JFD PRECISION MADE

VERTICAL NON-DIRECTIONAL HOME ANTENNAS

JFD Vertical Non-Directional Home Antennas are easily and quickly installed on flat roofs, walls, eaves, windows, ridge poles, parapets or anywhere else. Improves short-wave and broadcast reception on new and old model sets. These antennas use the improved adjustable brackets to simplify installations. Approved by leading manufacturers.



4 SECTIONS

Extends to 12 ft. With single bracket and 40 ft. of durable lead-in wire.

No. 3071RA

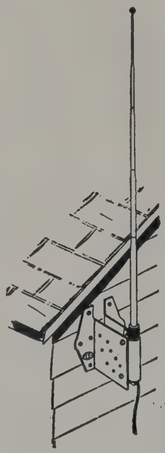
Steel Tubing, Cadmium plated.

No. 3072RA DE-LUXE

Large diameter admiralty metal tubing. Heavily plated, beautiful finish, rust-proof.

No. 3073RA

Admiralty metal—Heavily plated, beautiful finish, rust proof.



5 SECTIONS

Extends to 16 ft. 4 in. With double bracket, and 40 ft. of durable lead-in wire.

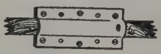
No. 3074RA

Steel tubing, cadmium plated.

No. 3075RA

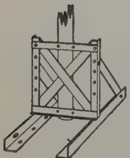
Admiralty metal—Heavily plated, beautiful finish, rust proof. With 40 ft. durable lead-in wire.

CONNECTOR



For joining mounting poles or for fastening guy wires to top of pole. Heavy steel, aluminum plated.

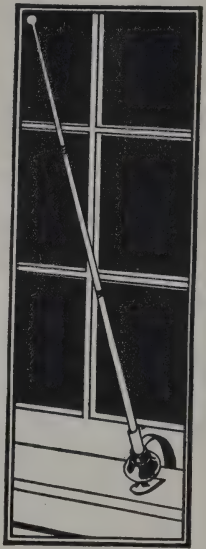
No. BR 23



ANGLE STEEL M'T'G BRACKET

For roof, wall corner or chimney, welded construction.

No. BR 3 (12 x 12)
No. BR 5 (14 x 16)



No. 3070 WINDOW ANTENNA

FOR APARTMENT HOUSES, HOTELS, ROOMING HOUSES, ETC.

Three piece telescopic. Eight feet long extended. Tubular steel. Easily attached to any window sill. Complete with mounting bracket and screws.

Individual Cartons

No. 3070B WINDOW ANTENNA

Three piece telescopic. First two sections Admiralty metal tempered seamless tubing, chromium plated — third section polished stainless steel. Extends to 96 inches.

JFD DOUBLET LIGHTNING ARRESTER

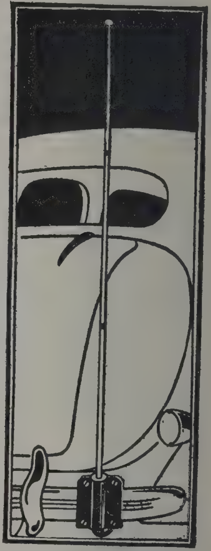
Specially designed to match JFD Home Antennas, as well as all other makes. Has built in condenser.

No. 403

MOUNTING STRAP

For mounting pole on vent pipe. 18 inches long.

No. BR 9



No. 3040 BUMPEROD ANTENNA

Three piece telescopic. Eight feet long extended. Tubular steel. Easily attached to front or rear bumpers. No drilling. Fits all cars.

Individual Cartons

DE LUXE No. 3040B BUMPEROD ANTENNA

Three piece telescopic. . . . First two sections Admiralty metal tempered seamless tubing, chromium plated — third section polished stainless steel. Extends to 96 inches.

WOODEN M'T'G POLE

For increasing the height of the standard where necessary. Made of hard wood lacquered. 4 feet long.

No. BR 19

GALVANIZED IRON PIPE

1 inch diameter — 8 feet long.

No. BR 20

JFD PRECISION MADE Radio Cements & Solvents

JFD Radio Cement
JFD Radio Cement
JFD Radio Cement

JFD RADIO CEMENT

Is a special preparation for the repair of radio and speaker parts. It is of special value in the repairing or replacing of old cones on speakers, in stiffening and coating voice coils and spiders, in cementing grid caps and tube bases, etc. It is a reliable cement — vibration-less, waterproof, transparent. Every bottle comes with brush attached to bottle cap.

No.	List
ST 40-4—4 oz.	$0.90
ST 40-8—8 oz.	1.60
ST 40-16—1 pt.	3.00
ST 40-G—1 gal.	9.35

JFD Radio Solvent
JFD Radio Cement

JFD CEMENT AND SOLVENT KIT

Easy and convenient to carry —both bottles put up in a neat special carton. Kit consists of one 4 oz. bottle of JFD Radio Cement and one 4 oz. bottle of JFD Radio Solvent. Cement can be used for cementing parts to chassis, repairing and replacing old cones on speakers, stiffening voice coils, cementing grid caps, etc. Solvent can be used as a cleaning solution for volume controls, contact points and all movable metal parts. Cement bottle contains handy brush attached to cap.

No. ST 400................List $1.40

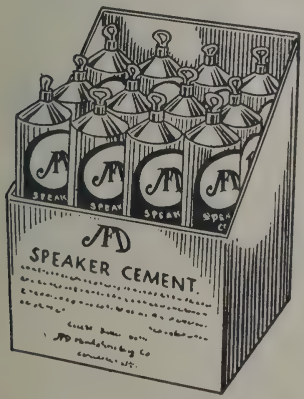
JFD Radio Solvent for Radio & Speaker Repairs
JFD Radio Solvent
JFD Radio Solvent

JFD RADIO SOLVENT

Is a special preparation for loosening cement on speaker cones, spiders and voice coils. Simply saturate the cemented part and it loosens in a few minutes. JFD Solvent can also be used as a cleaning solution for volume controls, contact points and all movable metal parts.

No.	List
ST 41-4—4 oz.	$0.50
ST 41-8—8 oz.	.75
ST 41-16—1 pt.	1.25
ST 41-G—1 gal.	5.00

JFD RADIO CEMENT IN TUBES


JFD
SPEAKER CEMENT

DISPLAY CARTONS OF 1 DOZEN

Neatly packaged, attractive carton of 12 Tubes of JFD Cement.

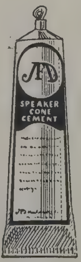
No.	List
ST 40-T12—per Carton	$5.04

HANDY FOR SERVICEMAN TO CARRY ON THE JOB

•

Applied directly from the tube to the work to be cemented. No brush is required.

•


JFD
SPEAKER CONE CEMENT

Moisture proof, waterproof, oilproof, vibration proof, flexible and quick drying; this cement will be found satisfactory, not only for repairing speakers and speaker cones but for radio set parts, cabinets, etc.

No.	List
ST 40-T2—2 oz. Tube	$0.42
ST 40-T4—4 oz. Tube	.84

JFD Carbon Tetrachloride
JFD Carbon Tetrachloride
JFD Carbon Tetrachloride

JFD CARBON TETRACHLORIDE

Is an invaluable and effective cleaner for contact points, volume controls, tuning condensers, fabrics, grille cloth and all movable parts.

No.	List
ST 42-4—4 oz.	$0.50
ST 42-8—8 oz.	.85
ST 42-16—1 pt.	1.50
ST 42-32—32 oz.	2.45
ST 42-G—1 gal.	5.75

JFD PRECISION MADE

Feather-Touch Playback Needles

Long Life — Fine Tone — Full Record Protection

JFD FEATHER-TOUCH PHONOGRAPH NEEDLES will give you COMPLETE satisfaction. The JFD FEATHER-TOUCH NEEDLES possess fine tone, long life, and full record protection. There is nothing more that a fine needle can offer!

The sale of good needles is profitable. Each year more and more phonographs, records, discs, and needles are sold. Last year's sales reached an all-time high, with more than 200,000,000 records and discs being sold. The sale of needles has increased to astounding proportions; the new JFD needles should greatly stimulate these sales.

ALL JFD FEATHER-TOUCH PHONO NEEDLES are shadow-graphed and mounted on attractive, colorful, self-selling displays. Each individual needle is mounted on an attractive card, individually wrapped in cellophane.

PN-060 This feather-touch needle is guaranteed for a minimum of 2000 playings. It has excellent tone, unusual in the low class field. It will outplay, and give finer performance than any needle on the market in its class. The PN-060 is shadow-graphed, made of fine alloy metals, with precious metal point.

PN-060—Each $0.60 list. 24 individually wrapped needles on beautiful display card.

$14.40 List

PN-100 This feather-touch needle is guaranteed for a minimum of 4000 playings. It is truly a de-luxe needle, containing a long life highly polished precious metal point, cushioned shaft, clear bell shank to produce balanced tone. For record performance and protection, this needle is tops in its field. Each needle is shadow-graphed and mounted on an attractive three-color card, individually wrapped in cellophane.

PN-100—Each $1.00 list. 12 individually wrapped needles on beautiful display card.

$12.00 List

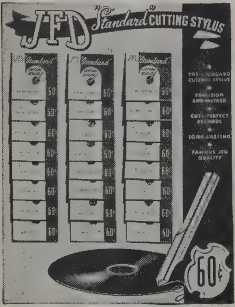
JFD
CUSHIONED ACTION NEEDLE

PN-150 This JFD feather-touch needle is guaranteed for a minimum of 6000 playings. Will not scratch or scrape records and will produce fine tone quality. The clarity of this needle is due to its highly polished curved shank construction and bell-like precious metal alloy tip. Each needle is carefully shadow-graphed and mounted on a beautiful three-color display card, individually wrapped in cellophane.

PN-150—Each $1.50 List. 12 individually wrapped needles on beautiful display card.

$18.00 List

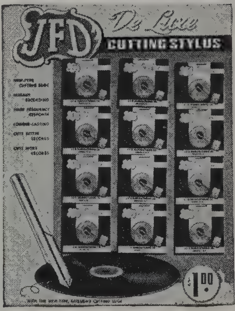
JFD CUTTING NEEDLES



CN-060 The JFD feather-touch recording stylus is guaranteed for a minimum of 300 cuttings on 6 inch discs. This sturdy, precious metal, alloy tipped needle, cuts a V bottom groove. It is highly polished, long wearing and a producer of best in recording. Unusual for its price, this shadow-graphed cutting needle is especially recommended for amateur use. Each needle is individually wrapped in cellophane and mounted on a striking three-color display card.

CN-060—Each $0.60 list. 24 individually wrapped needles on beautiful display card.

$14.40 List

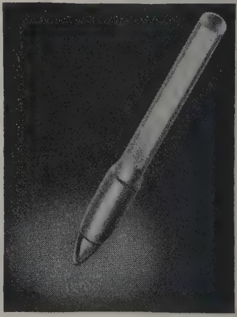


CN-100 This high quality feather-touch recording stylus is guaranteed for a minimum of 500 cuttings on a 6 inch disc. Designed with an electrically welded and microscopically ground tip, CN-100 provides the finest in tonal quality. It is a highly polished needle, carefully shadow-graphed and especially recommended for both amateur and professional use. Each needle is individually wrapped in cellophane and mounted on a striking three-color display card.

CN-100 — Each $1.00 list. 12 individually wrapped needles on beautiful display card.

$12.00 List

JUKE BOX SAPPHIRE



JB-250 Contains all the desirable characteristics of the SN-300. Its straight, sturdy shank is developed expressly for use in commercial coin boxes. In use, it gives a richer tone and high volume, thus enabling the operator to reduce the volume control of his juke box.

JB-250............................**Each $2.50 List**

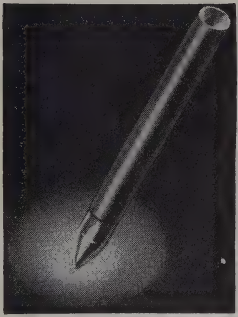
Comes individually mounted on an attractive card inserted in a cellophane envelope, in boxes of 12.

List Price, per box........................**$30.00**

SAPPHIRE NEEDLES

SN-200—This sturdy-shanked Sapphire Needle contains a carefully calculated precision point, diamond lapped by hand. Each needle undergoes careful microscopic inspection and is individually shadowgraphed. Has twice the plays of any metal needle at any price. Comes individually wrapped in cellophane and mounted on an attractive three-color display card.

SN-200—Each $2.00 List. 12 individually wrapped needles on beautiful display card.
List Price per card $24.00



SN-500—"The finest Ruby Sapphire needle on the market!" Slightly under one full karat of sapphire is used. No other jewel needle approaches this quality and value at **any** price. Contains a full solid sapphire shank—not just a chip. Smooth gliding action. Microscopically inspected three times—individually shadowgraphed to insure perfection. GUARANTEED **FOREVER** BY REGISTERED CERTIFICATE! This needle remains a **permanent** part of the phonograph.

SN-500—Each $5.00 List. Mounted on beautiful three-color display card packaged in attractive Clear-View Plastic boxes — Six boxes to card........**List Price per card $30.00**

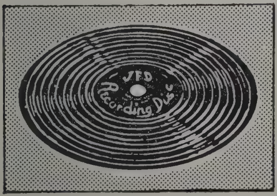
JFD Sapphire
NEEDLE
$3.00

SN-300—This Sapphire Needle eliminates surface noises with full measure of amplification. Has a **flame-polished** point. It contains a full rod jewel—not just a polished chip. Scientifically balanced Dural shank. Microscopically inspected three times; individually shadowgraphed to insure perfection. Individually wrapped in cellophane and mounted on attractive three-color display card.

SN-300—Each $3.00 List. 10 needles individually packed in Clear-View Plastic box. Mounted on beautiful display card.
List Price per card $30.00

J. F. D. PHONOGRAPH ACCESSORIES

JFD HOME RECORDING DISC



The finest in home recording discs. Check these exclusive JFD Features:

1. Made on a fibre base.
2. Absolutely grit-free—eliminates all surface noises.
3. One piece surface chemically treated.
4. Title can be written with pen or pencil.
5. Fits all standard recorders.
6. Comes in convenient index envelope.
7. Two playing faces on each disc.
8. Light in weight.
9. Flexible—will not crack or break.
10. Will not dry out or deteriorate.
11. Shavings are flame-proof.
12. Non-peeling surface.
13. Low in cost.

No.	Size
64-1	6½"
64-2	8"
64-3	10"
64-4	12"

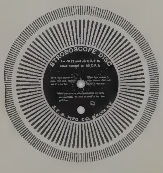
JFD BEARING LUBRICANT

JFD
BEARING
LUBRICANT

To lengthen the life and improve the performance of any recording machine. Just the thing for turntable spindles, phonograph motors, recording mechanisms. Non-acid. Will not dry out, thin or run.

No. ST722
$0.50 List
No. ST724
$0.65 List

STROBOSCOPE DISC



Accurately calibrated stroboscope for adjusting both phono playback and record making speeds. 78 and 33⅓ RPM. 6" Diameter. Complete instructions on face.

No. ST188....................................List $0.12

JFD RECORD LUBRICANT

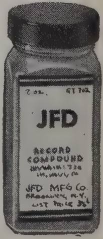
Makes records last longer. Reduces surface noises and lessens wear on records. When used as a lubricant before recording, it makes a better recording — and one that will last longer.

JFD
RECORD
LUBRICANT

No. ST712
2 oz. **$0.35**
No. ST714
4 oz. **$0.50**

JFD RECORD COMPOUND

Longer life and better tone for all records and recordings! Renews old records and improves reproduction by removing all dirt and loose particles, lubricating the surface and hardening the grooves. Preserves new records.

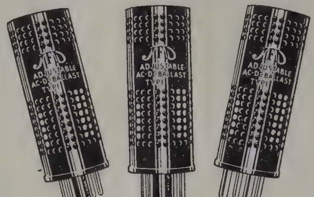


No. ST702
2 oz. **$0.45**
No. ST704
4 oz. **$0.60**

JFD PRECISION MADE

Improved • Air-Cooled
AC-DC Adjustable Ballasts

Just 3 *Adjustable Ballasts* *Replace Over* 3000 *Exact Duplicate AC-DC Resistance Tubes!*



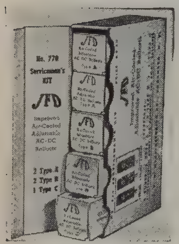
Type A 8 Prong
Type B 8 Prong
Type C 4 Prong

JFD *IMPROVED AIR-COOLED* ADJUSTABLE AC-DC BALLASTS HAVE THESE *IMPROVEMENTS:*

1. Air-Cooled Perforated Shell
2. Larger Insulating Surface
3. Longer Life, Heavier Resistance Wire
4. Exact Adjustments made

LIST PRICE $1.50 ea.

Over 3,000,000 JFD Adjustable Ballasts have been sold since 1934 — practically every one still in use, giving service and satisfaction.



Dealer's and Serviceman's Kit
Improved • Air-Cooled
AC-DC Adjustable Ballasts

No. 770—SERVICEMEN'S KIT contains 5 Ballasts: 2 Type A, 2 Type B, 1 Type C Ballasts together with listing of over 2500 replacements and complete instructions............................List Price $7.50

"FREE" — AC-DC BALLAST MANUAL.

ASK YOUR JOBBER FOR IT.

Gives information on how to adapt adjustable ballasts to all service jobs.

JFD
AC-DC Ballast Tube Manual

USE JFD BALLASTS	TO REPLACE AC-DC RESISTANCE TUBES		
	Beginning with Letter	With Numbers Including	Ending with letter
"A" Ballasts	K, L, M, BK, BL, or BM	6 through 42	A, B, C, D, F, G, or H
"B" Ballasts	K, L, M, BK, BL, or BM	45 through 105	A, B, C, D, F, G, H, S1, S2, S3
"C" Ballasts	All 4 prongs	80 through 350	R, R4, R8, L, L4, L8

AC-DC STANDARD TUBES—RMA STANDARD CODING

Type No.	List Price
10A Addison	$1.00
17A	1.00
K17B	1.00
K17C	1.00
L17B	1.00
L17C	1.00
K22B	1.00
K23B	1.00
L23B	1.00
L23C	1.00
33A	1.00
33AG	1.00
36A	1.00
K36B	1.00
BK36B	1.00
K36BJ	1.25
K36C	1.00
K36D	1.00
K36H	1.00
KX36A	1.25
KX36B	1.25
KX36C	1.25
L36B	1.00
L36C	1.00
L36D	1.00
L36DJ	1.25
M36B	1.00
M36C	1.00
M36D	1.00
42A	1.00
42B2	1.25
K42B	1.00
K42BJ	1.25
BK42B	1.00
BL42B	1.00
K42C	1.00
BK42C	1.00
BL42C	1.00
K42D	1.00
BK42D	1.00
KX42A	1.25
KX42B	1.25
KX42C	1.25
L42B	1.00
L42BJ	1.25
L42C	1.00
L42CJ	1.25
L42D	1.00
L42DJ	1.25
L42E	1.00
M42B	1.00
M42C	1.00
M42D	1.00
M42E	1.00
M42F	1.00
M42H	1.00
49A	1.00
K49B	1.00
K49BJ	1.25
BK49B	1.00
K49C	1.00
BK49C	1.00
K49CJ	1.25
K49D	1.00
BK49D	1.00
K49E	1.00
K49F	1.00
K49H	1.00
KX49A	1.00
KX49B	1.25
KX49C	1.25
KX49D	1.25
KY49A	1.25
KY49B	1.25
KY49C	1.25
KZ49A	1.25
KZ49B	1.25
KZ49C	1.25
L49B	1.00
L49BJ	1.25
L49C	1.00
L49CJ	1.25
L49D	1.00
L49DJ	1.25
L49E	1.00
L49F	1.00
LX49B	1.25
LX49C	1.25
LX49D	1.25
M49B	1.00
M49C	1.00
M49D	1.00
M49H	1.00
50	1.00
K52H	1.00
55A	1.00
K55A	1.00
K55B	1.00
BK55B	1.00
BL55B	1.00
BM55B	1.00
K55C	1.00
BK55C	1.00
K55D	1.00
BK55D	1.00
K55F	1.00
K55H	1.00
KX55A	1.25
KX55B	1.25
KX55C	1.25
L55B	1.00
L55C	1.00
L55CP	1.25
L55D	1.00
L55F	1.00
L55H	1.00
M55B	1.00
M55C	1.00
M55D	1.00
M55F	1.00
M55H	1.00
60R30	1.25
62A	1.00
K67B	1.00
K67BJ	1.25
K67C	1.00
K67D	1.00
L67C	1.00
K72B	1.00
K73C	1.00
M73B	1.00
K74B	1.00
K74C	1.00
K74D	1.00
80A	1.00
K80B	1.00
K80C	1.00
K80D	1.00
K80F	1.00
K80H	1.00
L80B	1.00
L80C	1.00
M80B	1.00
M80C	1.00
K87B	1.00
90A	1.00
K90B	1.00
K90C	1.00
92A	1.00
K92B	1.00
K92C	1.00
K92D	1.00
K92F	1.00
K92H	1.00

Ballasts Replaceable Only by JFD Exact Duplicates

ORDER BY TYPE NUMBER

Type No.	List Price
1A1/5E1 Philco	$1.25
1B1 Philco	1.25
1C1 Philco	1.25
1D1 Philco	1.25
1E1 Philco	1.25
1G1 Philco	1.25
1J1 Philco	1.25
1K1 Philco	1.25
1R1G Philco	1.25
1T1G Philco	1.25
1K1 Philco	1.25
1Y1 Philco	1.25
1Z1 Philco	1.25
2 Philco	1.25
03G Air King	1.25
2LR212 Emerson	1.00
2VR215 Emerson	1.00
2UR224 Emerson	1.00
3CR241 Emerson	1.00
3ER248 Emerson	1.25
3 Philco	1.25
03G Air King	1.25
3MR253 Emerson	1.50
4 Philco	1.25
CB4 Philco	1.25
4SR311 Emerson	1.50
5 Philco	1.25
C5B Philco	1.25
D5B Philco	1.25
WRL5	1.50
6	1.25
6 Garod	1.80
6.126 Garod	1.80
6.128 Garod	1.80
6.130 Garod	1.25
6.134 Garod	1.80
6.141 Garod	1.80
6.142 Garod	1.80
6.159 Garod	1.80
6.170 Garod	1.80
6.171 Garod	1.80
6.172 Garod	1.80
D6B	1.25
E6B	1.25
7	1.25
8	1.25
9	1.25
10.610 Jackson Bell	1.25
10.800	1.50
BKX11BJ Philco	1.25
K17R	1.25
BKX21BJ Philco	1.25
K22B2	1.25
L26CC159	1.25
33-3310	1.50
D35 Dewald	1.25
35-2 Pilot	2.40
35-3 Pilot	2.40
35-4 Pilot	2.40
35-5 Pilot	3.00
35-6 Pilot	2.40
35-7 Pilot	2.40
35-8 Pilot	2.40
35-9 Pilot	3.00
35-10 Pilot	3.00
35-11 Pilot	3.00
35-12 Pilot	3.00
35-13 Pilot	2.40
35-14 Pilot	2.40
35-15 Pilot	2.40
35-16 Pilot	2.40
35-17 Pilot	2.40
35-18 Pilot	3.00
35-19 Pilot	3.00
35-20 Pilot	3.00
35-21 Pilot	2.40
35-22 Pilot	$2.40
35-23 Pilot	3.00
35-24A Pilot	3.00
35-25 Pilot	2.40
35-26 Pilot	3.00
35-27 Pilot	3.00
35-28 Pilot	3.00
35-29 Pilot	3.00
35-30 Pilot	2.40
35-31A Pilot	2.40
35-32 Pilot	2.40
K38B2	1.25
40A2	1.25
40X300	1.25
K42BJ75	1.25
L42BX	1.25
K42CS4	1.25
L42DSX	1.25
L42DX	1.25
L42S1	1.25
L42S2	1.25
L42S3	1.25
43X106	3.00
43X108A Air Cooled	3.00
43X114 Air Cooled	3.00
46A1 Majestic	1.25
46B1 Majestic	1.25
49A1	1.00
49A2	1.25
49B2	1.25
L49BX	1.25
L49S1	1.25
L49S2	1.25
L49S3	1.25
50A2	1.25
50B2	1.25
50X3	1.25
50X3T	1.25
50X300	1.25
BKV51DJ Philco	1.50
K55CP	1.25
K55CPR	1.25
K55J	1.25
L55S1	1.25
L55S2	1.25
L55S3	1.25
M58B275	1.25
64-23	1.25
L75CC	1.25
77/100	1.25
85L75CC	1.25
L90CC	1.25
100-37	1.25
100-38	1.25
100-46 Zenith	1.80
100-47 Zenith	1.80
100-48 Zenith	1.80
100-49 Zenith	1.80
100-55 Zenith	1.80
100-56 Zenith	1.80
100-57 Zenith	1.80
100-58 Zenith	1.80
100-59 Zenith	1.80
100-60 Zenith	1.80
100-61 Zenith	1.80
100-62 Zenith	1.80
100-63 Zenith	1.80
100-64 Zenith	1.80
100-65 Zenith	1.80
100-66 Zenith	1.80
100-70 Zenith	1.25
100-74 Zenith	1.25
100-76 Zenith	1.25
100-77 Zenith	1.25
100-79 Zenith	1.25
100-81 Zenith	1.25
100-82 Zenith	$1.25
100-83 Zenith	1.25
100R	1.25
100R4	1.25
100R8	1.25
KX105B	1.25
115.15 Fada	1.25
115.16 Fada	1.25
115.17 Fada	2.40
115.18 Fada	1.25
115.19 Fada	2.40
115.20 Fada	1.25
115.21 Fada	1.25
115.23 Fada	1.25
115.24 Fada	1.25
115.25 Fada	1.25
115.26 Fada	1.25
115.27 Fada	1.25
115.42A Fada	1.25
115.43 Fada	1.25
115.43X Fada	1.25
115.44 Fada	1.25
115.46 Fada	1.25
115.47X Fada	1.25
115.49 Fada	1.25
115.53 Fada	1.25
115.55 Fada	1.25
115.58 Fada	2.40
115.65 Fada	1.25
115.68 Fada	1.25
115.78 Fada	1.25
115.79 Fada	2.40
115.82 Fada	1.25
115.84 Fada	1.25
115.89 Fada	1.25
115.96 Fada	1.25
115.98 Fada	2.40
115.109 Fada	2.40
120R	1.25
120R8	1.25
L120-75CC	2.40
130-35	2.40
R130-180	1.50
R130-T380	1.50
140L4	1.25
140L44	1.25
140L8	1.25
140M4	1.25
140M8	1.25
140R	1.25
140R4	1.25
140R8	1.25
D150 Dewald	1.25
E157 Ferguson	1.25
160A JFD	1.50
R161-300	1.25
165L4	1.25
165L8	1.25
165L44	1.25
165MA	1.25
165R	1.25
165R4	1.25
165R8	1.25
165R44	1.25
185L4	1.25
185L8	1.25
185L44	1.25
185M4	1.25
185M8	1.25
185R	1.25
185R4	1.25
185R8	1.25
185R44	1.25
D200 Dewald	1.25
200R	1.25
200R4	1.25
200R8	$1.25
FM203	1.25
250L4	1.25
250L8	1.25
250M4	1.25
250M8	1.25
FM254	1.25
165M8	1.25
250R	1.25
250R4	1.25
250R8	1.25
260	1.25
260K1 RCA Air Cooled	2.40
275	1.25
FM288	1.25
D300 Dewald	1.25
300R	1.25
300R4	1.25
300R8	1.25
FM319	1.25
320R	1.25
320R4	1.25
320R8	1.25
350R	1.25
FM370	1.25
410	1.50
J438 JFD	1.50
FM458	1.25
495K1 RCA	2.40
MT650	1.25
D740 Dewald	1.25
RR782 G. E.	1.25
808-1	1.25
808-2	1.50
808-4	1.50
874	1.25
878R48 Kadette	1.80
M1128 JFD	2.40
1916	1.25
2342	1.25
2342-1	1.50
2911	1.25
2916	1.25
2917	1.25
2918	1.25
2919	1.25
R3003G Webster	1.25
3271	1.50
D4831A	1.50
5465	1.25
D5468	1.50
5528	1.50
C8064A	1.25
C8064B	1.25
C8064C	1.25
C8064D	1.25
8600	1.50
8663	1.25
8850	1.50
8917	1.50
C9266 Lafayette	1.25
E14980	1.25
16041	1.25
A16042	1.25
Y-Tu-16042	1.50
A16043	1.50
P26871 Strom- Carl.	2.40
W40655 Crosley	1.25
W42520 Crosley Air Cooled	2.40
W43357	1.25
W43506 Crosley Air Cooled	2.40
W44338 Crosley Air Cooled	2.40
W45788	$1.25
W46416	1.25
W46773	1.25
W48669 Crosley Air Cooled	2.40
W48670 Crosley	1.25
81963 Pilot	2.40
81966 Pilot	1.25
81967 Pilot	2.40
81971-2 Pilot	2.40
81972-2 Pilot	2.40
81974 Pilot	1.25
81975 Pilot	2.40
81978 Pilot	2.40
81985 Pilot	1.25
K83747-6 RCA	1.25
84147 Pilot	1.25
84151 Pilot	1.25
84152 Pilot	1.25
84364-2 Pilot	1.25
84428 Pilot	1.25
84430 Pilot	1.25
84431-2 Pilot	2.40
84445 Pilot	2.40
84446 Pilot	2.40
84447 Pilot	2.40
84448 Pilot	3.00
84650 Pilot	2.40
84651 Pilot	2.40
84652 Pilot	2.40
84653 Pilot	3.00
84821 Pilot	2.40
84824 Pilot	3.00
K85277-3 RCA Air Cooled	2.40
K85277-4 RCA Air Cooled	2.40
K85277-5 RCA Air Cooled	2.40
M86892-1 RCA	1.25
M86992-2 RCA Air Cooled	2.40
M86892-3 RCA Air Cooled	2.40
M86892-4 RCA Air Cooled	2.40
M86892-5 RCA Air Cooled	2.40
M86892-6 RCA Air Cooled	2.40
M86892-7 RCA Air Cooled	2.40
M86892-8 RCA	1.10
M86892-9 RCA Air Cooled	2.40
M86892-10 RCA Air Cooled	2.40
M86892-11 RCA Air Cooled	2.40
M91462-6 RCA Air Cooled	2.40
M91462-7 RCA	1.37
M91462-8 RCA	1.10
M95178-10 RCA Air Cooled	2.40
113365 Stew.-War.	1.25
113506 Stew.-War.	1.25
119109 Stew.-War.	1.25
160145 Stew.-War.	1.25
160540 Stew.-War.	1.25
K920117-1 RCA	1.64
K920146-1 RCA	1.80

SELF ADJUSTING REPLACEMENT BALLASTS

These ballasts have the general characteristics of the originals. Wound with a special alloy wire having a very high temperature coefficient of resistance which results in excellent self regulation. Packed in attractive Individual cartons.

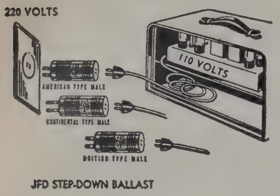
$2.25 ea.

	Cat. No.
BALDWIN	5300
BELMONT	5400
BREMER-TULLY	
S81, S82	6000
BRUNSWICK	6100
CLARION	
51, 53, 55	6150
GREBE	
SK4	6200
HS5	6200
HAMMARLUND ROBERTS	
HIQ30	6300
HIQ31	6350
KENNEDY	
426, 526, 626	6400
726, 826, 632	6400
1030	6400
MAJESTIC	
No. 70	5000
No. 90	5100
No. 180	5200
PEERLESS	
71, 72	6600
SCOTT	
AC10	6650
SILVER-MARSHALL	
30, 30B, 60	6700
60B, 75, 75B	6700
95	6700
SIMPLEX	6750
SONORA	
A30, A32, A40	6800
A36, A44, A46	6850
STEWART-WARNER	
900	6900
950	7000
R100	7100

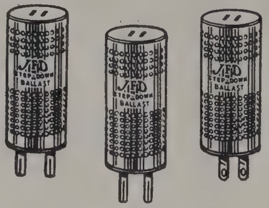
JFD PRECISION MADE Plug-in type

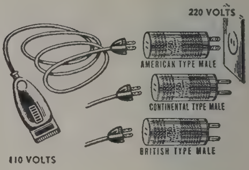
RESISTOR BALLASTS

STEP-DOWN FROM 220 VOLTS TO 110 VOLTS



JFD STEP-DOWN BALLAST



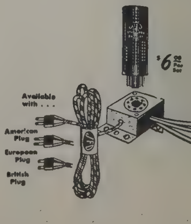


Use JFD voltage reducing ballasts on 220 volt current supply if you want to operate 110 volt appliances. Excellent for radios, floor lamps, clocks, therapeutic lamps, electric blankets, etc.

Catalog No.	Resist.	Current	Voltage Drop	Watts	Male End	Female End	Load	List Price
450	97	1.13	220-110	125	American	American	125 W Infra Red Therapeutic Lamp	$2.40
451B	97	1.13	220-110	125	British	American	125 W Infra Red Therapeutic Lamp	2.40
451C	97	1.13	220-110	125	Continental	American	125 W Infra Red Therapeutic Lamp	2.40
456	250	.44	220-110	65	American	American	35-65 W Radio Heating Pads	2.40
457B	250	.44	220-110	65	British	American	35-65 W Radio Heating Pads	2.40
457C	250	.44	220-110	65	Continental	American	35-65 W Radio Heating Pads	2.40
458	300	.35	220-110	38	American	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
459B	300	.35	220-110	38	British	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
459C	300	.35	220-110	38	Continental	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
462	500	.22	220-110	25	American	American	General Use	2.40
463B	500	.22	220-110	25	British	American	General Use	2.40
463C	500	.22	220-110	25	Continental	American	General Use	2.40
464	560	.20	220-110	25	American	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
465B	560	.20	220-110	25	British	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
465C	560	.20	220-110	25	Continental	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
466	660	.167	220-110	8	American	American	General Use	2.40
467B	660	.167	220-110	8	British	American	General Use	2.40
467C	660	.167	220-110	8	Continental	American	General Use	2.40
468	1345	.082	220-110	9	American	American	Electric Razor	2.40
469B	1345	.082	220-110	9	British	American	Electric Razor	2.40
469C	1345	.082	220-110	9	Continental	American	Electric Razor	2.40
470	6000	.018	220-110	2	American	American	Electric Clock	2.40
471B	6000	.018	220-110	2	British	American	Electric Clock	2.40
471C	6000	.018	220-110	2	Continental	American	Electric Clock	2.40
472	110	.950	220-110	105	American	American	15-7 Watt Xmas lights in parallel	2.40
473B	110	.950	220-110	105	British	American	15-7 Watt Xmas lights in parallel	2.40
473C	110	.950	220-110	105	Continental	American	15-7 Watt Xmas lights in parallel	2.40
474	960	.115	220-110	13	American	American	Schick Razor	2.40
475B	960	.115	220-110	13	British	American	Schick Razor	2.40
475C	960	.115	220-110	13	Continental	American	Schick Razor	2.40
476	1100	.1	220-110	11	American	American	Packard Razor	2.40
477B	1100	.1	220-110	11	British	American	Packard Razor	2.40
477C	1100	.1	220-110	11	Continental	American	Packard Razor	2.40
478	475	.230	220-110	26	American	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
479B	475	.230	220-110	26	British	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
479C	475	.230	220-110	26	Continental	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
480	300	.300	220-110	33	American	American	Remington Razor	2.40
481B	300	.300	220-110	33	British	American	Remington Razor	2.40
481C	300	.300	220-110	33	Continental	American	Remington Razor	2.40
482	785	.140	220-110	16	American	American	Portable Radio Total Current drain .140 Amp.	2.40
483B	785	.140	220-110	16	British	American	Portable Radio Total Current drain .140 Amp.	2.40
483C	785	.140	220-110	16	Continental	American	Portable Radio Total Current drain .140 Amp.	2.40
484	430	.255	220-110	28	American	American	Detrola Automatic Phono Turntable	2.40
485B	430	.255	220-110	28	British	American	Detrola Automatic Phono Turntable	2.40
485C	430	.255	220-110	28	Continental	American	Detrola Automatic Phono Turntable	2.40
488	2000	.055	220-110	6	American	American	General Use	2.40
489B	2000	.055	220-110	6	British	American	General Use	2.40
489C	2000	.055	220-110	6	Continental	American	General Use	2.40
490	143	.87	220-110	96	American	American	65-130 Watt 110 Volt Radio	2.40
491B	143	.87	220-110	96	British	American	65-130 Watt 110 Volt Radio	2.40
491C	143	.87	220-110	96	Continental	American	65-130 Watt 110 Volt Radio	2.40

FOR PHONO-RADIO COMBINATIONS

Cat. No.	Res.	Current	Voltage Drop	Watts			List Price
626-F (Radio)	560	.20	220-110	25	Combination Ballast and Adapter with American Plug	5 tube AC-DC Radio using .15 amp tubes Phono-turntable	$6.00
(Phonograph)	430	.255	220-110	28			
626-FB (Radio)	560	.20	220-110	25	Combination Ballast and Adapter with British Plug	5 tube AC-DC Radio using .15 amp tubes Phono-turntable	$6.00
(Phonograph)	430	.255	220-110	28			
626-FC (Radio)	560	.20	220-110	25	Combination Ballast and Adapter with Continental Plug	5 tube AC-DC Radio using .15 amp tubes Phono-turntable	$6.00
(Phonograph)	430	.255	220-110	28			

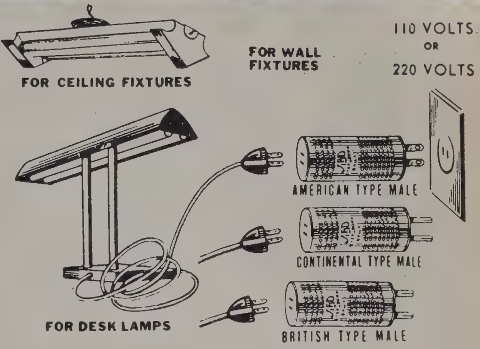


JFD PRECISION MADE

Plug-in type RESISTOR BALLASTS for Fluorescent LIGHTING FIXTURES

Fluorescent wall fixtures, ceiling fixtures, and desk lamps designed for operation on AC may be used on DC of equivalent voltage by using one of these ballasts. Ballast has a receptacle at one end and a standard two-prong plug at the other.

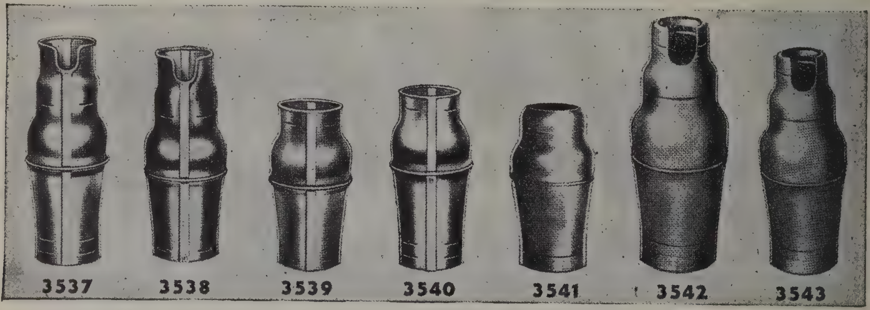
These ballasts are designed for domestic and foreign use, and operate on 25 to 60 cycles AC, or DC.



CATALOGUE NO.	LAMP WATTS	CIRCUIT VOLTAGE	APPLICATION	LIST PRICE
492	4	117	For use with one 4 watt Fluorescent Lamp	$2.10
492–2	2–4	117	For use with two 4 watt Fluorescent Lamps wired in Series	2.25
492–3	4	220 (Stepdown)	For use with one 4 watt Fluorescent Lamp with American Male	2.40
492–3B	4	220 (Stepdown)	For use with one 4 watt Fluorescent Lamp with British Male	2.40
492–3C	4	220 (Stepdown)	For use with one 4 watt Fluorescent Lamp with Continental Male	2.40
492–4	2–4	220 (Stepdown)	For use with two 4 watt Fluorescent Lamps wired in Series with American Male	2.40
492–4B	2–4	220 (Stepdown)	For use with two 4 watt Fluorescent Lamps wired in Series with British Male	2.40
492–4C	2–4	220 (Stepdown)	For use with two 4 watt Fluorescent Lamps wired in Series with Continental Male	2.10
494	6	117	For use with one 6 watt Fluorescent Lamp used only for converting from AC to DC	2.10
496	8	117	For use with one 8 watt Fluorescent Lamp used only for converting from AC to DC	2.10
486	14	117	For use with one 14 watt Fluorescent Lamp	2.10
486–2	2–14	117	For use with two 14 watt Fluorescent Lamps wired in Series	2.25
486–3	14	220 (Stepdown)	For use with one 14 watt Fluorescent Lamp with American Male	2.40
486–3B	14	220 (Stepdown)	For use with one 14 watt Fluorescent Lamp with British Male	2.40
486–3C	14	220 (Stepdown)	For use with one 14 watt Fluorescent Lamp with Continental Male	2.40
486–4	2–14	220 (Stepdown)	For use with two 14 watt Fluorescent Lamps wired in Series with American Male	2.40
486–4B	2–14	220 (Stepdown)	For use with two 14 watt Fluorescent Lamps wired in Series with British Male	2.40
486–4C	2–14	220 (Stepdown)	For use with two 14 watt Fluorescent Lamps wired in Series with Continental Male	2.40
454	15	117	For use with one 15 watt Fluorescent Lamp	2.10
454–2	2–15	117	For use with two 15 watt Fluorescent Lamps wired in Series	2.25
454–3	15	220 (Stepdown)	For use with one 15 watt Fluorescent Lamp with American Male	2.40
454–3B	15	220 (Stepdown)	For use with one 15 watt Fluorescent Lamp with British Male	2.40
454–3C	15	220 (Stepdown)	For use with one 15 watt Fluorescent Lamp with Continental Male	2.40
454–4	2–15	220 (Stepdown)	For use with two 15 watt Fluorescent Lamps wired in Series with American Male	2.40
454–4B	2–15	220 (Stepdown)	For use with two 15 watt Fluorescent Lamps wired in Series with British Male	2.40
454–4C	2–15	220 (Stepdown)	For use with two 15 watt Fluorescent Lamps wired in Series with Continental Male	2.40
452	20	117	For use with one 20 watt Fluorescent Lamp	2.10
452–3	20	220 (Stepdown)	For use with one 20 watt Fluorescent Lamp with American Male	2.40
452–3B	20	220 (Stepdown)	For use with one 20 watt Fluorescent Lamp with British Male	2.40
452–3C	20	220 (Stepdown)	For use with one 20 watt Fluorescent Lamp with Continental Male	2.40

TUBE SHIELDS

JFD Standard ST-12 and ST-14 "Form Fit" Tube Shields



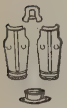
Cat. No.	Description	Assembly Consists of	For Use with Following Tubes	List Per Assembly
3537	For ST12 long tubes, with grid cap shielding.	1 half shield plain 1 half shield notched 1 clamping ring	6C6, 6D6, 6D7, 6E7, 6U7G, 25B5, 57, 58, etc.	$0.45
3538	For ST12 short tubes, with grid cap shielding.	1 half shield plain 1 half shield notched 1 clamping ring	1A4P, 1A6, 1C7G, 1F6, 2A7, 2B7, 6A7, 6A8G, 6C8G, 6F5G, 6F7, 6F8G, 6J7G, 6J8G, 6K7G, 6Q7G, 38, 39, 55, 77, 78, 79, 85, 89, etc.	.45
3539	For ST12 short tubes without grid cap shielding.	2 half shields 1 clamping ring	1E7G, 1H6G, 1J6G, 1V, 6H6G, 6J5G, 6P5G, 27, 30, 31, 37, 41, 56, 76, 84, 485, etc.	.45
3540	For ST12 long tubes wihout grid cap shielding.	2 half shelds 1 clamping ring	6AB6G, 25N6G, etc.	.45
3541	For ST14 tubes without grid cap shielding.	2 half shields 1 clamping ring	01A, 1F4, 1F5G, 1G5G, 2A5, 6B5, 6F6G, 6N6G, 6N7G, 26, 33, 40, 42, 43, 45, 53, 71A, etc.	.25
3542	For ST14 tubes with grid cap shielding.	1 half shield plain 1 half shield notched 1 clamping ring	22, 24A, 32, 34, 35, etc.	.25
3543	For ST12 small tubes with grid cap shielding.	1 half shield plain 1 half shield notched 1 clamping ring	1A6, 1C6, 2A6, 2A7, 2B7, 6A7, 6B7, 6C6, 6D6, 6F7, 12A5, 12A7, 36, 38, 39, 55, 57, 58, 75, 77, 78, 79, 85, 89, etc.	.25

JFD "GLOVE FIT" TUBE SHIELDS-New ST-12 Bulb Series

A new, improved type of tube shield assembly that fits the tube "like a glove." The body of the shield is composed of two identical half shields which slightly overlap to insure complete enclosure. When the two half shields are fitted to the tube, they can easily be slipped into the base. The half shields are then pressed together near the top and the cap snapped on. The shoulder of the bulb acts as a pivot and the halves are forced outward at the bottom, tightening the shield in the base. This insures positive contact between shield and base, and also tends to hold tube tightly in socket. Especially desirable for auto and portable radios. Caps, bodies and bases can be used interchangeably.

For Tubes with Short ST-12 Body

Assembly consists of four pieces as illustrated at left: two identical half-shields each $3\frac{5}{16}$″ long, together with high cap for tubes with top grid, plus base for wafer sockets, having slotted mounting holes $1\frac{1}{2}$ to $1\frac{27}{32}$″ center to center. Suitable for following tubes:



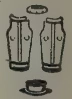
1A4
1A6
1B4
1C6
1D5G
1E5G
1F6
1F7G
2A6
2A7
2B7
6A7
6B7
6F7
15
36
6A8G
6B8G
6D8G
6F5G
6J7G
38
39
44
6K5G
6K7G
6L7G
55
75
77
78
79
85
6Q7G
6R7G
6S7G
6T7G
etc.

No. 3554—Four-piece tube shield assembly as described..**List Price $0.55**

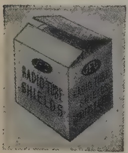
For Tubes with Long ST-12 Body

Assembly comprises four sections as illustrated at right: two identical half-shields each $3\frac{5}{8}$″ long, together with one low cap, for tubes requiring no top grip cap shielding, plus one base for wafer type sockets having $1\frac{1}{2}$″ to $1\frac{27}{32}$″ mounting centers. Suitable for following type tubes:

1E7G
1H4G
1H6G
1J6G
6H6G
6J5G
6K6G
6L5G
6X5G
25Z6G
6C6
6D6
57
58
etc.



No. 3555—Four-piece tube shield assembly as described..**List Price $0.55**



RADIO TUBE DEALERS' & SERVICEMEN'S PACKAGE

100 Complete Tube Shield Assemblies and 40 Extra Accessories

An essential for every radio tube dealer and serviceman! This package contains 100 fast-moving assorted tube shields and 40 accessories. A convenient way of carrying a complete tube shield stock to meet the ever-growing demand!

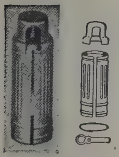
No. TS 100—Servicemen's assortment of one hundred tube shields and accessories.....................**List Price $25.00**

Tube Shields

JFD "T-9 SERIES" TUBE SHIELDS

FOR T-9 BULB BATTERY TUBES
(having .050 amp fil.)

FOUR-PIECE "HIGH COVER" ASSEMBLY

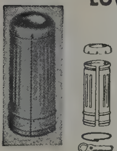


For the new Bantam type battery tubes, where complete shielding including grid cap, is required. Shield fits snugly over base of tube, and grounding lug automatically grounds shield to ground pin of tube. Overall length of shield with grid cap cover is 3¾". For use with following tubes:

1A7G 1H5G 1N5GT 1P5GT
1A7GT 1H5GT 1P5G ETC.

No. 3545—complete assembly (illustrated).
List Price $0.25

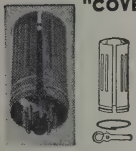
FOUR-PIECE "LOW COVER" ASSEMBLY



For new battery type bantam tubes having "T-9" bulb, same as above, except has low cover. Overall length with cover, $3\frac{1}{16}$". Can be used with battery type bantam tubes having grid cap, where shielding of cap is not necessary (1A7G, 1H5G, IN5GT, etc.) or with battery tubes having no top cap, such as 1E4G, 1G4G, etc.

No. 3544-N—complete assembly (illustrated)
List Price $0.25

THREE-PIECE "COVERLESS" ASSEMBLY



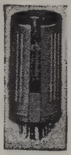
For Battery type bantam "T-9" tubes, without grid cap. Length of shield is $2\frac{15}{16}$". Fits snugly around base of tube. Grounding clip is provided, to permit connecting shield to ground pin of tube as illustrated. Clamping ring included affords tight fit for severe vibration service. Suitable for following tubes:

1E4G 1G4GT ETC.
1G4G 1G4GT/G

No. 3550 complete assembly (illustrated)
List Price $0.20

FOR GT/G AND GT TUBES

ONE-PIECE TUBE SHIELD
For Metal Base Tubes

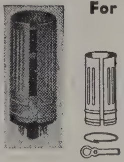


One-piece tube shield for "T-9" GT and GT/G tubes having METAL BASE. Shield fits snugly around base, automatically grounding. Overall length of shield $2\frac{25}{32}$". Can be used with following tubes:

1A7GT 6J7GT 12J7GT
1H5GT 6K7GT 12Q7GT
6C5GT/G 6Q7GT ETC.
6H6GT/G 12K7GT

No. 3551—Tube Shield ....**List Price $0.13**

THREE-PIECE ASSEMBLY
For Bakelite Base Tubes

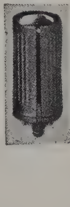


For GT and GT/G tubes with "T-9" bulbs, having BAKELITE BASE. Overall length of shield $2\frac{25}{32}$". Shield fits snugly around base of tube and additional tightness is secured by means of clamping ring. Grounding clip automatically connects shield to ground pin of tube. For use with:

1A5GT 6H4GT 6B6GT/G
1C5GT 6J5GT/G 12F5GT
1D8GT 6K5GT 25A6GT/G
1G4GT/G 6K6GT/G ETC.
6F5GT 6SA7GT/G

No. 3552—Complete assembly.
List Price $0.20

ONE-PIECE TUBE SHIELD FOR LOKTAL TUBES



One piece tube shield, for all Loktal Tubes. Tube shield fits tightly around tube and grounds to metal base which is connected internally to ground pin. Length of shield $2\frac{7}{16}$". For use with following tubes:

1LA4 1LN5 7B5
1LA6 7A4 7B6
1LH4 7A5 7C5
ETC.

No. 3553—One-piece shield.
List Price $0.13

MINIATURE TUBE SHIELDS

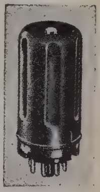
New two-piece shield for all miniature size tubes. Permits easy installation. Overall length 1⅞" high. Can be used with all miniature tubes.

No. 3565..............................**List Price $0.25**

JFD "SINGLE SHELL SERIES" TUBE SHIELDS

FOR GT/G — GT LOKTAL TUBES HAVING METAL BASES

Open Top Shields



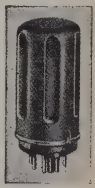
Attractive new one-piece shields. Vertical grooves provide flexible positive fit. Shield automatically grounds to metal base of tube, eliminating any necessity for additional connector. Overall length $2\frac{1}{16}$". Has open top for grid cap lead. Suitable for following tubes:

1A7GT 6Q7GT 12K7GT
6K7GT 12Q7GT 12J7GT
1H5GT 6J7GT ETC.

No. 3546—Small base open top shield. For GT/G tubes with 1.165" diameter base.
List Price $0.12

No. 3548—Large base open top shield. For GT tubes with 1.218" diameter base.
List Price $0.12

Closed Top Shields



New one-piece shield, similar to shield above. Shield fits tightly over metal base of tube, thus automatically grounding and eliminating need for additional connector. Overall length $2\frac{1}{16}$". Has closed top. Suitable for following tubes:

1LN5
6C5GT/G 7A8 7A5 7B4
1LA6 6H6GT/G 7B5 7B8
7A4 1LB4 1LA4 ETC.

No. 3547—Small base closed top shield. For GT/G and Loktal tubes with 1.165" diameter base. **List Price $0.12**

No. 3549—Large base closed top shield. For GT tubes with 1.218 diameter base.
List Price $0.12

ACCESSORIES FOR JFD TUBE SHIELDS

No. 3556

No. 3557

No. 3556—Grid Cap Cover, fits No. 3545 and 3544 tube shields listed above, as well as No. 3554 and No. 3555 tube shields. Height ⅞". Notched.
List Price $0.08

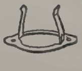
No. 3557—Grid Cap Cover same as above, except has clearance hole in top for Grid Cap Clip.
List Price $0.08

No. 3558

No. 3559

No. 3558—Low Cap, for tubes without grid cap, or where shielding of grid cap is not considered necessary. Height $\frac{9}{32}$". Hole in top, ID ⅞".
List Price $0.06

No. 3559—Clamping Ring for any above type "T-9" tube shield.
List Price $0.04



No. 3560

No. 3561

No. 3562

No. 3560—Ground Clip Base, for above type "T-9" tube shields. Has slotted holes for mounting on wafer sockets with 1½" to $1\frac{27}{32}$" mounting centers.
List Price $0.10

No. 3561—Single Ground clip for wafer type sockets, with 1½" mounting centers.
List Price $0.05

No. 3562—Ground Clip for sockets with $1\frac{5}{16}$" mounting centers.
List Price $0.06

No. 3563

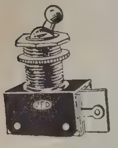
No. 3564

No. 3563—Base for all "T-9" series tube shields listed above. For sockets with mounting centers of 1½" to $1\frac{27}{32}$".
List Price $0.10

No. 3564—Grounding clip, fits over octal key and ground pin of bakelite base octal tubes, and makes contact with tube shield.
List Price $0.05

Switches and Radio Essentials

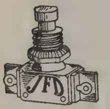
JFD TOGGLE SWITCHES



Popular switches for radio construction and replacement, for controlling small motors and appliances, etc. Made especially for JFD by H&H in a nickel plated or Statuary bronze finish. Rated at 3 amps. at 125 v., these switches are Underwriter approved. Solder connections are heavy, will not break off.

No.	Description	Shank	List Price
11-1	S.P.S.T.	½"	$0.60
11-2	S.P.S.T.	1"	.70
11-3	S.P.D.T.	½"	.72
11-4	S.P.D.T.	1"	.82
11-5	D.P.S.T.	½"	1.11
11-6	D.P.S.T.	1"	1.21
11-7	D.P.D.T.	½"	1.21
11-8	D.P.D.T.	1"	1.31

JFD PUSH BUTTON SWITCH

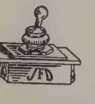


Employed on many analyzers and testers, this two circuit slow make and quick break momentary contact switch is made for JFD by H&H. One circuit is cut off while the other is normally on. Circuits may be reversed by merely pushing button. Shaft ⅝" long.

U. L. Approved

No.	Description	List Price
12-1	Switch	$0.85
12-2	W. Red Plastic But.	1.12
12-3	W. Black Plastic But.	1.12

JFD EXTRA HEAVY DUTY POWER SWITCH

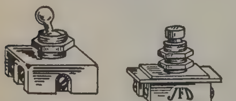


Rated 10 amps. 125 v., 3 types, with neutral position in center. Size 2" x 1" x 1⅝" sleeve ¾" dia. Made specifically for use in projectors, motors, amplifiers, transmitters, and movie equipment where heavy currents are used. Made for JFD by H&H.

U. L. Approved

No.	Description	List Price
13-1	D.P.D.T.	$5.47
13-2	3.P.D.T.	8.07
13-3	4.P.D.T.	10.93

JFD HEAVY DUTY POWER SWITCH

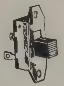


Made by H&H for JFD. Adaptable as safety switch for transformers, high frequency work, etc., available in toggle or push button types. This D.P.S.T. power switch has a capacity of 12 amps. at 125 volts.

U. L. Approved

No.	Description	List Price
14-1	Toggle Type	$1.19
14-2	Push button type	1.83

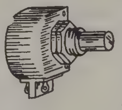
JFD SNAP SWITCHES



Used as a tone control, phono switch, circuit switch, etc., in many of the new sets. ½" wide — 1⅛" between center mounting holes. Cadmium plated steel housing; Bakelite buttons. Contacts and terminals are silver plated. U. L. Approved

No.	Description	List Price
17-1	S.P.S.T.	$0.26
17-2	S.P.D.T.	.33
17-3	D.P.S.T.	.38
17-4	D.P.D.T.	.49

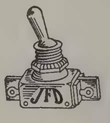
JFD ROTARY SWITCHES



Underwriters approved, this well-constructed rotary switch is especially made for replacements, or in original sets. Rated at 3 amps. 125 volts. Made for JFD by H&H. 1½" long shaft. Heavy solder contacts.

No.	Description	Shank	List Price
16-1	S.P.S.T.	⅜"	$0.66
16-2	S.P.S.T.	1"	.78
16-3	S.P.D.T.	⅜"	.83
16-4	S.P.D.T.	1"	.95
16-5	D.P.S.T.	⅜"	1.23
16-6	D.P.S.T.	1"	1.35
16-7	D.P.D.T.	⅜"	1.33
16-8	D.P.D.T.	1"	1.45

JFD BAT HANDLE TOGGLE SWITCHES



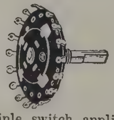
This tear-drop style switch dresses up any panel or instrument board. Nickel plated. Heavy solder connections. ½" shank. Made for JFD by H&H.

U. L. Approved

No.	Description	Shank	List Price
15-1	S.P.S.T.	½"	$0.60
15-2	S.P.D.T.	½"	.72
15-3	D.P.S.T.	½"	1.11
15-4	D.P.D.T.	½"	1.21

Toggle Switch On-Off Plate
No. 18-1....................List $0.04

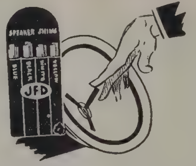
CIRCUIT SELECTOR SWITCHES



For multiple switch applications; testers, analyzers, etc. Single hole mounting ⅜", flat end shaft length 11/16". Thread length ⅜".

No.	Description	Shank	List Price
ST131	S.P.S.T.	1½"	$0.75
ST132	S.P.D.T.	1½"	.75
ST133	D.P.S.T.	1½"	.75
ST134	D.P.D.T.	1½"	.75
ST135	3 P.S.T.	1½"	.90
ST136	3 P.D.T.	1½"	1.00
ST137	4 P.S.T.	1½"	1.00
ST138	4 P.D.T.	1½"	1.20
ST139	5 P.S.T.	2"	1.15
ST140	5 P.D.T.	2"	1.35
ST141	6 P.S.T.	2"	1.25
ST142	6 P.D.T.	2"	1.50

JFD PLASTIC SPEAKER SHIMS



Indispensible to every serviceman for the rapid and accurate adjustment of any type dynamic speaker. Made of a very tough and flexible plastic. Five sizes in an attractive, silver-lettered, partitioned snap case.

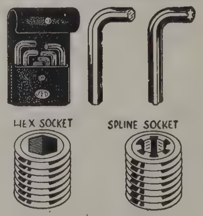
No. ST1806—Set of 20 color coded shims in kit, complete.
List Price $0.60

JFD SPRING STEEL SPEAKER SHIMS

For quick, precise adjustment of any type dynamic speaker. Made of highest grade, extremely flexible spring steel. Four sizes in an attractive, silver-lettered, partitioned snap case.

No. ST1807—Set of 16 color coded shims, complete.
List Price $0.65

JFD HEXAGON AND BRISTO KEY WRENCHES



A "must" in every serviceman's tool kit. Used on knobs, dials, motors, pulleys, etc. Only toughest hardened steel is used in both the Hex and Bristo Wrench.

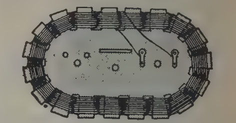
HEX KEY WRENCHES

No.	Description
9-1	Kit of 6 Hex Key Wrenches for No. 4 to 1/4" Set Screws and No. 2 to 8 Cap Screws in Leatherette Case. List $0.50
9-2	Env. 4 Hex Key Wrenches for 1/4" to 7/16" Set Screws and No. 8 to 5/16" Cap Screws ......List $0.40
9-3	Env. 5 Hex Key Wrenches for No. 4 to 1/4" Set Screws and No. 2 to 8 Cap Screws ....List $0.40
9-4	No. 4 Set Screw Wrench. List $0.10
9-5	No. 5 Set Screw Wrench. List $0.10
9-6	No. 6 Set Screw Wrench. List $0.10
9-7	No. 8 Set Screw Wrench. No. 4 Cap Screw ....List $0.10
9-8	No. 10 Set Screw, No. 5-6 Cap Screws ....List $0.10
9-9	1/4" Set Screw, No. 8 Cap Screw ....List $0.10
9-10	5/16" Set Screw, No. 8 Cap Screw ....List $0.10
9-11	3/8" Set Screw, No. 1/4" Cap Screw ....List $0.10
9-12	7/16" Set Screw, No. 5/16" Cap Screw ....List $0.10

BRISTO KEY WRENCHES

No.	Description
10-1	Kit of 6 Bristo Key Wrenches for No. 4 to 1/4" Set Screws and No. 2 to No. 8 Cap Screws in Leatherette Case ....List $0.50
10-2	No. 4 Set Screw Wrench. List $0.10
10-3	No. 5 Set Screw Wrench. List $0.10
10-4	No. 6 Set Screw Wrench. List $0.10
10-5	No. 8 Set Screw, No. 4 Cap Screw ....List $0.10
10-6	No. 10 Set Screw, No. 5-6 Cap Screws ....List $0.10
10-7	No. 1/4" Set Screw, No. 8 Cap Screw ....List $0.10
10-8	No. 5/16" Set Screw, No. 10 Cap Screw ....List $0.10
10-9	No. 3/8" Set Screw, No. 1/4" Cap Screw ....List $0.10
10-10	No. 7/16" Set Screw, No. 5/16" Cap Screw ....List $0.10

JFD ANTENNA LOOPS



Ideal for battery and midget sets or portables. Replaces an Antenna Coil; gives satisfactory pickup and excellent selectivity. Inductance slightly higher than necessary, permitting removal of turns for adjustment.

No.		List
21-1	4" x5½"	$1.10
21-2	4½"x7"	1.10
21-3	5½"x8"	1.10
21-4	6" x8⅝"	1.10
21-5	6½"x9¾"	1.10

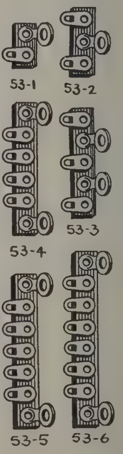
Same as above but includes PRIMARY WINDING permitting use of outdoor antenna in remote areas for better sensitivity.

No.		List
21-10	4" x5½"	$1.25
21-11	4½"x7"	1.25
21-12	5½"x8"	1.25
21-13	6" x8⅝"	1.25
21-14	6½"x9¾"	1.25

New type loop construction permits mounting inside radio. Used in newest type portable and midget radios.

No.		List
21-20	Box loop antenna, 3¼"x5"	$1.25
21-21	Box loop antenna, 4¼"x6¼"	1.25

JFD Terminal Strips



Rigidly riveted to prevent the lugs from turning and getting out of line. Made of sturdy construction.

53-1
Single Cont.
List $0.05

53-2
Two Cont.
List $0.06

53-3
Three Cont.
List $0.06

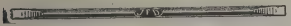
53-4
Four Cont.
List $0.11

53-5
Five Cont.
List $0.12

53-6
Six Cont.
List $0.13

Insulated Test Tools

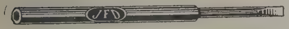
JFD INSULATED SCREW-DRIVER



Made of ¼″ rod—sturdy, durable bone fibre. No metal parts. Perfect for neutralizing and adjusting radio sets, coils, condensers, etc. Ends can be reground when necessary. 7 inches long.

No. 5-50..............................List Price $0.40

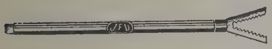
JFD INSULATED SCREW-DRIVER AND HEX WRENCH



Durable bone fibre combination insulated screw-driver and hex wrench. Screw adjustment permits screw-driver to be extended from 7″ to 13″.

No. 5-51..............................List Price $0.75

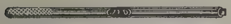
JFD ALLIGATOR WRENCH AND SCREW-DRIVER



Sturdy, tough 7/32″ bone fibre. Combination strong metal wrench and metal screw-driver tip.

No. 5-52..............................List Price $0.50

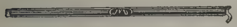
JFD ALIGNING SCREW-DRIVER



Metal tip screw driver made of tough bone fibre. ¼″ diameter x 6″ long, completely insulated.

No. 5-53..............................List Price $0.40

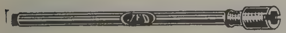
JFD ALIGNMENT TOOL FOR PHILCO RECEIVERS



Air Trimmer condensers on all model sets can be easily neutralized with this specially designed metal clip. Other end has screw-driver with metal nib. Made of 7/32″ bone fibre.

No. 5-54..............................List Price $0.60

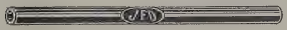
JFD WRENCH AND SCREW-DRIVER



One end has ¼″ metal hex wrench; other end has metal screw-driver nib made of 7/32″ bone fibre.

No. 5-55..............................List Price $0.75

JFD INSULATED ALIGNING WRENCH

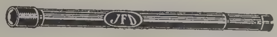


Made of tough bone fibre. Hexed its full length inside, so that end of wrench can be cut off when necessary, and neutralizing wrench is ready for more use.

No. 5-56 6″ long (¼″ hex) ⅜″ dia. List Price $0.25

No. 5-57 8″ long (¼″ hex) ⅜″ dia. List Price $0.30

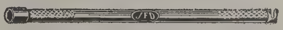
JFD WRENCH ALIGNMENT TOOL



Sturdy bone fibre with ¼″ metal hex wrench on one end and 5/16″ metal hex wrench on the other end.

No. 5-58..............................List Price $1.25

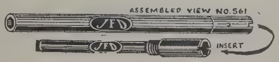
JFD ALIGNMENT WRENCH FOR RCA, PHILCO, etc.



Ideal for neutralizing and adjusting air trimmers of all models of Philco, Victor, and RCA. One end has 5/16″ metal hex wrench; other end has an especially shaped metal hook for adjusting trimmers. Durable bone fibre.

No. 5-60..............................List Price $1.50

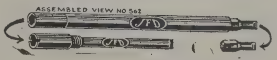
JFD "4-In-1" ALIGNMENT TOOL



Contains four handy tools—¼″ hex wrench with key slot on one end, 5/16″ hex wrench on other end, screw-driver wih metal nib comprises insert. Sturdy bone fibre.

No. 5-61..............................List Price $1.00

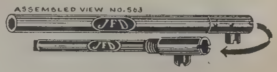
JFD "5-In-1" ALIGNMENT TOOL



Contains five handy neutralizing tools—¼″ hex wrench with key slot, 5/16″ hex wrench, screw-driver with metal nib insert and heavy metal screw-driver nib on one end. Durable bone fibre.

No. 5-62..............................List Price $1.35

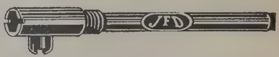
JFD ALL-PURPOSE TOOL



Made of tough bone fibre. Combination tool contains ¼″ hex wrench with key slot, 5/16″ hex wrench, ¼″ metal hex side wrench with key slot, inserted screw-driver with metal nib.

No. 5-63..............................List Price $1.35

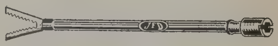
JFD BALANCING TOOL



No need to remove set from cabinet when using this tool. Neutralizing and balancing can be done easily and quickly in even the closest quarters.

No. 5-64..............................List Price $0.50

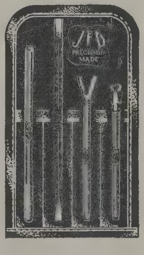
JFD WRENCH AND ALLIGATOR ALIGNING TOOL



Made of 7/32″ bone fibre—alligator wrench on one end, ¼″ slotted metal hex wrench on other end.

No. 5-65..............................List Price $0.50

JFD POCKET ALIGNING KIT

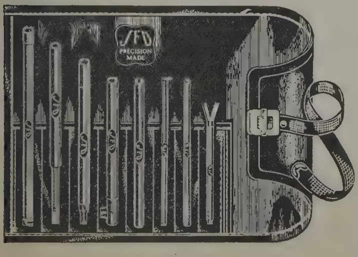


Here is a handy aligning kit that will fill most servicemen's requirements! Kit contains:

1 No. 5-53 Aligning Screw-driver
1 No. 5-50 Insulated Screw-driver
1 No. 5-52 Alligator Wrench and Screw-driver
1 No. 5-55 Wrench and Screw-driver
1 Leatherette Case

No. 5-75..............................List Price $3.00

JFD JUMBO ALIGNING KIT



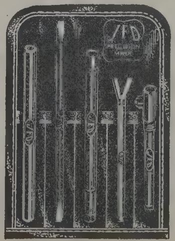
Here is a single kit that will take care of practically every aligning tool need! These eight tools have 24 different usable ends. The kit contains:

1 No. 5-51 Tool
1 No. 5-52 Tool
1 No. 5-53 Tool
1 No. 5-54 Tool
1 No. 5-56 Tool
1 No. 5-57 Tool
1 No. 5-60 Tool
1 No. 5-62 Tool
1 No. 5-63 Tool

1 Roll-Type Leatherette Case

No. 5-77..List Price $8.75

JFD ALL-PURPOSE ALIGNING KIT



Here is a handy, compact kit containing five JFD sturdy bone fibre aligning tools.

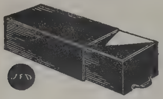
The kit contains:

1 No. 5-50 Insulated Screw-driver
1 No. 5-52 Alligator Wrench and Screw-driver
1 No. 5-56 Aligning Wrench
1 No. 5-58 Metal Wrench
1 No. 5-64 Balancing Tool
1 Leatherette Case

No. 5-76..List Price $4.25

JFD ASSORTED RADIO PRODUCTS

JFD DURABLE STOCK CABINETS



For parts, hardware, etc., with sliding drawer. Sturdier, heavier metal than average.

No. 25-1 .... **List $2.00**

JFD RADIO CABINET SPEAKER GRILLE CLOTH

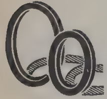
JFD
SPEAKER
GRILLE CLOTH
FOR RADIO
CABINETS

Highest quality. Blends with any shade cabinet.

No.	Size, In.	List	No.	Size, In.	List
48-1	18x20	$1.00	48-7	8x8	$0.21
48-2	9x18	.53	48-8	9½x10	.26
48-3	12x12	.53	48-9	6x6	.21
48-4	14x18	.63	48-10	9x12	.40
48-5	24x13	.74	48-11	Any length, per yard	4.00
48-6	18x13	.58			

Also comes in special light color for plaskon and ivory cabinets. Specify "light" when desired.

JFD PHONO-TURNTABLE
Rubber-Replacement DRIVES



Prevent slipping, increase efficiency by replacing worn rubber drives with these exact duplicates of popular friction-type phono turntable drives.

No.	Description	List
30-1	For Alliance Model and Motorola	$0.25
30-1B	Bag of 2 Number 30-1 Drives	.40
30-2	For Detrola Models	.40
30-3	For General Electric Models	.15
30-3B	Bag of 3 Number 30-3 Drives	.40
30-4	For General Industries Rx-Lx Motors	.25
30-4B	Bag of 2 Number 30-4 Drives	.40
30-5	For Philco, RCA, Etc.	.15
30-5B	Bag of 3 Number 30-5 Drives	.40
30-6	For RCA	.15
30-6B	Bag of 3 Number 30-6 Drives	.40
30-7	For Webster Model 56	.25
30-7B	Bag of 2 Number 30-7 Drives	.40

JFD PHONO TURNTABLE SPRINGS

Assortments of the most popular type phono-turntable springs—in great demand by servicemen. Assortments contain springs used by RCA, Philco, Seeburg, New Products, Oak, Zenith, etc. Two assortments, one of smaller size springs and the other of larger sizes.

No.	Description	List
34-1	Envelope 10 small size phono springs	$0.40
34-3	Envelope 8 larger size phono springs	.40

JFD PHONOGRAPH NEEDLE AND STYLUS SET SCREWS

Machined replacement set screws for pick-up arms and recording heads. For all popular types.

No.	Description	List
31-1	10 Assorted Stylus Screws	$1.51
31-1B	Bag of 7 Assorted Screws	1.06
31-1C	20 Bags No. 31-1B	21.20
31-2	100 Assorted Stylus Screws	13.95
31-3	For Astatic Number 3207 and Number 3205; Stromberg-Carlson SD-64 and SD 149; Universal No. 3207; Webster No. 26A2108	.17
31-4	For Astatic No. 3258; RCA No. 37045; Webster Electric No. P9564-1	.17
31-5	For Audex. D-32	.17
31-6	For RCA Nos. 33974, 3811, 33529, 31160, 12539	.17
31-7	For RCA No. 34432	.17
31-8	For RCA, Long 1 inch Type	.17
31-9	For Rek-O-Kut Recorder Cutter No. MG625, and No. 8-S; Webster Co. No. 26A2142	.17
31-10	For Shure Bros. No. 30-76	.17
31-11	For Shure Bros. No. 30-132	.17
31-12	For Webster Electric Co. P4819-2	.17

JFD RADIO SPAGHETTI TUBING
(All in 30″ Lengths)

Highest grade, flexible spaghetti for radio-television work. Average dielectric strength—5,000 volts. Colors: Black, Brown, Red, Green, Yellow.

No.	Size		List
37-0	No. 20	Fit 20 wire	$0.15
37-2	No. 18	Fit 18 wire	.15
37-6	No. 14	Fit 14 wire	.15
37-8	No. 12	Fit 12 wire	.15
37-9	1/8″ I.D.		.32
37-10	3/16″ I.D.		.44
37-11	1/4″ I.D.		.50
37-12	3/8″ I.D.	(Resist. Types)	.69
37-13	7/16″ I.D.		.94
37-14	1/2″ I.D.		1.15

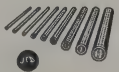
JFD RADIO SPAGHETTI ON SPOOLS
(5000 Volt Dielectric Strength)

RADIO
SPAGHETTI

Highest grade varnished tubing put on spools of 20-foot length. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green and Blue.

No. 37-20 20-ft. Spool .... **List $1.25**

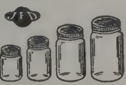
JFD ASSORTED SATURATED SLEEVING KIT



Assortment of 7½″ lengths of saturated sleeving. 26 lengths to the kit. Sizes include from No. 17 wire to ⅜″ I.D.

No. 50-1 Kit of 26 lengths........ **List $0.65**

JFD UNBREAKABLE PLASTIC JARS FOR HARDWARE AND PARTS



Made of clear, unbreakable plastic. Wide-mouthed, the perfect storeplace for small radio parts, screws, nuts, washers, etc.

No.	Description	List
43-2	2 ounce plastic jar	$0.30
43-4	4 ounce plastic jar	.35
43-8	8 ounce plastic jar	.40

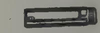
FOR AUTO RADIO CONNECTORS

4004 Fuse Holder

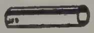
Quick Changing Fuse Holder. Principally used on auto radio sets. Takes standard 1¼″ fuse. With two fibre bushings and strong spring contact. Steel, cadmium plated.

List $0.20

4001 Jumbo Fuse Holder



For new type jumbo fuses. Overall size of fuse holder 2½″ inches long by ½ inch diameter ....**List $0.25**



2060—Auto Fuse Holder Insulator Sleeve

Used on inside of above fuse connector, insulates fuse from casing.

List, per hundred $1.25

4002—Instant Antenna Connector

For quick, easy connection of auto radio antennas, and other applications where rapid, dependable shielded single conductor connection is required. Made in two pieces with bayonet lock. Inside contact is made with strong spring and two fibre bushings. Steel cadmium plated.

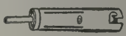
List $0.15

ANTENNA LEAD CABLE FITTINGS

3018FT—Set plug-in for Motorola lead-in.

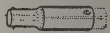
List, $0.12

3017FT—Set plug-in for Motorola with adapter for standard lead-in.



List $0.33

NEW! ADAPTER SHELL



Converts any Motorola (pin type) plug to Philco (bayonet type) plug. There's a real need for these. Every serviceman should stock 100 at a time

No. 4006.................................**List, ea. $0.11**

4003—Male End of Antenna Connector

This is male end of 4002, attaches to lead-in. Complete with fibre bushing

List, ea. $0.10

4005—Fibre Contact Bushing Only

For 4002, 4004 connectors.

List, per hundred................................**$3.50**

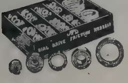
JFD EYELET AND CLAMP ASSORTMENT

Make your own belts, bands and cables — Increase Your Profits! The same eyelets and clamps as used in our ready-made belts, bands, and cables.

No.	Description	List
46-1	60 assorted pieces	$0.40

JFD ASSORTED RADIO PRODUCTS

JFD RADIO AND PHONO RUBBER DRIVES



Made especially for RCA, Stewart-Warner, Atwater Kent, Emerson, Olsen, Kennedy, etc. Finest grade rubber drives.

No.	Description	List
36-1	Assortment of 5 small dial drives	$0.40
36-2	Display 20 envelopes 36-1	8.00
36-3	Assortment of 5 large dial drives	.40
36-4	Display of 20 envelopes 36-3	8.00
36-5	Assortment of 10 dial drives	.80
36-6	Display 24 envelopes of 36-5	19.20
36-7	Box of 25 assorted drives	1.50
36-8	Box of 100 assorted drives	6.00
36-11	AK small, part number 1568L	.10
36-12	AK large for gear part No. 17961	.10
36-13	Phono drive for Detrola	.40
36-14	Phono drive for Alliance Model 80 and Motorola	.25
36-15	Atwater Kent Part No. 27333, for models 465, 655Q, 768Q, 978Q	.10
36-16	Large Atwater Kent for part No. 27332 for models 465Q, 655Q, 768Q, 978Q	.10
36-17	Small AK, for part No. 27332	.40
36-18	Emerson-Majestic grooved rubber fits ¼″ shaft	.10
36-19	Phono drive for General Electric	.15
36-20	Phono drive for General Industries RX-LX Motors	.25
36-21	Kennedy 26, 34, 36 and Wells-Gardner 2-22 series	.10
36-22	Philco part No. 42-2346	.25
36-23	Phono drive for Philco, RCA, etc.	.15
36-24	Phono drive for RCA	.15
36-25	RCA all numbers	.10
35-26	Stewart-Warner 113, 114 connector	.10
36-27	Stewart-Warner 105-120	.10
36-28	Stewart-Warner 102-104	.10
36-29	Stewart-Warner 105-120 small	.10
36-30	Stewart-Warner 126	.10
36-31	Phono drive for Webster model 56	.25

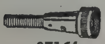
JFD RADIO KNOB SET SCREWS

JFD
RADIO KNOB
SET SCREWS

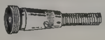
To replace lost knob set screws. Assortments contain 6/32″, 8/32″, and 10/32″ screws.

No.		List
32-1	50 Assorted Set Screws	$0.99
32-2	100 Assorted Set Screws	1.81
32-3	20 Assorted Set Screws in envel.	.40
32-4	Display of 20 envelopes 32-3	8.00

CABLE TYPE MIKE CONNECTORS



ST164

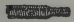


ST165

For use with single conductor microphone cable. Completely shielded, cable shield being used as return conductor . . . Contacts securely locked together by coupling ring on female connector, preventing vibration and accidental separation . . . For cables up to 5/16″—5/8—27 coupling ring thread . . . Spring cord protector. Chrome plated on brass.

No. ST164 Female type ....**List $0.55**
No. ST165 Male type ....**List .44**

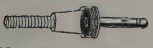
COIL SPRING CORD PROTECTOR



For use with above type connectors; available separately.

No. ST163.........................**List, Ea., $0.12½**

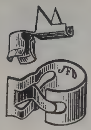
PHONE PLUG ADAPTER



Plugs into standard phono jacks . . . Screws into microphone connector No. ST164 . . . Chrome plated on brass.

No. ST166 ....**List $0.49**

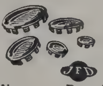
JFD GRID CAP ASSORTMENT



Various grid caps to fit all makes of tubes. For radio repairs and for construction of new equipment.

No.	Description	List
49-1	Envelope 16 caps	$0.40
49-2	Glass tube grid caps per 1000	12.50
49-3	Metal tube grid caps per 1000	12.50

JFD SNAP BUTTON HOLE PLUGS

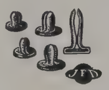


Just the thing to plug holes, seal adjustments, etc. Fits in any material up to 1/16″ thick.

No.	Description	List
45-1	50 Assorted plugs in box	$2.46
45-2	10 Assorted plugs in envelope	.40

No.	Hole Diameter		List
45-4	3/8″	per 10	$0.38
45-5	1/2″	per 10	.49
45-6	5/8″	per 10	.55
45-7	3/4″	per 10	.55
45-8	1-1/4″	per 10	.88

JFD SNAP-IN TRIMOUNTS



Used in place of screws to fasten dials, built in aerials, speakers and other parts. Every serviceman should have a kit.

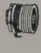
No.	Description	List
44-1	30 assorted trimounts	$0.40
44-2	100 assorted trimounts	1.20
44-3	100 small, 11/64″	1.20
44-3B	Envelope 30 number 44-3	.40
44-4	100 medium 13/64″	1.20
44-4B	Envelope 30 number 44-4	.40
44-5	100 large 17/64″	1.20
44-5B	Envelope 25 number 44-5	.40
44-6	100 extra large 9/32″	1.20
44-6B	Envelope 25 number 44-6	.40
44-7	New large size 5/8″ long Philco, RCA General Electric 20 trimouts 5/8″	.40
44-700	100 trimounts 5/8″ long	1.92

CHASSIS TYPE CONNECTORS

Non-shorting single conductor chassis and mike connector . . . May be grounded to chassis or insulated with fibre washers . . . Screws into microphone connector No. ST164 . . . Chrome plated on brass . . . Complete with hexagon mounting nut, soldering lug, metal washer and 2 fibre washers.

No. ST167 ....**List $0.33**

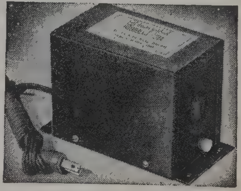
CLOSED CIRCUIT CHASSIS TYPE CONNECTOR



Prevents open circuit noise when microphone is disconnected, grounding automatically . . . Eliminates switch when used as a phonograph input . . . Screws into microphone connector No. ST164 . . . Complete with hexagon mounting nut, soldering lug, metal washer and two fibre washers . . . Chrome plated on brass.

No. ST168 ....**List $0.44**

JFD RADIO INTERFERENCE FILTER

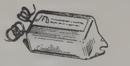


An exceptionally effective filter for the most serious cases of radio interference from power lines and appliances. Filter plugs into electric outlet and radio set or noise-producing device plugs into receptacle on filter. For use on 110 volts AC or DC, up to 5 amps.

Thorough filtering action is obtained by use of inductance as well as capacitance. This filter is especially desirable for connection between interfering device and power line. Housed in handsome brown wrinkle-finish case, with 6½ ft. cord.

No. ST1040...............................**List, ea., $7.50**

JFD FLUORESCENT LIGHT NOISE SUPPRESSORS

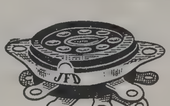


Approved by Underwriters' Laboratories

Designed to suppress noises caused by Fluorescent lamps . . . Also efficient for correcting radio interference caused by electrically operated machines and appliances . . . Easy to install.

No. ST1030...**List $1.50**

JFD BAKELITE SOCKETS

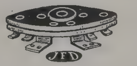


Highest quality molded bakelite sockets. High dielectric. Have plated non-corroding bronze sockets. Three grounding lugs on metal base of each socket are automatically grounded when socket is installed, 1½″ mounting centers. 1-3/32″ mounting hole.

STANDARD R.M.A. CONTACT SPACINGS

No.	Prongs		List
38-4	4		$0.13
38-5	5		.13
38-6	6		.15
38-7	7		.15
38-8	8	Octal Base	.15
38-9	8	Loktal Base	.15

JFD MINIATURE WAFER SOCKETS

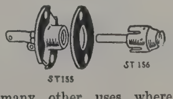


For miniature tubes, high grade laminated bakelite sockets with positive contacts. Standard spacings.

No.	Prongs	Mtg. Centers	List
39-4	4	1-1/2″	$0.11
39-5	5	1-1/2″	.13
39-6	6	1-1/2″	.13
39-7S	7	Small, 1-1/2″	.13
39-7L	7	Large, 1-1/2″	.13
39-8S	8	Octal, 1-5/16″	.16
39-8L	8	Octal, 1-1/2″	.16
39-9	8	Loktal. 1-5/16″	.16

JFD MIDGET JACKS & PLUGS

USED ON RCA RECORDING UNITS, RECEIVERS AND AUTO SETS



Will be found very handy and practical for connecting microphones, record players, F.M. attachments and many other uses where a small, compact jack and plug is needed.

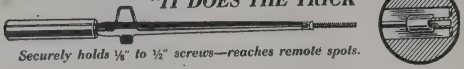
No.		List
ST155	Midget Shielded Jack	$0.19
ST156	Midget Pin Plug	.12

Copyright by U. C. P., Inc.

JFD PRECISION MADE Radio Hardware and Essentials

JFD TRIK-HOLD SCREW-DRIVER

"IT DOES THE TRICK"

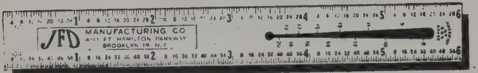


Securely holds 1/8" to 1/2" screws—reaches remote spots.

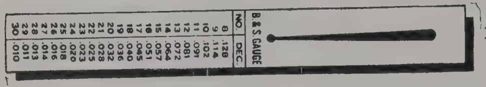
This is the new screw-driver that servicemen are talking about! With the TRIK-HOLD SCREW-DRIVER, any part of the radio can readily be reached. Blade holds screw securely until it is snugly in place, then a flick of the finger releases it—and the job is done!

No. 5-69 ....List Price $0.45

JFD STEEL GAUGE AND RULE



Face

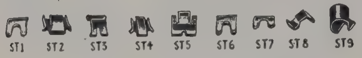


Reverse Side

Handy pocket all-purpose rules that no serviceman should be without. Made of stainless steel with 1/32" and 1/64" graduations. Has American or Browne & Sharpe wire gauge. Reverse side has gauge numbers and decimal equivalents.

No. 3-50..List Price $0.65

JFD PUSH-ON KNOB SPRINGS
for all types of knobs



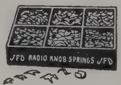
Any of these springs except ST9 in lots of 100..List $1.37
Each .02

Type ST9 in lots of 100.............................. List 2.74
Each .05

No.	Quan.	Type	No.	Quan.	Type
33-1	20	ST1	33-11	20	ST6
33-3	20	ST2	33-13	20	ST7
33-5	20	ST3	33-15	20	ST8
33-7	20	ST4	33-17	10	ST9
33-9	20	ST5			

Each of above kits..List $0.40

JFD RADIO PUSH-ON KNOB SPRING KITS

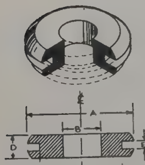

JFD RADIO KNOB SPRINGS JFD

No. 33-51
20 Asst. in envelopes
List $0.40

No. 33-53
Kit of 35 Springs
List $0.66

No. 33-54
Kit of 100 Springs
List $1.37

JFD RUBBER GROMMETS



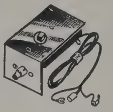
Prevents the abrasion of wires and cables when passing through panel hole or chassis. Makes a perfect cushion for sockets, condensers, etc.

A: Outside Diameter. B: Inside Diameter. C: Panel Hole. D: Thickness overall. E: Panel Thickness.

No.	A	B	C	D	E	Per C
19-1	5/8"	1/4"	13/32"	3/8"	1/16"	$3.50
19-2	3/8"	11/64"	5/16"	1/4"	1/16"	2.50
19-3	7/16"	3/16"	5/16"	3/16"	1/16"	3.00
19-4	9/16"	9/32"	11/32"	1/4"	1/16"	3.00
19-5	5/8"	5/16"	7/16"	1/4"	1/16"	3.25
19-6	11/16"	5/16"	1/2"	1/4"	1/16"	3.50
19-7	1/2"	7/32"	3/8"	3/16"	1/16"	3.00
19-8	3/4"	7/16"	9/16"	1/4"	1/16"	3.25

List Price
No. 19-15—Bag of 15 Asstd. Grommets............................$0.40
No. 19-50—Bag of 50 Asstd. Grommets............................ 1.04

JFD REPLACEMENT PHONO-RADIO SWITCH

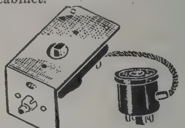


For quickly connecting Record Players, Microphones, F.M. or Television Attachments, etc., to the audio amplifier of radio receivers . . . Also replaces R.C.A. Part No. 9824A.

No. ST145........List $2.25
(Complete with Midget Tip Plug)

JFD PHONOGRAPH PICKUP ADAPTERS

Completely assembled and wired on a sturdy steel frame . . . easily and quickly mounted in any cabinet.



"G", "GT" METAL TUBE OCTAL BASE ADAPTER

For use with detector (2nd detector Superhet.) for audio amplifying tubes with an octal (8 prong) base without top grid cap and with basing similar to 6AC5G, 6AE5GT, 6C5, 6C8G, 6F6, 6F8G, 6G6G, 6H6, 6J5, 6K6G, 6L6G, 6N6G, 6N7, 6T7G, 6Y6G, 6Z7G, 12J5GT, 25A6, 25A7G, 25AC5GT, 25B6G.

No. ST181—Complete with Standard Plug, Jack and Wired Tube Socket Adapter.
List Price $3.00

STANDARD GRID CAP ADAPTER

For use with tubes used as detector or amplifier such as 2A6, 2B7, 6B7, 6C6, 6D6, 6F7, 24A, 36, 39, 55, 57, 58, 75, 77, 78, 79, 85.

No. ST182—Complete with Standard Plug and Jack ....List Price $2.25

5-PRONG UY BASE ADAPTER

For use with 5 prong tubes used as detector or audio amplifier such as 27, 37, 49, 56, 76.

No. ST183—Complete with Standard Plug, Jack and Wired Tube Socket Adapter.
List Price $3.00

"SINGLE-ENDED" DIODE-TRIODE BASE ADAPTER

For use with single ended "S" series tubes used as detector or amplifier with basing similar to 6SQ7, 6SR7, 12SQ7, 12SR7.

No. ST184—Complete with Standard Plug, Jack and Wired Tube Socket Adapter.
List Price $3.00

"SINGLE-ENDED" TRIODE-PENTODE BASE ADAPTER

For use with single ended "S" series tubes used as detector or amplifier with basing similar to 6SC7, 6SF5, 6SJ7, 12SC7, 12SJ7, 12SF5.

No. ST185—Complete with Standard Plug, Jack and Wired Tube Socket Adapter.
List Price $3.00

"G", "GT" METAL TUBE GRID CAP ADAPTER

For use with metal "G" or "GT" type tubes having top control grid cap such as 6B6G, 6B8G, 6C8G, 6F5, 6F8G, 6J7, 6J7GT, 6K5G, 6K7, 6Q7, 6Q7GT, 6R7, 6T7G, 12C8, 12F5GT, 12J5GT, 12J7GT, 12K7GT, 12Q7GT.

No. ST186—Complete with Standard Plug and Jack ....List Price $2.25

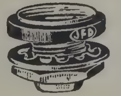
Radio Hardware and Essentials

JFD SPEAKER SPIDERS

A full selection of speaker spiders as originally used on 5", 6", 8", 10", 12" speakers by all leading speaker manufacturers. Made of finest and best strength tensile fibre.

Catalog No.	Outside Diameter	List Price Each
6-1	1⅛"	$0.15
6-2	1½"	.20
6-3	1⅞"	.25
6-4	2½"	.40

JFD AUTO BODY PLUGS



To neatly conceal holes left in auto body and instrument panel when antennas, radio controls, switches, cowl aerials, spotlights, and the other accessories are removed, fits snugly and permanently in hole. Brass, chrome-plated, large flathead screw with lock washer, rubber spacer, and nut. An essential item in every serviceman's shop.

FOR ⅜" HOLES

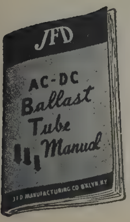
No. 2047—Serviceman's Card of 12
List $4.20..$0.35 each

FOR ½" HOLES

No. 2050—Servicemen's Card of 12
List $4.20..$0.35 each

JFD BALLAST TUBE MANUAL

FREE!

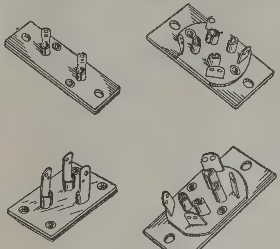

JFD
AC-DC
Ballast
Tube
Manual
JFD MANUFACTURING CO BKLYN, N.Y.

68 page Ballast Tube Manual—a treasury of information to Radio Servicemen and Dealers. It lists:

1. More than 3,000 radio ballasts.
2. AC-DC ballasts for fluorescent lights and electrical appliances.
3. Step-down ballasts, 220-110 V.

YOUR FREE COPY of this book (value — $1.50) is now ready for you. Merely mail in to JFD factory (4117 Ft. Hamilton Parkway, Brooklyn 19, N. Y.) 12 flaps from JFD Dial Belt envelopes; include 10¢ in stamps to cover mailing. Book is also included in JFD Belt Kits B25A, B50A, B100A. See Page on Dial Belt Kits. (Buy your JFD Belts and Belt kits from your nearest Parts Jobber).

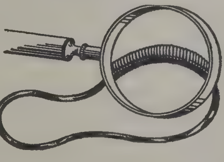
JFD SPECIAL WAFER SOCKETS



Used in battery construction and other applications. Made of fine grade Phenolic laminated materials (with or without wax impregnating). Contacts are spring metal finished in Cadmium, Silver or Hot Tin. Come in wide range of size and layout to meet any and all requirements.

No.	Prongs	List Price
62-2	2	$0.11
62-3	3	.16
62-4	4	.20
(Used with Burgess G6B60; Willard WZ3)		
62-44	4	.20
(Used with Burgess G4B501 Willard WZ2)		

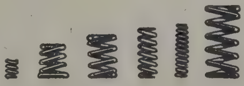
DETROLA RECORD CHANGER DRIVE SPRING AND RUBBER



Detrola part No. 50137 for Detrola Model No. 626, etc. This is the same spring used by the manufacturer in his original equipment. Elastic tension spring with core.

No. 6-31—Spring ....List Price $0.50
No. 63-2—Rubber ....List Price .40

JFD COMPRESSION SPRINGS

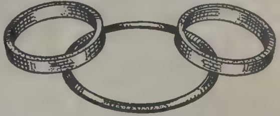


Used for repair work on radio dials, push buttons, phonograph motors, electronic appliances, etc. Assortments contain all needed springs.

No. 55-20—Bag of 20 Small Springs.
List Price $0.40

No. 55-15—Bag of 15 Large Springs.
List Price $0.40

JFD VACUUM CLEANER BELTS



Made of finest grade live rubber. Here is an item that has a tremendous market. These belts can be sold to every radio customer. Carry a JFD assortment with you when making calls. Display them in your shop—it will mean profits for you.

No. 56-1—Flat Belt, 2⅛" I.D. x ½" wide x ⅛" thick. Fits Premier Duplex Jr.; G.E.; AMC; Bee Vac; Eureka, G. Models; Hamilton Beach, 8, 12, 14; Kenmore, BV Types; Universal; Westinghouse..$0.20

No. 56-2—Flat Belt, 2⅜" I.D. x ½" wide x ⅛" thick. Fits Premier Duplex, G.E.; Westinghouse; Royal; Universal; Hamilton Beach; AMC, Airway; Apex; Eureka; Graybar; Kirby; Regina; Scott-Fitzer; Sweeper Vac $0.20

No. 56-3—Flat Belt, 3½" I.D. x ½" wide x 5/32" thick. Fits Airway; Apex; G.E.; Kenmore; Premier; Singer $0.25

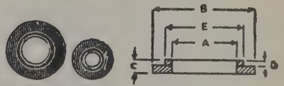
No. 56-4—Flat Belt, 3¾" I.D. x ½" wide x 9/64" thick, Hoover large flat type....$0.25

No. 56-5—Round Belt, 3" diam. x 5/16" thick. Fits Hoover, 25, 26, 27, 80, 103, 150, 300, 305, 450, 475; Apex, 129. $0.25

No. 56-6—Round Belt, 3¾" diam. x ¼" thick. Fits Hoover models, 102, 105, 541, 543, 961, N. Special................$0.25

No. 56-7—Round Belt, 3¾" diam. x 5/16" thick. Fits AMC; Kenmore Commander; Hoover models 60, 90, 575, 700, 725, 750, 800, 925, 930 ....$0.25

JFD FIBRE SHOULDER WASHERS



Finest insulating material. Ideal for use on metal panels wherever insulating washers are used.

A: Inside Diameter
B: Outside Diameter
C: Thickness Overall
D: Height of Shoulder
E: Diameter of Shoulder

No.	A	B	C	D	E	List Price per M
57-1	.140	.375	.093	.031	.237	$10.50
57-2	.110	.250	.062	.031	.187	8.50
57-3	.136	.250	.093	.031	.187	9.00
57-4	.136	.312	.093	.031	.187	10.00
57-5	.250	.500	.068	.028	.312	11.00
57-6	.172	.375	.093	.031	.246	9.75
57-7	.196	.375	.093	.031	.308	9.75
57-8	.375	.750	.093	.031	.500	13.00
57-9	.385	.625	.093	.031	.500	12.50

JFD Adapter Harnesses and Battery Plugs

For Portable and Farm BATTERY OPERATED RADIO SETS

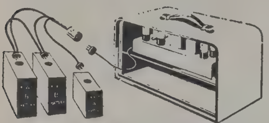
A Successful Solution To An Urgent Problem!

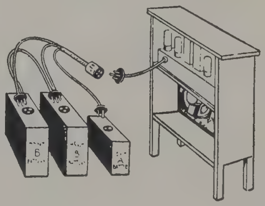
More than 750,000 Harnesses Sold

Combination "AB" Battery Packs are still difficult to obtain—but SEPARATE, standard "A" and "B" Batteries, ARE available, and are in fact now being produced for the portable and farm radio market.

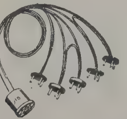
In practically every case, a radio set designed to use a combination "AB" pack can now be adapted to use separate "A" and "B" batteries by means of one of the JFD ADAPTER HARNESSES listed in these pages.

Simply attach the JFD Adapter harness to the battery cable in the radio set — then attach separate "A" and "B" batteries to the plugs at the other end of the harness — that's all there is to it! No soldering — No cutting — Just plug in!





- ★ **IT'S MORE ECONOMICAL** to replace separate "A" or "B" batteries as required, rather than to replace an entire "AB" pack when only one section of it is exhausted.
- ★ **IT'S EASIER** to get separate "A" and "B" batteries. Battery manufacturers are now making them in increasing quantities, to supply the important portable and farm-radio market.
- ★ **IT'S MORE PROFITABLE** to battery dealers, because it simplifies the battery stock problem. Two types of "A" batteries and three types of "B" batteries take care of practically all battery radio sets, in conjunction with JFD ADAPTER HARNESSES. To do the same job with combination "AB" packs, at least 25 different types would be required.



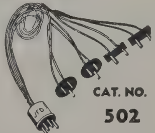
JFD "PHILCO" HARNESS

with 7-prong socket

This harness has a standard 7-prong socket, to fit plug from radio set. Other end of harness has five plugs for 3-45V "B" and 2-4½V "C" batteries.

For use in replacing power pack in Philco models 37-33, 37-38, 38-33, and 38-38 with standard separate "B" and "C" batteries. This means a real saving to the user, since it permits replacement of only the individual batteries as needed instead of the entire pack. Harness is sufficiently long to allow placing batteries on floor near set, if necessary.

No. 513....................List Price ea. $2.74



CAT. NO.
502
ADAPTER HARNESS

For sets Using 9V "A" & 90V "B"

With this harness you can now use separate standard "A" and "B" radio batteries in portable radio sets which employ the following "AB" packs:

Burgess G6B60
Usalite AB-677
Zenith Z-985

This harness has standard 4-prong plug which fits receptacle on radio battery cable. At the other end of the adapter harness are two 3-prong male "B" plugs and two 2-prong male "A" plugs, for use with:
2 45V "B" bat. (Eveready 482, etc.)
2 4½V "A" bat. (Eveready 746, etc.)

No. 502....................List Price ea. $1.64

ADAPTER HARNESSES

For Portable Radio Batteries
NO SOLDERING — NO CUTTING — JUST PLUG IN!

CAT. NO.
501
ADAPTER HARNESS

For Sets Using 6V "A" & 75V "B"

This harness permits use of separate standard "A" and "B" radio batteries in portable radios which use the following "AB" packs:

Burgess G4B50
General Z50B4H4
Montgomery Ward 5045
Usalite AB-670
Zenith Z-675

This harness has a 4-prong plug which fits into female receptacle on the end of the radio set cable. At the other end of the adapter harness are two 3-prong male "B" plugs and one 2-prong male "A" plug for use with:
2 45V "B" bat. (Eveready 482, etc.)
1 6V "A" bat. (Eveready 747, etc.)

No. 501....................List Price ea. $1.37

CAT. NO.
503
ADAPTER HARNESS

For Sets Using 1½V "A" & 90V "B"

This adapter harness can be used with separate batteries in place of these packs:

Acme 460-15
Acme 460-14S
Advance 411
Bond 0528
Bright Star 61-05
Burgess 3FA60
Burgess 5DA60
Burgess 4TA60
Burgess 17GD60
Burgess 6TA60
Burgess 2GA60
Crosley CR-60
Eveready 748
Firestone E-15275
General 60A4L
General 60A2L
General 60DL-11L
Montgomery Ward (Airline) 5003
(Airline) 5047
National Union N-801
Philco P60D11L
Rayovac AB-82
Sears Roebuck 5170
Sears Roebuck 10793
Usalite AB-665
Usalite AB-666
Western Auto D-235
Willard 60A2L
Willard 60DL11L
Winchester 0518
Zenith Z-802

4-pin socket on harness fits plug from set. Other end of harness has two 3-pin "B" plugs and a 2-pin "A" plug for use with:
2 45V "B" bat. (Eveready 482, etc.)
1 1½V "A" bat. (Eveready 742, etc.)

No. 503....................List Price ea. $1.37

PRICES FOR OTHER TYPES FURNISHED ON REQUEST

REPLACEMENT GUIDE

For Radio Battery Adapter Harnesses

Consult this listing for correct adapter to select when replacing a combination "A-B" battery pack with separate individual "A and B" batteries.

Battery Pack Number	Replace with JFD Adapter Harness No.	And Use Standard Batteries		SEE NOTE
		"A"	"B"	
ACME BATTERY CO.				
360-4FS	506	6V	2-45V	
860-41	509	1½	2-45V	
460-15S	505	1½	2-45V	
460-15	503	1½	2-45V	
442-2	505	1½	2-45V	B
460-15MS	503	1½	2-45V	
480-14S	503	6V	2-45V	
225	504A	7½V	2-45V	C
ADVANCE				
411	503	1½	2-45V	
41AD7	505	1½	2-45V	B
BOND				
0528	503	1½	2-45V	D
BRIGHT STAR				
61-05	503	1½	2-45V	D
BURGESS BATTERY CO.				
6TA60	503	1½V	2-45V	
5DA60	503	1½V	2-45V	
4TA60	503	1½V	2-45V	
3FA60	503	1½V	2-45V	
4FA60	509	1½V	2-45V	
6FA60	505	1½V	2-45V	
2GA60	503	1½V	2-45V	
4GA41	505	1½V	2-45V	B
4GA42	505	1½V	2-45V	B
D4A60	508	6V	2-45V	
D5A60	504A	7½V	2-45V	C
F4A41	508	6V	2-45V	B
F4B60	506	6V	2-45V	
F5A60	504A	7½V	2-45V	C
2F4A60	507	6V	2-45V	
2F4B60	508	6V	2-45V	
G4B50	501	6V	2-45V	B
G4B60	508	6V	2-45V	
G5A42	504A	7½V	2-45V	C
G6B60	502	2-4½V	2-45V	
17GD60	503	1½V	2-45V	D
CROSLEY				
CR49	505	1½V	2-45V	
CR57	508	6V	2-45V	
CR58	504A	7½V	2-45V	C-D
CR60	503	1½V	2-45V	
CR61	508	6V	2-45V	
CR67	508	6V	2-45V	
CR68	504A	7½V	2-45V	
CR69	503	1½V	2-45V	D
CR649	508	6V	2-45V	
CR658	—	6V	2-45V	E
EMERSON				
EM749	504AJ	7½V	2-45V	B-C
EVEREADY				
748	503	1½V	2-45V	D
748M	—	1½V	2-45V	D-E
FIRESTONE				
E15275	503	1½V	2-45V	
E15276	508	6V	2-45V	
GENERAL DRY BATTERIES				
60A4F4	507	6V	2-45V	
60A4FL4	507	6V	2-45V	
60A4F1	507	6V	2-45V	E
P60A4L	509	1½V	2-45V	
60A4L	503	1½V	2-45V	
60A2L	503	1½V	2-45V	
Z50B4H4	501	6V	2-45V	B
60B4H	508	6V	2-45V	
41A4FL	505	1½V	2-45V	B
60A5D5	504A	7½V	2-45V	C
60A4H	—	1½V	2-45V	E
60B6H6	504A	7½V	2-45V	C
60DL-11L	503	1½V	2-45V	
60A110	—	6V	2-45V	E
MONTGOMERY WARD (Airline)				
5001	505	1½V	2-45V	
5003	503	1½V	2-45V	
5045	501	6V	2-45V	B
5004	505	1½V	2-45V	B
5047	503	1½V	2-45V	D
MOTOROLA				
"Bike" Radio Pack	503	1½V	2-45V	
NATIONAL UNION				
N801	503	1½V	2-45V	D
N802	505	1½V	2-45V	B
N803	505	1½V	2-45V	
PHILCO				
P60A8F4	504A	7½V	2-45V	C
P841	504A	7½V	2-45V	C
P60A4L	505	1½V	2-45V	
P41A4G	505	1½V	2-45V	B
P41A4FL	505	1½V	2-45V	B
P60D11L	503	1½V	2-45V	D
P60A110	510	6V	2-45V	
P87	504A	7½V	2-45V	B-C
P89	511	1½V	67½V	A
RAYOVAC				
AB684	508	6V	2-45V	B
AB694	507	6V	2-45V	
MB49	—	1½V	2-45V	E
AB84	505	1½V	2-45V	
AB419	505	1½V	2-45V	B
AB94	—	1½V	2-45V	E
AB82	503	1½V	2-45V	D
AB794	504A	7½V	2-45V	B-C
SEARS ROEBUCK (Silvertone)				
5170	503	1½V	2-45V	D
10793	503	1½V	2-45V	D
USALITE				
AB674	507	6V	2-45V	
AB675	—	1½V	2-45V	E
AB667	505	1½V	2-45V	
AB665	503	1½V	2-45V	
AB670	501	6V	2-45V	B
AB672	505	1½V	2-45V	B
AB669	505	1½V	2-45V	B
AB668	—	6V	2-45V	E
AB666	503	1½V	2-45V	D
AB671	510	6V	2-45V	
AB673	507	1½V	2-45V	
AB676	504A	7½V	2-45V	B-C
AB677	502	2-4½V	2-45V	
WESTERN AUTO				
D235	503	1½V	2-45V	D
WILLARD				
60A2L	503	1½V	2-45V	
P41A4FL	505	1½V	2-45V	B
60A4H	—	1½V	2-45V	E
60DL11L	503	1½V	2-45V	D
WINCHESTER				
0518	503	1½V	2-45V	D
ZENITH				
Z659	506	6V	2-45V	
Z9B	509	1½V	2-45V	
Z675	501	6V	2-45V	B
Z985	502	2-4½V	2-45V	
Z802	503	1½V	2-45V	D

NOTE A—This is for a candid size radio. Use of a No. 950 Eveready Flashlite Cell and No. 467 Eveready "B" battery, or equivalent, is recommended.

NOTE B—Original "B" Voltage for this set is approximately 75V. However, 90V "B" voltage can be used without difficulty.

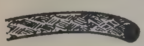
NOTE C—No. 504-A harness is for use with one 7½-volt "A" battery (and two 45-volt "B" batteries). Where no 7½-volt battery is available, use No. 504 harness which employs two 4½-volt "A" batteries, to accomplish same result.

NOTE D—These packs are for 1½ volt Farm Radios, not portable type sets; therefore, use of larger (standard) batteries is recommended.

NOTE E—These packs employ three separate sockets. Sets using this type of pack already have three separate battery connection leads, and require no adapter harness.

JFD PRECISION MADE SERVICEMEN'S ESSENTIAL PARTS

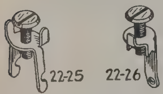
JFD COATED SLEEVING



Dielectric strength is 2,000 volts. Flexible—less expensive than regular spaghetti, replaces it in most uses. Colors: Black, Brown, Red, Green, Yellow.

No.	Description	List Price
54-0	No. 20—Fit 20 Wire.	$0.10
54-3	No. 17—Fit 17 Wire.	.10
54-6	No. 14—Fit 14 Wire.	.12
54-8	No. 12—Fit 12 Wire.	.13
54-9	⅛" I.D.	.19
54-10	3/16" I.D.	.25
54-11	¼" I.D.	.31
54-12	⅜" I.D. (Resistor Size)	.44
54-13	7/16" I.D.	.50

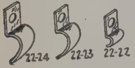
JFD TERMINAL LUGS AND SCREWS



These lugs are tapped with screw inserted. Just the thing for heavy duty terminal strips. No. 22-25 Lug is cadmium-plated brass; No. 22-26 Lug is hot tinned brass.

No.	List Price
No. 22-25	$3.50 per C
No. 22-26	6.00 per C

JFD CABLE CLAMPS



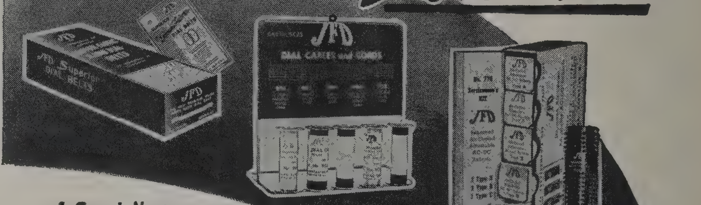
No.

22-22—Steel Cadmium plated. No. 8 hole, length ¾", width ⅜". Will fit over ¼" cable. List Price per C........$1.25

22-23—Steel Cadmium plated. No. 8 hole, length ⅝", width ⅜". Will fit over ⅛" to ¼" cable. List Price per C........$1.25

22-24—Steel Cadmium plated. No. 8 hole, length 1", width ⅜". Will fit over ½" cable. List Price per C........$1.50

JFD NEW "BIG 4" SERVICEMEN'S BASIC KIT!



A Great New TIMESAVER For Radio Servicemen!

FOUR Basic Radio Service Kits in ONE Package

SPECIAL! SERVICEMEN'S COST

$18⁰⁰

LIST PRICE $33.35

For Radio Servicemen Starting a Repair Business . . .

For Established Radio Servicemen Who want to Save Time and Energy . . .

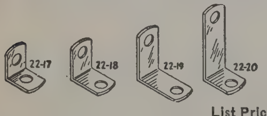
These 4 Popular JFD Kits have everything needed for 25% of all radio service work.

1. **B25A Belt Kit.** Assortment of 25 Dial Belts in Metal Container. Includes FREE 64-page JFD Servicemen's Manual, listing belts for more than 1500 set models.
2. **5C25 Dial Cable & Cord Rack.** Contains 5 Metal Spools of fast-moving dial cables and cords.
3. **770 Ballast Kit.** Contains five JFD Improved Aircooled AC-DC Adjustable Ballasts. Suitable for more than 95% of all ballast tube replacements.
4. **BP-100-MC Plug Assortment.** 100 radio battery plugs, in 25 different popular types. Sturdy Metal Container. Includes FREE Battery plug folder with technical data and schematic diagrams of all plug types.

COMBINATION List Price Value, $33.35
Model "Big 4"
Servicemen's SPECIAL Net Price
$18.00

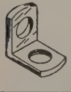
J.F.D. MANUFACTURING CO., 4109-4123 FT. HAMILTON PARKWAY, BROOKLYN-19, N. Y.

JFD BRASS AND STEEL ANGLES



No.	Material	Size	List Price per C
22-17	Brass N.P.	½"x½"	$2.50
22-18	Brass N.P.	⅝"x⅝"	5.00
22-19	Steel H.T.	¾"x¾"	2.00
22-20	Steel H.T.	⅝"x1⅛"	2.00

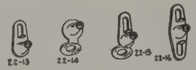
JFD TAPPED ANGLE BRACKET



Cadmium Plated Steel. Size ½"x½", with one 8/32" tapped hole and one plain .165 hole.

	List Price per C
No. 22-21	$4.50

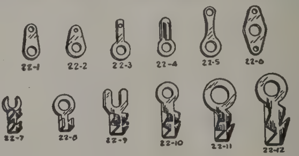
JFD EYELET TYPE SOLDER LUGS



These lugs are excellent for mounting on terminal strips. Made of Brass. No. 22-16 cadmium-plated; others are hot tinned.

No.	Length	Hole	List Price per M
22-13	⅝"	5/64 slot	$4.50
22-14	⅝"	No. 8	10.00
22-15	¼"	No. 8	7.50
22-16	15/16"		7.50

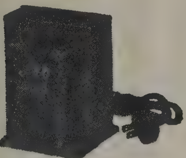
JFD SOLDER TYPE LUGS—BRASS HOT TINNED



No.	Length	Hole	List Price per M
22-1	5/8"	No. 6	$ 4.00
22-2	5/8"	No. 6	4.00
22-3	3/4"	No. 6	8.00
22-4	5/8"	No. 6	7.00
22-5	7/8"	No. 6	5.50
22-6	7/8"	No. 8	8.00
22-7	5/8"	No. 8	7.00
22-8	5/8"	No. 6	7.50
22-9	1"		10.00
22-10	15/16"	No. 8	12.00
22-11	1-1/8"	1/4"	15.00
22-12	1"	1/4"	15.00

BALLASTS, TRANSFORMERS

JFD 220V.-110V. STEP-DOWN TRANSFORMERS

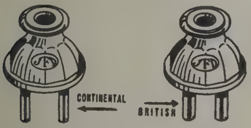


Here is a Step-Down Transformer that is just the thing for use with Radio Receivers, Phono-radio combinations, all electrical appliances and equipment such as: irons, toasters, vacuum cleaners, refrigerators, washing machines, etc., JFD Step-Down Transformers are precision-made to comply with exacting requirements. They all have Input of 200-240 volts, Output of 115 volts, and operate on cycles of 50-60 volts.

JFD 220V.-110V. STEP-DOWN TRANSFORMERS

Cat. No.	Cap. in Watts	Cycles	List Price
52-85	85	50-60	$8.50
52-125	125	50-60	9.50
52-200	200	50-60	11.50
52-300	300	50-60	13.50
52-400	400	50-60	20.00
52-500	500	50-60	27.00
52-1000	1000	50-60	48.00

JFD Bakelite Handle Cap for Use in Foreign Countries



Comes with either Continental or British Prongs

No.		List Price
2-451	Cap with Continental type prongs	$0.25
2-452	Cap with English type prongs	.30

JFD FOREIGN ADAPTER

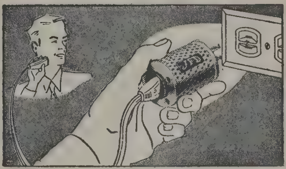
Converts American Male Plug to Continental and British Male Plugs

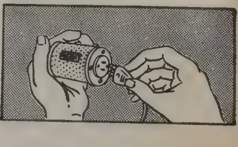
Converts Foreign receptacles into the standard American type—in a jiffy!

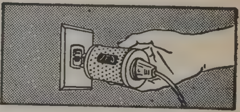
No. 2-449—with Continental type prongs. List Price $0.33

No. 2-450—with British type prongs. List Price $0.33

JFD CURRENT CONVERTER (AC to DC) for ELECTRIC RAZORS







ELECTRIC SHAVERS WORK QUICKER—SMOOTHER—CHEAPER ON D-C CURRENT!

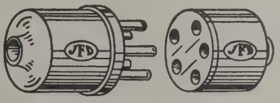
Here is an item that means quick profits! Every electric razor owner is a prospective buyer. It will pay you to display the JFD Current Converter prominently in your shop!

Just plug razor cord into the JFD Converter; plug converter into the A-C wall socket and—the efficiency of the razor is increased almost 100%! The JFD Current Converter changes common household A-C to D-C, producing a much smoother, faster, electric shave. Lengthens life of the shaver. Can be used with any electric razor operating on AC-DC.

Cat. No. 68-1..**List Price $10.00**

JFD SHIELDED PLUGS AND JACKS

(Small Size)

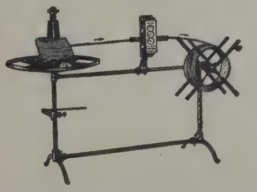


Shell is cadmium-plated steel with fibre insulation inside. Projections securely hold plug after assembly. Come in 3 to 6 prongs in male and female construction. Male unit is $\frac{1}{16}$" Bakelite with Standard tube pins. Plugs are polarized. 1" Diameter-cable hole is $\frac{21}{64}$", length $\frac{7}{8}$".

No.	Male Plug	List
58-3	3 prong	$0.30
58-4	4 prong	.30
58-5	5 prong	.30
58-6	6 prong	.30

No.	Female Receptacle	List
59-3	3 hole	$0.30
59-4	4 hole	.30
59-5	5 hole	.30
59-6	6 hole	.30

JFD WIRE MEASURING STAND

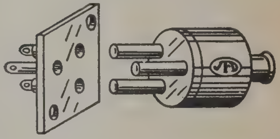


Complete outfit — payout reel, measuring unit and take-up reel—are all combined on the one sturdy metal stand. A valuable machine for all who sell wire by the length. Units are available separately.

Cat. No.	Description
65-1	Payout Reel
65-2	Measuring Unit
65-3	Take-up Reel
65-C	Complete Outfit

JFD SHIELDED PLUGS AND CONNECTORS

(Midget Size)



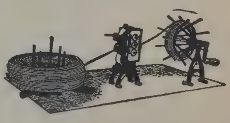
Midget size—only $\frac{5}{8}$" diameter of shell; cable hole is $\frac{5}{16}$"; length $\frac{9}{16}$". An economical combination. Perfect shielding — excellent electrical connection.

No.	Shielded Male Plug	List
60-3	3 prongs	$0.15
60-4	4 prongs	.20
60-5	5 prongs	.25

	Female Receptacle (Chassis Type, non-shielded)	
61-3	3 contact	$0.25
61-4	4 contact	.25
61-5	5 contact	.25

JFD WIRE MEASURING OUTFIT

(COUNTER MODEL)



Here is a compact, sturdy wire measuring outfit that can be set up easily on counter, bench or table. More than pays for itself in time saved and exact wire measurements. Measures up to 1000 feet. Very simple to set up and operate—it works silently. Take-up reel is adjustable.

Cat. No.	Description
66-1	Payout Reel
66-2	Measuring Unit
66-3	Take-up Reel
66-C	Complete Outfit

JFD
PRECISION MADE

DIAL BELT MANUAL

BELT SPECIFICATIONS—NUMERICAL LISTING

INSTRUCTIONS FOR MEASURING BELTS

In order to determine the size of a belt, if the old belt is available, cut this belt and measure its length when stretched out. This will give you the "Length When Open".

If the old belt is not available or cannot be measured because of its worn condition, stretch a thin thread around the belt pulleys within the set. The measurement of this thread will give you the "INSIDE PULLEY CIRCUMFERENCE". This is not to be confused with the "LENGTH WHEN OPEN". The belt when cut will be approximately 3/16″ longer when stretched out.

JFD Belt No.	Inside Pulley Circumference	Length When Open	Models
1	6⅝″	6 13/16″	Dejur Amsco Zenith
2	6 13/16″	7″	Crosley Crowe Emerson Kingston Majestic Zenith
3	7 17/32″	7 23/32″	Emerson
4	8 3/32″	8 9/32″	Belmont F'bks-Morse Kingston
5	7 9/16″	7¾″	Crowe
6	7 13/32″	7 19/32″	Majestic RCA
7	7 23/32″	7 29/32″	Belmont Crowe
8	8 9/16″	8¾″	Acratest Simplex
9	8 17/32″	8 23/32″	Acratest F'bks-Morse
10	8½″	8 11/16″	Fada
11	7 29/32″	8 3/32″	Emerson RCA
12	8 19/32″	8 25/32″	Majestic RCA
13	8⅝″	8 13/16″	Airline Crowe RCA
14	8 7/16″	8⅝″	Fada Silvertone
15	9 5/16″	9½″	Bosch Lafayette RCA
16	9 7/16″	9⅝″	Airline Crowe Garod Zenith
17	9 5/32″	9 11/32″	Crowe Simplex Zenith Zephyr
18	10 15/32″	10 21/32″	Emerson
19	9 13/16″	10″	Garod
20	10 11/16″	10⅞″	Garod Philco
21	10¾″	10 15/16″	Lafayette
22	10½″	10 11/16″	RCA
23	10⅓″	10 7/32″	Airline RCA
24	10 5/16″	10½″	Westinghouse
25	10 15/32″	10 21/32″	Wilcox-Gray
26	10 1/16″	10¼″	Belmont Knight Lafayette Ultramar
27	9 15/16″	10⅛″	Airline Belmont
28	10 13/32″	10 19/32″	Zenith
29	10 13/16″	11″	Bosch
30	11¼″	11 7/16″	Fada Grunow Silver-Marshall
31	11 5/16″	11½″	Wells-Gardner
32	11 1/16″	11¼″	F'bks-Morse Grunow Kingston
33	11 5/32″	11 11/32″	RCA
34	11½″	11 11/16″	Sparton
35	11 3/32″	11 9/32″	Detrola
36	11 9/16″	11¾″	Crosley Dejur Amsco Detrola
37	11 9/32″	11 15/32″	Fada
38	12″	12 3/16″	Zenith
39	12 7/16″	12⅝″	Admiral Crowe
40	12 5/16″	12½″	F'bks-Morse Lafayette Zenith
41	11 15/16″	12⅛″	Dewald Fada
42	12 7/32″	12 13/32″	RCA
43	11⅞″	12 1/16″	RCA
44	12 9/16″	12¾″	Case Knight
45	12 11/16″	12⅞″	Silvertone
46	13⅛″	13 5/16″	F'bks-Morse Sparton Wells-Gardner Zenith
47	14½″	14 11/16″	Kingston Sparton
48	14 27/32″	15 1/32″	Arvin RCA Strom-Carlson
49	15 5/32″	15 11/32″	Zenith
50	16 7/16″	16⅝″	Knight RCA Wells-Gardner
51	16½″	16 11/16″	Airline
52	10 9/16″	10¾″	Garod Grunow North Elect.
53	8 11/16″	8⅞″	Belmont Majestic
54	12 1/16″	12¼″	F'bks-Morse
55	7 11/16″	7⅞″	Crowe
56	7 9/32″	7 15/32″	Emerson
57	7 3/32″	7 9/32″	Capehart
58	6¾″	6 15/16″	Crosley
59	8 3/16″	8⅜″	Crowe Emerson
60	8¾″	8 15/16″	Majestic Zenith
61	6 29/32″	7 3/32″	Emerson Majestic
62	8¼″	8 7/16″	Airmaster Emerson
63	9⅜″	9 9/16″	Airline Wells-Gardner
64	10 3/16″	10 9/16″	Airline Wells-Gardner
65	11 3/16″	11⅜″	Airline
66	9⅞″	10 1/16″	Coronada
67	12¼″	12 7/16″	Admiral
68	17 7/16″	17⅝″	Admiral Knight
69	11 29/32″	12 3/32″	Admiral Knight
70	16 15/32″	16 21/32″	Wells-Gardner
71	11 3/16″	11⅜″	Ultramar
72	8 9/32″	8 15/32″	Emerson
73	21 1/16″	21¼″	Majestic
74	22 9/16″	22¾″	Majestic
75	12 15/16″	13⅛″	Sparton
76	8 15/16″	9⅛″	Zenith
77	12⅞″	13 1/16″	Zenith
78	12 1/32″	12 7/32″	Crowe
79	11″	11 3/16″	Zenith
80	9 3/16″	9⅜″	Zenith
81	17 9/16″	17¾″	Wells-Gardner
82	18 9/16″	18¾″	Wells-Gardner
83	14 9/16″	14¾″	Wells-Gardner
84	8 13/16″	9″	Zenith
85	15 13/16″	16″	Garod
86	15 7/16″	15⅝″	Garod
87	16 5/16″	16⅜″	Admiral
88	7 13/16″	8″	General Elect.
89	16 13/16″	17″	Arvin Garod
90	19 9/16″	19¾″	Arvin
91	12¼″	12 7/16″	Wells-Gardner
92	15 13/16″	16″	Airline
93	16 15/16″	17⅛″	Arvin
94	14 27/64″	14 39/64″	Arvin
95	11 25/64″	11 37/64″	Kingston Belmont Dejur Amsco Detrola

JFD PRECISION MADE

DIAL BELT MANUAL

BELT SPECIFICATIONS—LISTED ACCORDING TO BELT SIZE

Inside Pulley Circumference	Length When Open	JFD Belt No.	Models
6⅝″	6 13/16″	1	Dejur Amsco Zenith
6¾″	6 15/16″	58	Crosley
6 13/16″	7″	2	Crosley Crowe Emerson Kingston Majestic Zenith
6 29/32″	7 3/32″	61	Emerson Majestic
7 3/32″	7 9/32″	57	Capehart
7 9/32″	7 15/32″	56	Emerson
7 13/32″	7 19/32″	6	Majestic RCA
7 9/16″	7¾″	5	Crowe
7 17/32″	7 23/32″	3	Emerson
7 11/16″	7⅞″	55	Crowe
7 23/32″	7 29/32″	7	Belmont Crowe
7 13/16″	8″	88	General Elect.
7 29/32″	8 3/32″	11	Emerson RCA
8 3/32″	8 9/32″	4	Belmont F'bks-Morse Kingston
8 3/16″	8⅜″	59	Crowe Emerson
8¼″	8 7/16″	62	Airmaster Emerson
8 9/32″	8 15/32″	72	Emerson
8 7/16″	8⅝″	14	Fada Silvertone
8 9/16″	8¾″	8	Acratest Simplex
8½″	8 11/16″	10	Fada
8 17/32″	8 23/32″	9	Acratest F'bks-Morse
8 19/32″	8 25/32″	12	Majestic RCA
8⅝″	8 13/16″	13	Airline Crowe RCA
8 11/16″	8⅞″	53	Belmont Majestic
8¾″	8 15/16″	60	Majestic Zenith
8 13/16″	9″	84	Zenith
8 15/16″	9⅛″	76	Zenith
9 3/16″	9⅜″	80	Zenith
9 5/32″	9 11/32″	17	Crowe Simplex Zenith Zephyr
9 5/16″	9½″	15	Bosch Lafayette RCA
9⅜″	9 9/16″	63	Airline Wells-Gardner
9 7/16″	9⅝″	16	Airline Crowe Garod Zenith
9 13/16″	10″	19	Garod
9⅞″	10 1/16″	66	Coronado
9 15/16″	10⅛″	27	Airline Belmont
10 1/32″	10 7/32″	23	Airline RCA
10 1/16″	10¼″	26	Belmont Knight Lafayette Ultramar
10 5/16″	10½″	24	Westinghouse
10 3/16″	10 9/16″	64	Airline Wells-Gardner
10 13/32″	10 19/32″	28	Zenith
10 15/32″	10 21/32″	18	Emerson
10 15/32″	10 21/32″	25	Wilcox-Gray
10½″	10 11/16″	22	RCA
10 9/16″	10¾″	52	Garod Grunow North Elect.
10 11/16″	10⅞″	20	Garod Philco
10¾″	10 15/16″	21	Lafayette
10 13/16″	11″	29	Bosch
11″	11 3/16″	79	Zenith
11 1/16″	11¼″	32	Grunow F'bks-Morse Kingston
11 3/32″	11 9/32″	35	Detrola
11 5/32″	11 11/32″	33	RCA
11 3/16″	11⅜″	65	Airline
11 3/16″	11⅜″	71	Ultramar
11¼″	11 7/16″	30	Fada Grunow Silver-Marshall
11 9/32″	11 15/32″	37	Fada
11 5/16″	11½″	31	Wells-Gardner
11 25/64″	11 37/64″	95	Belmont Dejur Amsco Detrola
11½″	11 11/16″	34	Sparton
11 9/16″	11¾″	36	Crosley Dejur Amsco Detrola
11⅞″	12 1/16″	43	RCA
11 29/32″	12 3/32″	69	Admiral Knight
11 15/16″	12⅛″	41	Dewald Fada
12″	12 3/16″	38	Zenith
12 1/32″	12 7/32″	78	Crowe
12 1/16″	12¼″	54	F'bks-Morse
12 7/32″	12 13/32″	42	RCA
12¼″	12 7/16″	67	Admiral
12¼″ (Open wide belt)	12 7/16″	91	Wells-Gardner
12 5/16″	12½″	40	F'bks-Morse Lafayette Zenith
12 7/16″	12⅝″	39	Admiral Crowe
12 9/16″	12¾″	44	Case Knight
12 11/16″	12⅞″	45	Silvertone
12⅞″	13 1/16″	77	Zenith
12 15/16″	13⅛″	75	Sparton
13⅛″	13 5/16″	46	F'bks-Morse Sparton Wells-Gardner Zenith
14 27/64″	14 39/64″	94	Arvin Kingston
14½″	14 11/16″	47	Kingston Sparton
14 9/16″	14¾″	83	Wells-Gardner
14 27/32″	15 1/32″	48	Arvin RCA Strom-Carlson
15 5/32″	15 11/32″	49	Zenith
15 7/16″	15⅝″	86	Garod
15 13/16″	16″	85	Garod
15 13/16″ (Open wide belt)	16″	92	Airline
16 3/16″	16⅜″	87	Admiral
16 7/16″	16⅝″	50	Knight RCA Wells-Gardner
16 15/32″	16 21/32″	70	Wells-Gardner
16½″	16 11/16″	51	Airline
16 13/16″	17″	89	Arvin Garod
16 15/16″	17⅛″	93	Arvin
17 7/16″	17⅝″	68	Admiral Knight
17 9/16″	17¾″	81	Wells-Gardner
18 9/16″	18¾″	82	Wells-Gardner
19 9/16″	19¾″	90	Arvin
21 1/16″	21¼″	73	Majestic
22 9/16″	22¾″	74	Majestic

JFD
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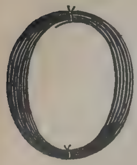
AERIAL KITS AND WIRE

JFD AERIAL WIRE



7 Strand 24 gauge bare copper aerial wire. High tensile strength — no stretching, no sagging.

937	50 ft. coil
938	100 ft. coil
939	1000 ft. metal spool

Heavy duty antenna wire—7 strand 24 gauge bare copper. High tensile strength — no stretching, no sagging.

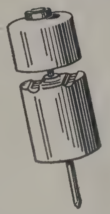
970	50 ft. coil
971	100 ft. coil
972	1000 ft. metal spool

JFD LEAD-IN WIRE

Stranded, rubber-covered No. 18 lead-in wire. Will withstand excessive weather conditions.

922	50 ft. coil
923	100 ft. coil
924	1000 ft. metal spool

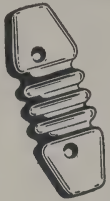
JFD NAIL-IT KNOB



Two piece glazed porcelain knob. Heavy nail insures security.

67-3
List Price
$0.10

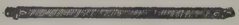
JFD PORCELAIN INSULATOR



Made to withstand greatest strain. Finest grade of glazed porcelain. Will not crack or absorb moisture.

No. 67-4
List Price
$0.15

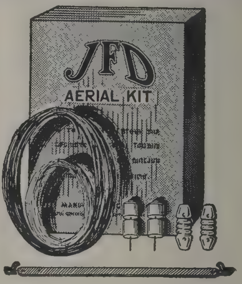
JFD LEAD-IN STRIP



Fully insulated-covered with a heavily varnished braid covering to keep weatherproof. Fahnestock clips are firmly soldered to ends of strip.

No. 67-5 .... List Price $0.15

JFD STANDARD ANTENNA KIT



Contains everything needed for aerial installation. Contains:

50 ft. of 7 strand, 24 gauge bare copper aerial wire.
50 ft. #18 rubber-covered lead-in wire.
10 ft. ground wire. 1 Ground Clamp.
2 Porcelain insulators.
2 Nail-it Knobs. 1 Lead-in Strip.
All packed in beautiful box.

No. 67-10 .... List Price $1.75

JFD DELUXE ANTENNA KIT

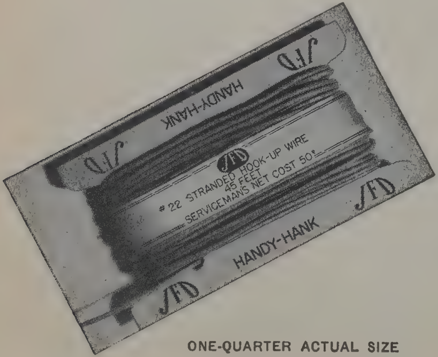
Finest materials in a kit that contains everything needed for complete antenna installation. Consists of:

75 ft. of 7 strand, 22 gauge heavy duty bare copper aerial wire.
75 ft. # 18 rubber-covered lead-in wire.
1 Three-pole lightning arrester.
10 ft. of ground wire.
2 Porcelain insulators.
2 Nail-it knobs.
1 Lead-in strip.
1 Ground clamp.
All packed in a beautiful box.

67-20 .... List Price $2.75

JFD "HANDY-HANK" WIRE SPECIALTIES

Here is JFD's answer to your everyday, hard-to-handle wire problems! The JFD HANDY-HANK prevents tangling, kinking and waste. The most popular types of wire are put up for the serviceman in neat, compact, easy-to-handle packages.



ONE-QUARTER ACTUAL SIZE

No.	Description	Serviceman's Net Cost
20-1	#22 Solid Hook-up Wire*	$0.50
20-2	#20 Solid Hook-up Wire*	.50
20-3	#18 Solid Hook-up Wire*	.50
20-4	#22 Stranded Hook-up Wire*	.50
20-5	#20 Stranded Hook-up Wire*	.50
20-6	#18 Stranded Hook-up Wire*	.50
20-7	#16 Stranded Hook-up Wire*	.50
20-8	#14 Stranded Hook-up Wire*	.50
20-9	#22 Shielded Phonograph Wire	.50
20-10	#24 Extra Fine Shielded Phonograph Wire	.50
20-11	#18 Test Lead Wire	.50
20-12	#18 Heavy Wall Test Lead Wire	.50
20-13	#18 Shielded Lead-in Wire	.50

* Hook-up wires comes in all colors—yellow, blue, red, green, black and brown.

JFD
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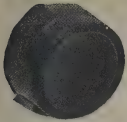
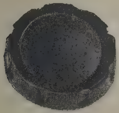
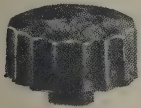
RADIO KNOBS



4-1U Universal push-on knob —diameter ⅜″, height ⅞″; Walnut, Ivory, Maroon, Mahogany, Black........List $0.10

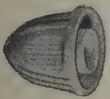


4-2U Universal push-on knob diameter ⅜″, height 9/16″; Walnut, Ivory, Maroon, Mahogany, Black........List $0.10

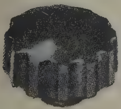


4-3 Set screw — dia. ⅜″, height ½″; Walnut, Ivory. List $0.15

4-3K Knurled hole. List $0.10



4-4K Knurled hole, diameter ⅜″, height ¾″; Walnut, Ivory ....List $0.10

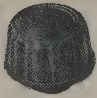


4-5 Set screw — diameter 7/16″, height 7/16″; Walnut, Ivory. List $0.15

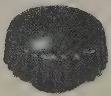
4-5K Knurled hole. List $0.10

4-5S Spring ....List $0.10

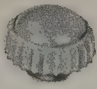
4-6K Knurled hole; diameter ⅜″, height 7/16″; Walnut, Ivory ....List $0.10



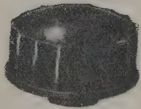
4-7K Knurled hole! diameter ⅜″, height ½″; Walnut, Ivory ....List $0.10



4-8K Knurled hole, diameter ⅜″; height 7/16″; Walnut, Ivory ....List $0.10



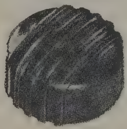
4-9K Knurled hole, diameter ⅜″, height ⅜″; Walnut, Ivory ....List $0.10



4-10 Set screw, diameter 7/16″, height 9/16″; Walnut, Ivory. List $0.15

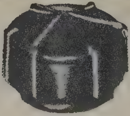
4-10K Knurled hole. List $0.10

4-11K Knurled hole, diameter 9/16″, height 13/16″; Walnut, Ivory ....List $0.10

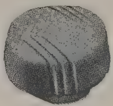


4-12 Set screw, diameter 7/16″, height 9/16″; Walnut, Ivory. List $0.15

4-12K Knurled hole. List $0.10

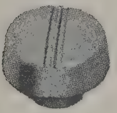


4-13S Spring, diameter 1″, height 23/32″; Walnut, Ivory............List $0.10



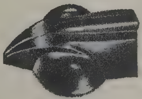
4-14K Knurled hole, diameter ½″, height 7/16″; Walnut, Ivory..List $0.10

4-14S Spring....................List $0.10

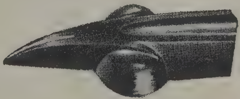


4-15K Knurled hole, diameter ½″, height 7/16″; Walnut, Ivory..List $0.10

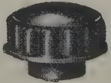
4-15S Spring....................List $0.10



4-16 Set screw, length 1¼″; Brown, Black ....List $0.15



4-17 Set screw, length 2″; Brown, Black ....List $0.21



4-18 Set screw, diameter ⅞″, height ½″; Walnut, Ivory..List $0.15

JFD
DIAL KNOB ASSORTMENT

JFD ASSORTMENT KITS OF 35 KNOBS EACH

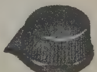
No.		List
4-93	Set screw knobs........................	$5.25
4-94	Spring knobs	3.50
4-95	Knurled knobs	3.50

4-19 Set screw, diameter ⅞″. height ⅞″; Walnut, Ivory. List $0.14

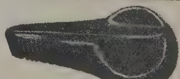
4-20 Set screw, diameter ¾″, height ¾″; Walnut, Ivory. List $0.12

4-21 Set screw, diameter ¾″, height 19/32″; Walnut, Ivory. List $0.11

4-22 Set screw, diameter 11/16″, height 13/32″; Walnut, Ivory. List $0.11



4-23 Set screw, diameter 11/16″, height 13/32″; Walnut, Ivory. List $0.12



4-24 Set screw, diameter ¾″, height 19/32″, length 1⅝″; Brown, Black........List $0.14

JFD Assortment of 12 (6 Pairs) Dial Knobs of Most Popular Types in Clear Plastic Envelopes

JFD
RADIO DIAL KNOBS

No.		List
4-90	Set screw knobs..	$1.80
4-91	Spring knobs	1.20
4-92	Knurled knobs	1.20

JFD
PRECISION MADE

F-M and Television Aerials

A WORD ABOUT JFD FM AND TELEVISION ANTENNAS . . .

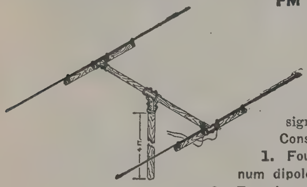
JFD Antennas are made for easy installation by the average person. These antennas will give maximum reception efficiency for the band for which it is intended. They are, in our opinion, the finest antennas that modern radio engineering has devised.

FEATURES OF ALL JFD FM and TELEVISION ANTENNAS:

1. Elements are of 3/8" diameter rigid aluminum tubing.
2. Elements are supported by stand-off bakelite insulators to prevent sagging.
3. Light-weight and strong.
4. Lacquer impregnated hardwood poles.
5. Solid cast aluminum joint brackets.
6. Well built and all-around sturdy construction to withstand all weather conditions.
7. Correct and up-to-date engineering design.
8. All come complete with all necessary insulators, hardware, and instructions.

JFD STANDARD DIPOLE WITH REFLECTOR

FM and Television Antenna



Combination dipole and reflector assembly for difficult locations where signal strength is low. Consists of:

1. Four 3/8" gauge aluminum dipole rods.
2. Four lacquer impregnated hardwood poles.
3. Aluminum angle joint brackets.
4. All necessary insulators, hardware, and instructions.

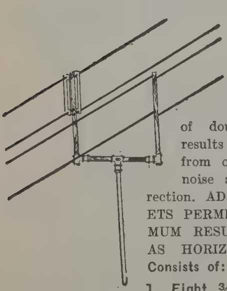
ADJUSTABLE ANGLE JOINT BRACKETS PERMIT TILTING OF DIPOLE IN VERTICAL PLANE, FOR MAXIMUM RECEPTION OF BOTH VERTICAL AND HORIZONTAL POLARIZED SIGNALS.

No. TA-3—Standard dipole assembly with reflector, as illustrated, complete with all necessary accessories........**List Price $15.00**

No. TA-3L—Same as above with 75 ft. twin-lead wire. **List Price $18.50**

JFD DOUBLE DIPOLE WITH DOUBLE REFLECTORS

F-M and Television Antenna



Recommended for locations where serious problems of interference or multipath images are encountered. The arrangement of double collectors, as illustrated, results in greatly improved reception from one direction and a decrease in noise and reflection from opposite direction. ADJUSTABLE ALUMINUM BRACKETS PERMIT TILTING TO OBTAIN MAXIMUM RESULTS ON VERTICAL AS WELL AS HORIZONTAL POLARIZED SIGNALS. Consists of:

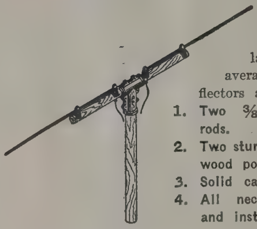
1. Eight 3/8" gauge aluminum dipole rods.
2. Six lacquer impregnated hardwood poles.
3. Aluminum angle joint brackets.
4. All necessary insulators, hardware, and instructions.

No. TA-22—Double Dipole Antenna with Double Reflectors, complete as illustrated. ....**List Price $35.00**

No. TA-22L—Same as above with 75 ft. of twin-lead wire. **List Price $38.50**

JFD STANDARD DIPOLE

F-M and Television Antenna



Here is an excellent popular-priced dipole antenna for average installations where reflectors are unnecessary. Consists of:

1. Two 3/8" gauge aluminum dipole rods.
2. Two sturdy lacquer impregnated hardwood poles.
3. Solid cast aluminum joint brackets.
4. All necessary insulators, hardware, and instructions.

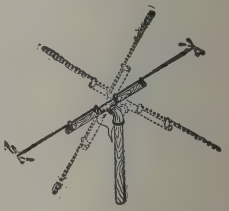
No. TA-2—Standard Dipole Assembly as illustrated, complete with all necessary accessories ....**List Price $9.50**

No. TA-2L—Same as above with 75 ft. Twin-lead wire. **List Price $13.00**

JFD "ROTO-FLEX" DIPOLE

F-M and Television Antenna

OBTAINS MAXIMUM DIRECTIONAL EFFECT!



Here is one antenna that may be turned to any position — horizontally, diagonally, vertically. Dipole assembly may be rotated in a vertical as well as a horizontal plane, so that best possible position can be selected. Brackets can then be securely locked. Particularly valuable in congested areas where tall buildings create problems of interference, reflection, etc. The JFD "ROTO-FLEX" solves these problems simply, efficiently, and economically! Consists of:

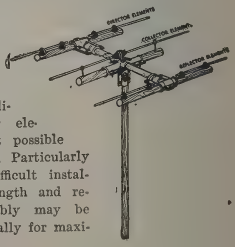
1. Two 3/8" gauge aluminum dipole rods.
2. Two sturdy lacquer impregnated hardwood poles.
3. Solid cast aluminum brackets.
4. All necessary insulators, hardware and instructions.

No. TA-25—Complete "ROTO-FLEX" assembly, as illustrated. **List Price $12.50**

No. TA-25L—Same as above with 75 ft. of twin-lead wire. **List Price $16.00**

JFD DELUXE 3 ELEMENT ANTENNA

F-M and Television Antenna



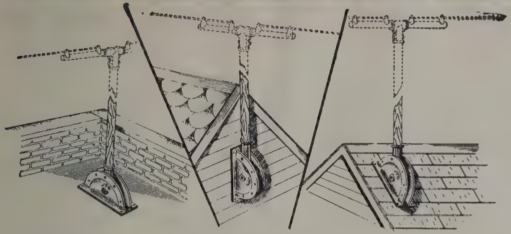
Recommended by leading manufacturers of F-M and Television Receivers for use with their equipment. This 3-element assembly, consisting of director, collector and reflector elements, will afford the highest possible signal pick-up in any location. Particularly recommended for extremely difficult installations, where low signal strength and reflection prevail. Dipole assembly may be adjusted vertically and horizontally for maximum efficiency. Consists of:

1. Six 3/8" gauge aluminum dipole rods.
2. Five lacquer impregnated hardwood poles.
3. Three sets of aluminum right angle joint castings.
4. All necessary insulators, hardware and instructions.

No. TA-4—DeLuxe Three-element Antenna complete, as illustrated. **List Price $25.00**

No. TA-4L—Same as above with 75 ft. of twin-lead wire. **List Price $28.50**

F-M TELEVISION ANTENNA ACCESSORIES



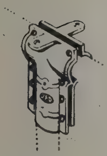
JFD MULTI-POSITION BRACKET

Here is an FM and Television Antenna bracket that takes care of all mounting problems. With this bracket, Antennas can be mounted anywhere—on wall, on window sill, on angular gable roof, on flat parapet, etc. Made of cast aluminum—light weight. Very simple to install. Will take 1½" pole. Dimensions: Height 7"; length 6"; width 4".

Cat. No. BR-8 .... List Price $10.00

ADJUSTABLE ALUMINUM RIGHT ANGLE POLE JOINTS

With Supporting Lips for Dipole Insulator Assembly

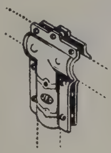


Exclusive JFD design permits mounting of wooden poles or iron pipes at right angle. Extended lips afford rigid support for dipole insulator assembly. Complete bracket kit consists of two identical half brackets, which fit snugly around pipe or pole, and eight sets of machine screws, nuts, and lockwashers, individually packaged.

No. 405—Pair of Brackets and Hardware.

List Price $4.25

STANDARD ALUMINUM RIGHT ANGLE POLE JOINTS

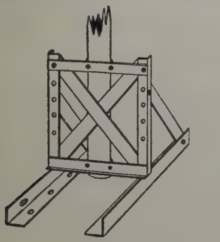


Similar to No. 405, but without supporting lips. An exclusive JFD design. Consists of two identical half brackets, designed to hold two poles or pipes rigidly at right angles. Extremely strong and durable. Complete with seven sets of machine screws, lockwashers, and nuts, individually packed.

No. 406—Pair of Brackets and Hardware.

List Price $4.25

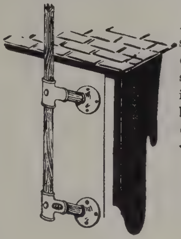
ANGLE STEEL MOUNTING BRACKET



Easily mounted on roof, wall, corner or chimney. Very strong trussed and welded construction.

No. BR3 (12"x12") .... List Price $20.00

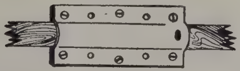
DOUBLE MOUNTING ASSEMBLY



A convenient and sturdy mounting designed to be installed on wall or inside parapet. May be adjusted from 6 to 12 inches wall.

No. BR7
List Price
per pair
$14.00

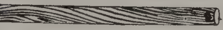
WOODEN POLE SLEEVE CONNECTOR



For joining mounting poles or for fastening guy wires to top of pole. Heavy steel, aluminum plated.

No. BR23 .... List Price $1.25

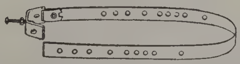
WOODEN MOUNTING POLE



For increasing the height of the standard where necessary. Made of hard wood lacquered. 1¼" thick.

No. BR19—4 feet .... **List Price $0.60**
No. BR20—6 feet .... **List Price .90**

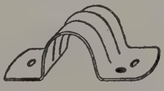
MOUNTING STRAP



Mor mounting pole on vent pipe. 18 inches long.

No. BR9 .... List Price $0.20

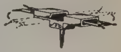
PIPE CLAMPS



Will be found useful in fastening poles on wall, roof, chimney, inside of parapet or elsewhere.

No. BR18 .... List Price $0.06

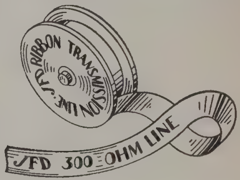
JFD WALL INSULATOR



Exclusive JFD design. Securely locks television tape in place in all adverse weather. Made of plastic—screw is countersunk to avoid shorting.

No. WI-100 .... List Price $0.15

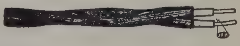
JFD TWIN-LEAD TRANSMISSION LINE



Extruded parallel ribbon type lead-in wire. Insulated with polyethylene—300 OHM surge impedance. Highly recommended for F-M and Television receivers. Made to conform with exacting requirements and will withstand severest conditions of weather and use.

No. TW-1—1000′ coils...... **List Price $48.00**

JFD TRANSMISSION WIRE



Two conductor transmission wire, 20 gauge, cotton braided, weatherproof impregnated. In 1000 foot mill length spools.

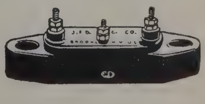
No. 945-C—1000′ spool.

RG59U CABLE

Coaxial cable recommended for use where automobile ignition interferes. Increases signal gain over parallel open pairs. The copper braid is used on one side of the line. Therefore it is advisable to try reversing the lead at the receiver for best operation.

No. TW-2 .... List Price $0.18½ per foot
(Mill reel 1000 feet)

JFD DOUBLET LIGHTNING ARRESTER



Specially designed to match JFD Home Antennas, as well as all other makes. Has built-in condenser. Three-pole connection.

No. 403 .... List Price Ea. $0.75

Remote Controls

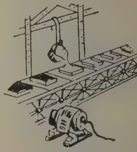
by Yardeny

PULSING DRIVE.... ACCURATELY CONTROLS MOTION OF 1/1000 HP TO 25 HP MOTORS AND UP!

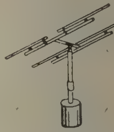
ROTATING the control knob makes and breaks the circuit, sending very short (adjustable) electrical pulses that accurately control the amount and direction of rotation *in small steps* of any AC motor, (DC on request). Rapid rotation of the knob applies continuous power to the motor. Switching contacts rated at 5 amp 115 volts AC or 3 amp 230 volts AC non-inductive load. Handles full motor current up to 1/20 HP. For larger sizes, usable in parallel with, or *instead of, push buttons* of magnetic starters up to Nema size 2. Obtainable without housing for panel mounting. *Available for immediate delivery.*

PULSING DRIVE is ideal for setting up Machine Tools, Industrial Equipment, Radio Tuning, Motor Operated Valves, Power Operated Adjustments on Machinery, etc., etc.

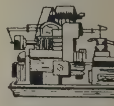
EXAMPLE: PULSING DRIVE'S single knob provides fine vernier control or swift travel across tuning range of radios.



SPOTTING CONVEYORS



ORIENTING ANTENNAS

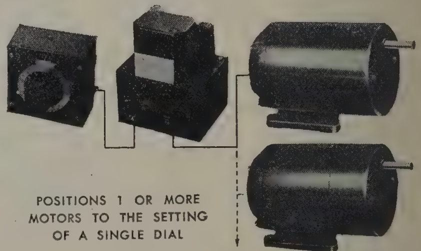


INCHING LATHE CROSS-SLIDE

SYNCHRO-LINK....

SYNCHRO-LINK is a remote control system that will quickly, accurately, and easily position a distant motor. It is based on a self balancing electric bridge, and consists of a control knob, controller box, and a controlled positioning motor that duplicates the control knob setting, for a wide variety of applications. Its standard interchangeable components can identically control a number of slave positioners from a single knob.

SYNCHRO-LINK utilizes any standard motor now used by you. Finger tip ease effortlessly controls *any size* and torque motor over *any distance.* SYNCHRO-LINK accuracy is better than 1% of the full range travel regardless of torque. Can be manually or automatically controlled. Uses very little power since it is a control circuit and carries only control currents thru three light gage conductors. Self-synchronous, it reproduces set position even after a power shut-off. SPEED—Adjustable for motors covering the range from 2 sec. up. RATING—Up to 1/20 HP—larger size on request.



POSITIONS 1 OR MORE MOTORS TO THE SETTING OF A SINGLE DIAL

YARDENY SPECIALIZED REMOTE CONTROL ENGINEERING

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RADIO'S MASTER

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